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Abstract

Using data from ICRISAT 2010/11 household and fertilizer retailer surveys, the study reveals that open vouchers enhance farmers input choice. The targeting of vulnerable farmers was efficient in selecting, households with less livestock ownership and those affected by HIV/AIDS. The use of open vouchers enabled retailers to sale agricultural inputs, boost revenue and link them to suppliers. The use of open voucher is preferable in areas where retailer's infrastructure and mobile telephone network coverage is good. Timely payment of retailers and suppliers is necessary to encourage their willingness to participate in the program. Risk bearing options like wholesaler insurance are critical to ensure wholesalers are compensated in the event that agro-inputs are not purchased. Credit facilities specifically meant for retailers to stock and trade agricultural inputs will be useful. Programs and policies that enable farmers to access credit to buy inputs should also be put in place. A well planned voucher system links commercial retail channels and has multiplier effects to the society. Experiences from the PRP input program demonstrated that voucher system, as an alternative to direct input distribution, is workable in the Zimbabwe situation and can be adequately supported by suppliers and rural retailers. Voucher programs have the potential to support retail linkage and there is need for increasing more stakeholders, such as seed and fertilizer companies, and wholesalers.

Key words: *Agricultural input distribution, vouchers, relief programs, retail markets*

Introduction

Since 2009, relief input distribution programs in Zimbabwe have focused on implementing voucher based delivery systems. The shift in the distribution system was necessitated by the argument that direct free distribution undermined the development of agricultural input markets. In the past relief programs in Zimbabwe have experimented with several strategies for seed distribution that are more market oriented that include: seed fairs where vouchers are exchanged for seed supplied by commercial and informal traders, vouchers redeemable for inputs sold through rural retail shops and cash transfers (Rohrbach et al 2004, Samson et al (2008). In the mean time, the country is using the same principle of providing flexibility and choices to beneficiaries through the use of vouchers. Vouchers have been distributed to targeted resource constrained recipients, and are redeemable at designated retail shops. These vouchers are for a fixed or non-fixed package of inputs. Such arrangements enhance the purchasing power of these farmers and empower them to acquire and also share the available local seed biodiversity at the seed fairs.

The 2010/11 cropping season saw more than ten humanitarian organizations funded through various donors and managed by GRM International under the Protracted Relief Program (PRP) shifting towards voucher based systems (closed and open vouchers) redeemable at rural retailers, and providing farmers with varying levels of choice as to which inputs to procure (FAO 2012). According to PRP (2011) closed vouchers entail those that are commodity specific and do notoffer farmers flexibility to choose preferred input types. On the other hand, open vouchers are value specific and offer flexibility in purchasing as farmers purchase agricultural inputs of their choice. Open vouchers were either manual (consisting of paper leaflets with different monetary values) or in the form of electronic

swipe cards. The program aimed to help restore the normal retail linkages between suppliers and small retailers, thus improving access to inputs by smallholder farmers.

Since vouchers have not been used extensively in agricultural markets in Zimbabwe, it is therefore imperative to understand how they can help rebuild agricultural systems after periods of shock. Donors and policy makers are increasingly questioning the cost-benefit, value for money and sustainability of these programs, as well as their implications on agricultural productivity and agricultural input markets. Research based policy evidence is needed to quantify the implications of the voucher program and on development of agricultural input markets. This paper contributes to this debate by assessing a) how the open voucher program was implemented in Zimbabwe during the 2010/11 cropping season, b) the impact of using open vouchers on participating retail outlets and agricultural markets, and c) the preconditions necessary for making voucher programs successful.

According to FANRPAN (2007) subsidies and direct seed distributions distort markets and private sector development and there have been significant shifts towards vouchers which are viewed as less distorting compared to subsidies. Many countries are turning to the use of vouchers in retail shops and cash transfers as an important instrument of social protection (FANRPAN 2007, Samson et al 2008, WFP 2009, Leroy et al 2009, Davis et al 2012). Vouchers give smallholder farmers ability to pay for inputs such as seed and fertilizers at registered shops or seed fair. According to Longley et al (2005) vouchers are designed to address problems of access rather than availability of seed. Whereas free distribution of free seed packs are based on the assumption that farmers have lost their seed and none is available in the local community. If designed properly vouchers can promote competition among sellers, giving them an incentive to improve their services

Methodology

The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) was funded by GRM International to assess the impact of PRP input voucher program recently introduced in Zimbabwe to provide an alternative relief delivery system. ICRISAT implemented two major surveys concurrently in April 2011 to assess the impact of use of retail vouchers in agricultural markets. These included the household post-planting and retail survey. Two separate questionnaires were used for the surveys. Additional secondary information was obtained from donors and NGOs records. The household post-planting survey collected information on household characterization, types of agricultural inputs received from different sources including how the seed was used. A sample frame was drawn from 22 districts of Zimbabwe that participated in the PRP voucher program and 8 districts were selected for the survey. The selected districts were stratified by the country's different agro-ecological regions. Within each selected district, 3 wards were sampled based on their participation in the PRP voucher program (Table 1). In each ward, the survey aimed to interview 20 households randomly selected from a list of PRP beneficiaries of the 2010/11 cropping season. From a random sample of retailers who stocked and distributed inputs via the voucher system, the retailer survey collected information on characteristics of retail outlets, when inputs were received and distributed, payment of commission and the strengths and weaknesses of the voucher system.

