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THE FUTURE OF SMALLSCALE SEED MULTIPLICATION AND DISSEMINATION BY NGOs IN MALAWI: PERCEPTIONS OF ACTIONAID AND CONCERN UNIVERSAL

Boniface Msiska, ActionAid Malawi,
and Barbara Chibambo, Concern Universal

INTRODUCTION

Malawi ranks among the poorest developing countries in the world and registers a population of 9.8 million of which 85% derive their livelihood from agriculture. The agricultural sector alone contributes 35% of the gross domestic product (GDP), the bulk of which is derived from smallholder farmer production of subsistence crops (National Economic Council, 2000). Land distribution is unequal, with more than 40% of the smallholder farmers each cultivating less than 0.5 hectares.

The formulation of food security policies remains a priority issue in the Malawi government's development agenda towards attainment of household and national food security. In 1999 the Malawi government released a Policy Analysis Initiative with the following goals: to raise the productivity of the agricultural sector; to promote sustainable poverty reduction; to promote agricultural exports and crop diversification; and to increase income and employment opportunities for the poor (Office of the Vice President, May 1999). For the government to achieve its objectives, four major players – the state, the civil society, the private sector, and NGOs – must work together for a common goal.

THE SEED INDUSTRY IN MALAWI

Background. The pre- and early post-independence era saw Malawi dependant on seed supplies from Southern Rhodesia (now Zimbabwe). Seed imports were predominantly hybrid maize and tobacco, while little seed of other crops were imported. By the mid 1970s, Malawi realized the risk associated with importing seed from Zimbabwe as there was increasing political unrest in that country resulting from an 'independence war'. Therefore in 1976 the Malawi Ministry of Agriculture initiated a crash programme aimed at developing in-country capacity to multiply and certify seeds of all crops, although hybrid maize and tobacco seed still remained the priority seed crops. Three major outputs resulted from this: the Seed Services Unit (SSU) within the Department of Agricultural Research & Technical Services was established in 1976 to oversee seed quality control; a parastatal company - National Seed Company of Malawi (NSCM) - was formed in 1978 to produce and facilitate distribution of certified seeds to farmers; and the Agricultural Development and Marketing Cooperation (ADMARC), another parastatal, was mandated and became involved in seed marketing and distribution. By 1979 a fully fledged seed certification scheme based on international standards became operational.

National Seed Policy. A National Seed Policy framework was developed and adopted by the Ministry of Agriculture & Irrigation in 1993. Major components of the policy

included: liberalization of the seed market to promote competition; removal of seed subsidies; strengthening of plant breeding and the SSU; and promoting participation of non-governmental organizations (NGO's) in the seed sector (Malawi Ministry of Agriculture and Livestock Development, 2000). Since 1995 the seed sector has undergone major reforms. Top on the list are: liberalization of seed marketing; abolishment of seed licensing; removal of subsidies on farm inputs; and development of less restrictive seed regulations although compliance with phytosanitary regulations on imported seed is still observed. These reforms have led to increased participation of NGO's in the seed sector.

ROLE OF NGO'S IN MULTIPLICATION AND DISSEMINATION OF SEEDS IN MALAWI

The late 1980's and early 1990's saw an influx of NGO's in to Malawi with a broad objective of complementing government efforts through participation and collaboration to alleviate poverty and improve peoples' livelihoods. Top on the list of various interventions that NGO's addressed was 'promotion of household food security of the poor and vulnerable communities'. To achieve this end, NGO's adopted several strategies including provision of food safety nets, credit facilities, and farm input safety nets. The most common intervention for the latter strategy was and still remains multiplication and dissemination of improved seeds and plant materials of root and tuber crops.

The concept of small-scale seed multiplication and dissemination. According to Cordova et al. (1989), the concept of 'small-scale' has several facets. In general, it refers to subsistence farmers who have little access to credit and other services, and scarce resources to finance their farming activities. Small-scale farmers practice one or more of the following seed multiplication systems:

1. **Traditional system** where the farmer selects the largest, healthiest looking plants, harvests the seed, and stores it using structures made from local materials. The seed is planted the following season. In this approach the farmer recycles traditional varieties.