Table 1: Post-planting and retail survey sample of districts and sample size.

Natural Region[1]	District	Type of open voucher	Households Interviewed			Retailers Interviewed		
			Beneficiaries	Non-beneficiaries	Total	Participating	Non-participating	Total
III	Gutu	Paper	57	23	80	1	2	3
IV	Hwange	Paper	57	26	89	5	3	8
	Nkayi	Paper	54	21	75	5	1	6
	Gokwe North	Paper	54	21	75	4	1	5
	Zvishavane	Electronic	55	20	75	4	1	5
	Mwenezi	Paper	52	24	76	4	3	7
V	Chiredzi	Paper	56	21	77	4	1	5
	Mangwe	Paper	58	28	86	6	1	7
Total			**443**	**184**	**633**	**33**	**13**	**46**

[1] Zimbabwe is divided into five agro-ecological regions also known as Natural Regions I to V. Natural Region I and II receive the highest rainfall while Natural Regions IV and V have fairly low annual rainfall (Vincent and Thomas, 1960).

Results

Implementation of the retail voucher program

The 2010/11 agricultural input voucher program had 72,439 recipient farmers receiving open paper vouchers valued at US$70 each and redeemable at rural retail outlets. In addition 7,805 beneficiaries received open electronic vouchers in the form of swipe cards, also redeemable at designated retail outlets. There were a number of key players involved in the implementation of the retail voucher program and included; a) donors, b) GRM International (GRM), c) Crown Agency, d) NGOs, e) input suppliers (wholesalers, seed and fertilizer companies), f) retailers and g) recipient farmers. Figure 1 shows the flow of funds, vouchers and inputs in the program. The model involved for the first time the participation of wholesalers in the agricultural input value chain as they were previously sidelined in past relief programs. Inclusion of wholesalers facilitated easier delivery of inputs to rural retailers. As depicted in Figure 1, Donors provided funds to GRM. Crown Agency contracted input suppliers to deliver agricultural inputs to the retailers. Selected households were issued with vouchers by NGOs and then used the vouchers to purchase agricultural inputs from the retailer. The vouchers were redeemed by the retailers through input suppliers, who in turn redeemed them with GRM. Following verification GRM paid input suppliers who in turn paid the retailers their commission.

Voucher design and value

Vouchers are certificates through which smallholder farmers are given the ability to pay for inputs such as seed at registered retail shops. The vouchers contained a lot of information, including the type and quantity of input, period of validity and name of retail shop. The vouchers were valid for a specified period and the redemption window was 30 days in most districts after which the vouchers will be invalid. It was argued that this short window period is necessary to reduce the risks of fraud. The vouchers had serial numbers, logo and name of respective NGO, batch number of the seed issued, name and national registration numbers of beneficiary. The design of the voucher was meant to avoid voucher fungibility and minimize the risks of counterfeiting. There was however concern on the amount of time invested in writing details on the voucher and voucher stub, and in recipient verification. Despite this the verification process was good resulting in no cases of fraud noted. Each voucher enabled the recipient to acquire inputs worth US$70. Two types of open vouchers were used: paper (manual voucher) and electronic vouchers.

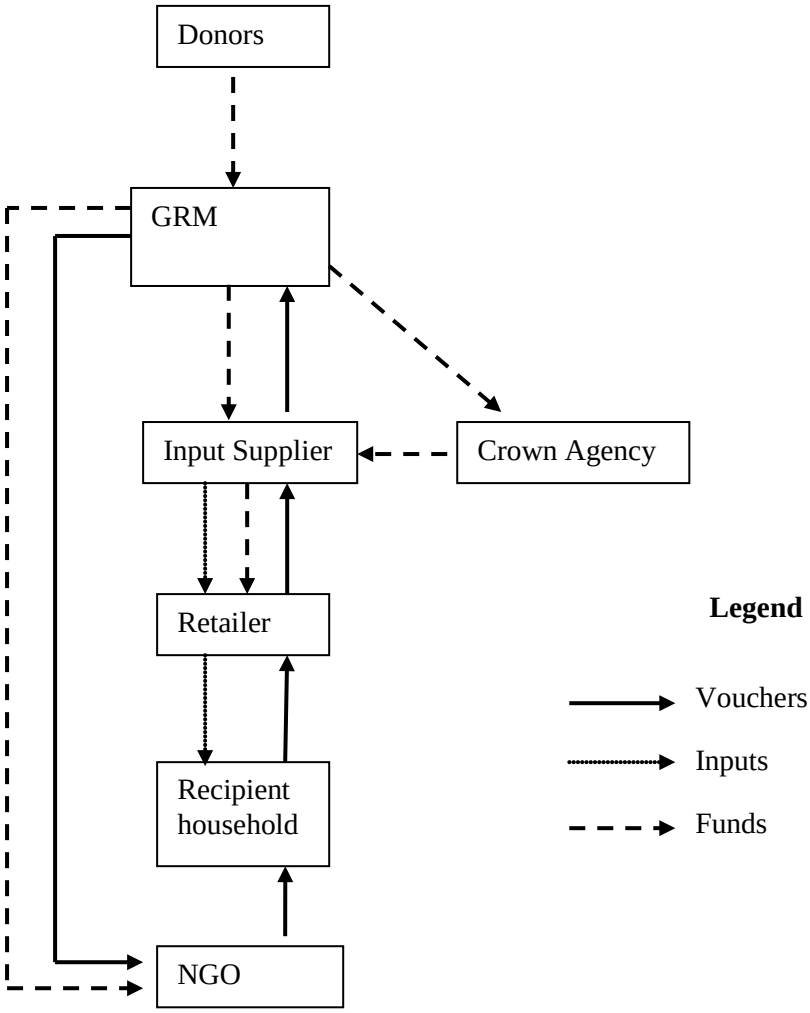

Figure 1. Key players involved in the retail open voucher models in 2010/11 season.

The open voucher allowed for household flexibility to choose one or more registered retailers and could purchase a combination of desired agricultural inputs. The open vouchers had different dollar denominations to allow for part purchases per retailer and inputs. Suppliers and retailers were expected to advertise their inputs as well as to provide households with input knowledge. The electronic voucher was purely electronic or a hybrid that included scratch cards that were redeemed electronically through the mobile cellular network (ECONET Zimbabwe). The electronic transactions were being administered by a selected bank, Central Africa Building Society (CABS), hereby identified as the electronic voucher supplier. The vouchers were linked to CABS point of sale machines which were located in the registered retail outlets. The beneficiary then gets inputs and electronic payments are made to the retailer, wholesaler and supplier through the redemption system set up by the electronic voucher supplier.

Selection of retail shops

Retailers participating in the voucher programs were selected based on a number of criteria which included; a) availability of adequate and secure storage facilities in the retail shop, b) accessibility of the retail shop by road, c) experience of the retailer with agricultural input trading, and d) proximity to most people in the participating ward. The selection process was

done by selected input suppliers in collaboration with NGO field staff. The selected retailers were trained by input suppliers on procedures of distributing inputs using vouchers, input types and storage, as well as how to reconcile and redeem vouchers to suppliers. These training workshops were also attended by GRM monitors, participating NGO and staff from the Department of Agricultural Technical and Extension Services (AGRITEX).

All of the participating outlets were small general dealers primarily selling convenient groceries. None were hardware stores or specialized agro-dealer shops. On average 63% of the retailers were renting the retail premises and did not own the retail shop. Those respondents renting retail shops indicated that they are willing to continue trading agricultural inputs but they had short lease agreements. There future participation depended on them negotiating new lease agreement with the retail shop owners. Retailers experience with trading of agricultural inputs differed across the sample districts. Retailers in Mangwe, Hwange and Chiredzi had the least number of years of trading in agricultural inputs. In all the districts, with the exception of Gutu, Mwenezi and Zvishavane, one person worked in the retail shop on a day to day basis. However during the implementation of PRP voucher program, most shops engaged an additional person to help out, and thus the program had positive benefits of employment creation.

Table 2. Ownership and management of business by retailers.