2. **Small-scale approved seed production system** aimed at producing 'approved seed' and which is characterized by: use of basic/foundation seeds of open pollinated varieties (OPV) that are well adapted to production conditions; selection of fields isolated by time, space or by planting barriers that contain certified seed of the same type; appropriate quality control throughout the entire cropping cycle; monocropped fields; rouging off-type plants; harvesting the seed crop early, and drying it using improved structures such as plastic sheeting or sun dryers. The seed is stored in sacks or locally built metal silos.

3. **Conventional seed production system** is practiced by farmers who: can afford to invest in infrastructure, machinery, and equipment; have skilled personnel; and often organize themselves into 'Seed Producer Associations'. This approach is aimed at promoting economic activity that will produce greater returns.

Efforts made by NGO's to promote seed availability and accessibility by smallholder farmers'. In Malawi, NGO's promote the second and third approaches described above while working in partnership with two distinct categories of farmers. Very poor farmers are targeted in the second approach and certified seed is produced, and better-off farmers are targeted in the third approach and basic/foundation seed is

produced. Preference is given to working with farmers in groups based on the understanding that '…better quality approved seed is produced when farmers work in groups than when they operate individually' (Mloza-Banda, 1994).

Multiplication of certified seed. Since 1995 the European Union has been supporting individual smallholders to multiply certified seeds. Common crops multiplied under this programme include maize, groundnuts, beans, soybeans, and pigeon peas. The individual farmers were encouraged to establish farmer associations, thus in the 1999/2000 crop season, the National Smallholder Seed Producers Association (NASSPA) was established with the objective of 'improving food security at household and national level by increasing access to good quality and affordable seeds for the poor rural smallholder farmers'. Table 1 is a summary of NASSPA's seed production in the 1999/2000 crop season.

Table 1. Amounts (metric tonnes) of certified seed distributed to and produced by NASSPA in the 1999/2000 crop season (European Union, 2000).

CROP	SEED (MT) DISTRIBUTED TO ASSOCIATIONS	SEED (MT) PRODUCED BY ASSOCIATIONS
OPV Maize	31.64	3,970
Groundnuts	53.14	410
Beans	8.48	60
Soybeans	0.74	20
Pigeon Peas	1.00	80

Multiplication of approved seed by farmers under Actionaid-Malawi. Since 1994, Actionaid-Malawi has facilitated community-based seed and plant materials multiplication in its Rural Development Areas (RDA's). Common seed crops multiplied by communities in RDA's include beans, groundnuts, cassava, sweetpotato, soybeans, and maize. By December 1999, Actionaid had enabled over 12,878 households to multiply farmer-approved seed. Under the Malawi Smallholder Seed Multiplication and Development Project (MSSMDP) alone, more than 26 metric tonnes of certified seed was distributed to 333 seed producing groups (a total of 10,800 farmers) who in turn multiplied in excess of 288 metric tonnes of 'farmer approved seed'. Between 1995 and 1998, farmers produced a total of 18,175 kg of 'farmer approved seeds' of various bean varieties.

Table 2. Bean seed supplied to Seed Producing Groups (SPG's) between 1995 and 1998, and seed production by smallholder farmers under Actionaid Malawi Smallholder Seed Multiplication and Development Project (MSSMDP).

BEAN VARIETY	NUMBER OF GROUPS	SEED SUPPLIED (Kg)	SEED PRODUCED (Kg)
Nasaka	22	1141	5705
Kalima	37	1794	8970
Kambidzi	2	140	700
Mkhalira	4	130	650
Nagaga	4	160	800
Maluwa	5	210	1050
Napilira	1	40	200
Nyauzembe	1	20	100
TOTAL	76	3,635	18,175

Experience with MSSMDP indicates an average bean seed multiplication ratio of 1:4. This is rather on the low side and was mostly due to serious damage caused by bean beetle and bean stem maggot, both very common problems for smallholder bean farmers.