District	n	Ownership of premises (%)		Experience in selling Agricultural Inputs (Years)	Employees prior to program	Employees during program
		Own	Tenant			
Gutu	1	100	0	11	2.0	4.0
Hwange	5	40.0	60.0	1.0	1.2	2.8
Nkayi	5	20.0	80.0	6.6	1.4	1.6
Gokwe North	4	50.0	50.0	5.3	1.0	1.3
Zvishavane	4	25.0	75.0	10.0	1.8	1.8
Mwenezi	4	25.5	75.5	7.5	1.8	3.0
Chiredzi	4	25.0	75.0	1.5	1.3	3.3
Mangwe	6	50.0	50.0	0.8	1.2	1.5
Total	33	36.4	63.6	4.9	1.5	2.4

Targeting vulnerable households

The selection and registration of beneficiaries was undertaken by NGOs assisted by local and community leaders. The selection process of beneficiaries used multi-targeting criteria, where more than one criterion was used to select vulnerable households. The various NGOs targeted vulnerable farmers, deemed poorer with priority given to female headed households, HIV/AIDS affected, and households with high dependency ratios. Results from a regression analysis in Table 3, show that households selected in 2010/11 season were also more likely to have participated in the past relief program. This probably confirms consistency in using same criteria to select beneficiaries of agricultural input assistance over the years. The probit analysis on likelihood of participating in the 2009/10 input assistance show an increasing chances that female headed households were selected as PRP voucher recipients, but the results are not significant.

A dependency ratio of greater than one means that the economically active adults have to look after at least some children and/or the elderly. The ratio is used as a proxy to indicate the “demographic squeeze” caused by various reasons (e.g. HIV/AIDS and age class of

household head). The average household size across the districts was six for beneficiary and non-beneficiary households. In the survey it was found that the age of beneficiary household did not necessarily influence chances of being selected for voucher assistance. Households who had suffered the effects of HIV/AIDS through deaths or prolonged illness had better chance of being targeted for agricultural input support. Livestock ownership is one of the most common indicator of wealth status in rural Zimbabwe. The study results also confirm this influence on who should be provided with vouchers to overcome cash constraints to purchase agricultural inputs. Farmers with smaller land sizes were also not likely to be considered for voucher support, presumably on the assumption that they were not serious farmers. And on the other had farmers with largest land ownership are perceived to be rich and also no need to be included on input support.

Table 3: Regression results of households participating in the 2010/11 PRP input voucher program

Variable	Coefficient	Standard Error
Constant	-0.208	2.002
Recipient of 2009/10 input assistance	0.176	0.031***
Female headed (0=no; 1=yes)	0.026	0.033
Age of household head (years)	0.367	1.040
Age of household heads (sqr –years)	-0.032	0.135
Dependency ratio	-0.042	0.039
HIV/AIDS affected (0=no; 1=yes)	0.075	0.035**
Assets value (US$)	-0.015	0.009*
Livestock value(US$))	-0.018	0.007***
Arable land owned (ha)	0.121	0.031***
Arable land owned (sqr -ha)	-0.079	0.028***
Number of observations	618	
Prob > chi^2	0.000	
Pseudo R^2	0.106	

Note: Results from ordered probit models with dependent variable: 1= recipients of 2010/11 PRP input voucher, and 0 = non-recipients. Significance levels: $^{*}p<10\%$, $^{**}p<5\%$, ***$p<1\%$,

Timing of input supplies and voucher redemption

Timing of input deliveries has in past relief programs been a concern as farmers often received input packs late into the season. Late input deliveries have commonly been caused by logistical constraints in procuring and transporting inputs to communities due to seed shortages in the local market, sometimes forcing imports from neighboring countries in the region. The effectiveness of input use can easily be compromised when inputs are distributed late. According to the survey results, most retailers received inputs in November with the exception of Gokwe North where retailers stocked more than 95% of their inputs by end October (Table 4). Gokwe North had a separate voucher program funded by a different donor and all contracts were done earlier around August. Timely implementation was

attributed to the early signing of contracts with Crown Agency and availability of resources. This gave a clear lesson for the need to timely implement the project before the start of the main rainy season after the 2nd week of November. For Hwange, Zvishavane and Mangwe seed deliveries extended into December and in most cases these were additional seed associated with supplementary voucher distribution.

Table 4. Proportion (%) of input quantities delivered to participating retail outlets by time.

District	October	November	December
Gutu	0	100	0
Hwange	0	53.8	46.2
Nkayi	8.8	78.0	13.2
Gokwe North	96.4	3.6	0
Zvishavane	0	57.5	42.5
Mwenezi	0	100	0
Chiredzi	0	100	0
Mangwe	0	93.2	6.8

Agricultural inputs sold by retailers under open voucher programs

Retail outlets across the districts were able to stock a wide variety of agricultural inputs and the adoption of an open voucher model improved choice of inputs for the recipient farmer to acquire through the relief program. On average retailers stocked 13 different types of inputs for trading to farmers. Maize, beans, cowpea seed and plow parts were the most common inputs stocked in all the retail outlets, while other items such as fertilizer and crop chemicals (e.g. grain protectants, and pesticides) were available in selected districts. Table 5 shows the four major inputs that were traded by retailers. Suppliers delivered additional stocks to retailers for inputs that where selling fast to ensure consistent stock adequacy and in most areas, this included hybrid maize seed and plough parts which showed high purchase patterns. More pesticides sales were confined to cotton growing districts of Gokwe North, Mwenezi and Chiredzi, and this is rational as pest control is crucial to obtain good quality cotton lint. The findings underscore the need to understand farming activities in different areas and their inputs requirements.

Table 5. Average quantities of four major inputs sold by retailers per district.

	Maize seed (kg)		Fertilizer (kg)		Plow parts (numbers)		Chemicals (numbers)	
District	Stocked	Sold	Stocked	Sold	Stocked	Sold	Stocked	Sold
Gutu	5750	5030	3320	3320	880	660	0	0
Hwange	1268	643	0	0	165	165	94	89
Nkayi	3844	2295	250	115	191	119	0	0
Gokwe North	3588	2319	1875	985	938	888	575	453
Zvishavane	1757	1347	1155	836	836	648	55	0
Mwenezi	2587	1630	350	0	984	705	61	36
Chiredzi	8813	6857	0	0	566	423	85	72
Mangwe	6086	4172	0	0	434	383	0	0

Purchasing patterns of beneficiaries using PRP open vouchers

Open vouchers enabled farmers to purchase inputs of their choice from the retail shops, in so far as the shops did have stocks of preferred items. In order to assess the purchasing patterns of beneficiary households using open vouchers we computed a) the weighted average quantities and b) weighted average value of inputs purchased by households. The quantities of inputs purchased by beneficiary households were calculated by first converting all seed and fertilizer quantities for each household into kilograms. The input quantities were then aggregated per input for each district. Thereafter the aggregated quantities for each input were divided by the number of beneficiaries in each district. This weighting was done in order to get the relative purchasing patterns of households. In order to calculate the value of vouchers used for each input the same procedure was used but in this case the product of input quantities and retail prices was computed and weighted. The use of PRP open vouchers in 2010/11 season enabled households to purchase maize, pearl millet, sorghum, fertilizer, cowpeas and groundnuts (Table 6). On average, households purchased 18.23kg and 0.39kg of hybrid and open-pollinated maize seeds respectively. There was a general tendency for farmers to purchase more hybrid maize seed.

Table 6: Quantity of inputs purchased by PRP voucher in 2010/11 season

Natural Region	District	N	Weighted average quantity of inputs per beneficiary (kg)						
			Maize seed		Sorghum	Pearl millet	Ground nuts	Cowpeas	Fertilizer
			Hybrid	OPV					
III	Gutu	57	13.3	0.4	0.7	0	0.2	0.1	38.8
IV	Hwange	57	21.1	0.7	5.5	4.2	1.6	1.5	13.2
	Nkayi	54	23.3	1.2	0.5	0	3.9	4.6	13.0
	Gokwe North	54	19.4	0	0.4	0	0.6	0.1	47.8
	Zvishavane	55	16.6	0.5	0.7	0	0	0	8.2
	Mwenezi	52	17.9	0	1.4	0	0	0	3.4
V	Chiredzi	56	17.3	0	0.5	0.3	0.4	0.2	0
	Mangwe	58	16.7	0	1.1	0	1.8	0.5	15.1
Average (NR III-V)		443	18.2	0.4	1.3	0.6	1.1	0.9	17.4

Hybrid maize and fertilizers are relatively expensive to purchase and it would be expected that vulnerable farmers would use vouchers to acquire them and then obtain other crop seeds such as cowpeas and small grains from local seed systems and retained seed. Farmers acknowledge the impact of fertilizers on crop productivity as this explains the fertilizer purchases of 17.4kg. Households in Gokwe North and Gutu purchased large quantities of fertilizer. These areas receive relatively high rainfall compared to the other districts and maize cropping is predominant. There were no fertilizer purchases in Chiredzi and from discussions with farmers and retailers it was noted that farmers rarely utilize fertilizers in this area. The fertilizer suppliers never stocked fertilizer in the retail shops in these areas as they know these trends.

Utilization of PRP maize seed

Open vouchers afford beneficiaries choice in terms of the agricultural inputs they purchase. When beneficiaries acquire inputs of their choice their utilization is expected to be high. The utilization rate of PRP maize seed varied between 70.2% in Mangwe and 94.3% in Chiredzi (Table 7). Both these districts are in a drier agro-ecological zone despite the differences. Gokwe North had a high utilization rate of 92%. Hwange had the lowest utilization rates of 71.1%. Inputs were generally delivered in November and first dekad of December. On average, the utilization rate was high (83.1%).

Table 7: Average quantity of PRP seed received and planted per household in 2010/11 cropping season

Natural Region	District	Mean amount of PRP seed received (kg)	Mean amount of PRP seed planted (kg)	Percentage utilization of PRP maize seed (%)
III	Gutu	12.2	10.7	87.7
IV	Hwange	19.4	13.8	71.1
	Nkayi	22.7	17.5	77.1
	Gokwe North	18.8	17.3	92.0
	Zvishavane	17.4	14.6	83.9
	Mwenezi	16.3	14.4	88.3
V	Chiredzi	17.6	16.6	94.3
	Mangwe	16.1	11.3	70.2
Average				83.1

Location of retail shops

One of the major issues to be addressed by the program was the issue of long distances travelled by beneficiaries to input collection centres. The program sought to enable farmers to purchase inputs from retailers within their proximity. A look at the distances travelled by the majority of households to the retail shops shows that on average farmers travelled 3 km to purchase inputs (Table 8). This was considered to be one of the advantages of the vouchers program as farmers could obtain a variety of farm inputs and implements near their homesteads at a price almost equal to the prices charged in towns. Proximity reduced transport costs associated with traveling to towns or established growth points thereby reducing prices of inputs.

Table 8. Distance travelled by households to retail shop.

District	Distance traveled by majority household (km)	Distance traveled by furthest customer (km)
Gutu	3.0	10.0
Hwange	3.3	9.3
Nkayi	3.0	9.4
Gokwe North	4.0	10.0
Zvishavane	2.3	8.0
Mwenezi	2.8	8.2
Chiredzi	3.3	6.3
Mangwe	3.3	5.8
All districts	**3.1**	**8.2**

Commission payments to retailers

Generally, participating retailers had received their commission payments by the time of the survey in April. Although some retailers raised concern on long period before payments and associated costs and time to travel to the input supplier's offices to collect the money. Retailers with bank accounts experienced no delays in accessing the payments as suppliers transferred their money directly into into their accounts. In future, participating retailers are to be encouraged to have operational bank accounts to improve on the efficiency of commission payments. This also reduces the risk of theft when retailers travel to the city to personally collect their payments.

Survey results show that 47.5% of the respondents that had received their commission then invested by increasing stock of fast moving commodities such as groceries while 38% indicated that money received had been used mainly to purchase basic commodities and

luxuries (Table 9). The stocking of agricultural inputs, though relatively low, is commendable since the program seeks to revitalize retailers so that so that farmers may be able to purchase inputs from retailers in their areas.

Table 9. Use of commission by retailers.

Commission use	Percentage of retailers (n=21)
Re- invested in other products for business	47.5
Purchased basic commodities for family	38.1
Productive assets (repair business assets, building shop)	4.8
Re-invested into agricultural inputs	4.8
Banked or have not used it	4.8

Advantages of the voucher system

Farmers view

The major advantage stated by farmers is that open vouchers enable farmers to select inputs of their choice (Table 10). In Zvishavane (where electronic vouchers were used) 22% of the beneficiaries acknowledged this strength while in the other districts with open paper vouchers 28% of beneficiaries cited increased choice as an advantage. A significant proportion of beneficiaries who used paper (23%) and electronic vouchers (17%) indicated that the voucher system were transparent and hence reduced incidences of fraud and corruption.

Table 12. Advantages of the open voucher system according to farmers (%).

	Electronic voucher	Paper voucher
Gives choice as to which inputs to purchase	21.8	27.7
The process is transparent	16.7	23.0
It is specific for agricultural inputs only	39.7	18.0
Better way of receiving inputs than direct distribution	6.4	16.6
Reduces commotion and ensures orderly distribution	10.3	11.8
Others	5.1	2.9

Retailers view

Retailers acknowledged that the voucher program had an impact on their businesses (Table 11). Thirty three and forty seven percent of the retailers cited that the program enabled them to ascertain different agricultural inputs preferred by farmers. This will provide a guide in their future input stocking activities. Thirty three and twenty six percent of retailers considered the promotion of sale of agricultural inputs and improved linkages with suppliers as the program strength respectively. Thirty three percent and 21% of the retailers participating in the electronic and open paper voucher respectively cited that the program increased their revenue. This revenue was generated from commission payment and improved supplementary sales.

Table 11. Advantages of the open voucher system according to retailers (%).

	Electronic voucher	Paper voucher
Gauge inputs preferred by farmers	33.3	47.4
Improves linkages between retailer, farmer and wholesalers	33.3	26.2
Revenue generation	33.3	21.1
Promotes retailers shop image	-	5.3

Disadvantages of the open voucher system

According to farmers, the major disadvantage of electronic vouchers was associated with poor mobile network coverage to redeem vouchers as well as point of redeeming vouchers being far away (Table 12). Some beneficiary farmers (23.3%) mentioned the disadvantage of forfeiting inputs due to losing a voucher. Though the voucher redemption window was extended to end of December, 13.8% beneficiaries lamented that giving vouchers a one month life span was too short and at least two months will suffice.

Delayed commission payments (25.7%), inputs staying too long in shops (25.6%) and delayed deliveries (14.1%) were the major disadvantages of open paper vouchers according to retailers. In areas where agricultural inputs stayed too long in the shops, the retailers said that they were waiting for NGO signals to start selling. Retailers also cited poor communication between suppliers and retailers as a short coming of the program.

Table 12. Farmers and retailers views on the disadvantages of the open voucher system.

	Farmers (%)		Retailers (%)	
	Electronic voucher	Paper voucher	Electronic voucher	Paper voucher
Delayed delivery of inputs	-	24.2	-	14.1
Losing a voucher means forfeiting inputs	-	23.3		7.4
Limited choice due to input stock shortages and need to use up change	10.0	12.5	-	-
Short voucher lifespan (vouchers expired before some inputs had been stocked)	-	13.8	-	-
Poor communication on input availability in retail shops	5.0	6.3	-	-
Difficult to keep vouchers safe	-	6.3	-	-
Cell phone network challenges to enable transactions	50.0	-	100	-
Point of redeeming vouchers too far	20.0	2.5	-	5.6
Delays in commission payment	-	-	-	25.7
Inputs stay long in shops because many retailers involved	-	-	-	25.6
Not clear how other retailers got involved in the program	-	-	-	14.0
Too much paper work	-	-	-	6.6
Others	15.0	11.1	-	-

Impact of voucher program on participating retail outlets

The impact of the voucher program on participating retailers was investigated by asking retailers to indicate whether their business had grown as a result of participating in the program and by looking at evidence for improved links between retailers and input distribution channels.

Business growth

Two-thirds of retailers indicated that their business had grown as the program had brought more customers to their shops, increased turnover and provided additional funds to invest in stocks. A thirds who indicated no change in their business referred to the fact that the program took place over a short period of time and once vouchers had been redeemed business returned to normal so there was no change.

Development of links with rural retailers

PRP offered a valuable opportunity for input suppliers to promote marketing of seeds and inputs in communal farming areas. To a large extent the PRP voucher program has availed a

diverse range of agricultural inputs to local retail outlets; this will support efforts to re-vitalize rural distribution networks. Input suppliers acknowledge that participation in PRP during 2010/11 has enabled them to do some market research and gather information about the general situation of rural retailers, the characteristics of customer demand and detailed information about specific retailers which will enable them to identify suitable rural outlets for the distribution of seeds and inputs in the future. As a direct result of PRP, input suppliers have strengthened their positions to expand their market in communal farming areas and to this end have initiated their own retailer training programs.

How to improve open voucher program in future

Retailers cited several suggestions for program improvements that were not specific to PRP but included all voucher based input delivery systems. Fifty percent of the respondents suggested that earlier delivery of inputs to retail shops is crucial. Twenty one percent of the respondents indicated that the program could be improved by providing adequate training to retailers. This training should not only focus on implementation of the voucher program but should be broader. This entails including business management, bookkeeping and other relevant topics so as to capacity build them to operate effectively in future. Timely payment of commission was identified by 15% of respondents as important (Table 13).

Table 13. Improvements required for the voucher program .

Improvements	Percentage of retailers
Deliver inputs on time before start of rainy season	50.0
Commission should be paid on time	15.6
Training on business management and record keeping required	21.9
Involve more retailers to promote competition	6.3
Selection should be transparent	3.1
Reduce the life span of the voucher	3.1

Implications for future voucher programs

The following are the recommendations for the way forward in the implementation of voucher based input distribution, based on the formal household and retailer survey results and complemented by issues raised during discussions with suppliers and NGO implementing partners.

Choice of distribution strategy

Input distribution through retail voucher programs has the potential to strengthen retail linkages. A properly designed voucher system not only supports vulnerable households to increase agricultural production to improve their livelihoods but can also contribute to revitalizing input distribution networks in rural areas. The experience of PRP and other voucher programs has demonstrated that open input voucher system, as an alternative to direct input distribution, is workable in the Zimbabwe situation and can be adequately supported by suppliers and rural retailers. The modalities for delivering inputs through vouchers should however be flexible and responsive to individual project situations. Open vouchers (paper and electronic) are preferable in areas where retailer’s infrastructure and mobile network coverage is good. Open vouchers enables farmers to purchase inputs of their choice and this increases utilization rates.

Timing of program

The funding conditions necessitate donor approval at each stage in the contracting process which increases the lead time required before a project gets underway. In the case of closed

voucher systems, the process of contracting suppliers and putting in place input distribution mechanisms can take at least 12-16 weeks. In the Zimbabwean context, donors need to define the program guidelines as early as June to allow program managers sufficient time to award contracts and organize the distribution of inputs before the end of October. This ensures that farmers can acquire seed and inputs in time for utilization in the cropping season.

Timing of seed deliveries
PRP was largely successful in ensuring timely delivery of seed and inputs to retail outlets. The majority of beneficiaries purchased their inputs from retailers in November and first dekad of December. The farmers and retailers interviewed suggested that input distributions should be completed by end of October. This will be before the onset of the rainy season to enable farmers to prepare for planting on time.

Voucher design
The vouchers were well designed and captured the essential information required for transparency, consistency and security of the process. There were no known instances of voucher fraud. As voucher distribution systems become more widely used in donor funded projects standardized vouchers, with security features acceptable to suppliers and other stakeholders, could be introduced for use across a wide range of participating outlets. Ideally vouchers should be redeemable at a range of participating local and district level outlets which in turn can redeem them through registered suppliers and national wholesalers. Such a scheme would also encourage farmers in areas with less well developed market infrastructure to get together in groups to use vouchers to order inputs from district or regional suppliers.

Distribution of complementary inputs
There is a need to coordinate the delivery and distribution of complementary inputs in order to streamline the voucher redemption process for both the retailer and beneficiaries. Retailers found it difficult dealing with different suppliers for complementary inputs particularly when submitting redeemed vouchers for commission payment and following up problems relating to commission payment. Ideally, from the point of view of both the implementing agency and retailers, suppliers should have tendered for a complete input pack in the case of closed vouchers, and one voucher should have covered all inputs. This would have brought the wholesalers or other middlemen into the bidding process. NGOs also support using wholesalers to provide voucher inputs as wholesalers are able to coordinate the delivery of several inputs and can act as a single point of contact for the retailer. A regional wholesaler is more likely than a national supplier to develop a sustainable relationship with a rural outlet and is therefore potentially a better means to achieve project objectives of revitalizing input markets in rural areas. Wholesalers are also in a position to supply a variety of other agricultural and non-agricultural goods to increase the turnover of retail outlets and to purchase outputs thereby linking producers to markets.

Inputs preferences
The survey results indicated that the majority of recipient farmers purchased hybrid maize seed and fertilizers in the retail shops under open voucher schemes. Retail shops should be encouraged to stock these inputs as well as additional inputs such as legume seeds that may be hard to find.

Payment of rural retailers
Timely payment of retailers is necessary to boost their willingness to participate in the retail voucher program in future. In addition timely payment of retailers will lead to greater impact on business growth as the earlier payments are made the sooner retailers can invest funds to income generating activities, including purchases of complimentary agricultural inputs outside the voucher program. It is also imperative for the participating input supplier to enter into a contractual agreement with the retail outlets to ensure transparency and provide sufficient assurances of timely payment of commission to retailers. Retailers are encouraged to have operational bank accounts to enable all commission payments to be deposited into their accounts and speed up commission payment.
Timely payment of suppliers is necessary to ensure that companies are in an adequate financial position to meet payment obligations to raw material suppliers and pay for services such as transport, voucher printing and retailer commission.

Risk bearing and credit facilities
Options need to be devised where wholesaler insurance is in place. Such arrangements will ensure that wholesalers are assured of compensation in the event that agro-inputs are not purchased. Credit facilities specifically meant for retailers to stock and trade agricultural inputs will be useful. Programs and policies that enable farmers to access credit to buy inputs should also be put in place.

Conclusion
The use of open vouchers enabled retailers to stock and sale agricultural inputs while linking them to suppliers. Retailers realized additional revenue from commission payment and improved supplementary input sales. The use of open voucher is preferable in areas where retailer's infrastructure and mobile telephone network coverage is good. Ideally vouchers should be redeemable at a range of participating local outlets which in turn can redeem them through registered suppliers and national wholesalers. Such a scheme would also encourage farmers in areas with less well developed market infrastructure to get together in groups to use vouchers to order inputs from district or regional suppliers. Timely payment of retailers and suppliers is necessary to boost their willingness to participate in the retail voucher program. Risk bearing options like wholesaler insurance are critical. Such arrangements will ensure that wholesalers are assured of compensation in the event that agricultural inputs are not purchased. Credit facilities specifically meant for retailers to stock and trade agricultural inputs will be useful. Insurance cover for wholesalers involved in consignment stocking has enormous potential to leverage funding for the stocking of small rural outlets. Programs and policies that enable farmers to access credit to buy inputs should also be put in place. A well planned voucher system links commercial retail channels and has multiplier effects to the society. Distributing agricultural inputs through retail voucher system strengthens commercial retailing channels while also supporting local markets. Relief agencies, governments and donors should embrace the input voucher programs that allow relief inputs to flow through commercial wholesale and retail trade channels will strengthen market friendly agricultural input distribution systems.

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