Multiplication of basic, certified, and approved seed by farmers under Concern Universal. Concern Universal is a member of the Action Group 2 Maize Productivity Task Force. Lack of seed was cited by communities during participatory research activities as one of the major constraints to crop diversification and food security. Concern Universal started seed multiplication in the 1998/1999 season and 594 farmers participated. Of these, 290 households multiplied beans, 3 multiplied soybean, and 301 multiplied groundnuts. The bean varieties were CAL 143 (Napilira) and Mkhalira; the soybean variety was Magoye; and the groundnut variety was CG7. Each farmer received 10–30 kgs of seed at the beginning of the season. During the 1999/2000 growing season, Concern Universal distributed legume seed for multiplication to 108 farmers: 38 households multiplied beans (variety CAL 143 – Napilira), and 70 households multiplied groundnuts (variety CG7). Each farmer received 10–60 kgs of seed at the beginning of the season. In the 2000/2001 season, 654 farmers are multiplying groundnuts and beans, and more than 7 tonnes of bean seed has been planted (varieties CAL 143, Kalima and Maluwa). Additionally, a total of 35 para-inspectors have been trained.

LESSONS LEARNT

- It has been observed that there is more participation in seed multiplication by women. This is not surprising since women are the traditional custodians of household food. This implies that women can act as channels for rapid seed adoption.

- Seed diffusion among smallholder seed producers is relatively slow with access to multiplied seed limited within the area where the groups are located (Phiri et al, 1999). The concept of 'Extension Multipliers' should be explored to enable seed groups to establish target amounts they should produce.

- NGO's have proven a theory and demonstrated a model: when resource-poor farmers are given sufficient support (certified seed and training), they are capable of producing good quality seed.

- Adoption of seed multiplication by smallholder farmers has led to increased seed availability and crop diversification. This has resulted in some farmers adopting seed multiplication as a viable enterprise.

THE FUTURE OF SEED MULTIPLICATION AND DISSEMINATION

Community empowerment and capacity building. Smallholder farmers who multiply seed need to be thoroughly trained in all aspects of seed multiplication and seed business. This would promote farmers' ability to understand and articulate the basic principles of seed multiplication and identify markets for their seed.

The concept of 'Para-inspectors' or 'Community Facilitators'. Government and NGO's have limited capacity to effectively reach farmers throughout the country who are multiplying seed. The use of 'Para-inspectors' or 'Community Facilitators' is to complement some of the roles of government and NGO staff by delivering information to

seed-producing farmers. This would promote seed multiplication and availability on the local market.

Commercialising small-scale seed multiplication. Unless improved varieties are recognized by farmers as being superior over their traditional varieties, and that marketing seed of improved varieties can be a viable agro-enterprise, seed multiplication of improved varieties will remain a non-sustainable practice. Several factors can influence the commercialization of seed production, including: maintenance of seed quality and purity; effective processing and packaging; and timely supply of the seed on the market. Farmers' associations should be promoted to enable seed farmers to compete for better market prices.

Promoting adoption of improved varieties. Acceptance and use of improved varieties depends on several factors including: 1) availability of basic or certified seed from which farmers can readily replenish their seed supplies, and 2) access to markets for the harvested crops. On-farm research trials are a good way to advertise but are not sufficient to guarantee acceptance of the new varieties. These trials must be accompanied by a combination of variety demonstrations and farmer field days. NGO's are very capable of establishing variety demonstrations and organizing farmer field days.

THE FUTURE OF SEED MULTIPLICATION FACES MANY CHALLENGES

- **Inadequate sources of basic foundation seed for multiplication.** Lately there has been an increase in the number of farmers wishing to engage in seed multiplication, however progress has been slow due to inadequate sources of basic/foundation seed. Farmers would like to multiply specific varieties but seed of these varieties is not always available. This has resulted in farmers multiplying seed of varieties for which there is little demand. If this problem is not addressed, it could lead to problems in identifying potential markets for seed.

- **Inadequate coordination among stakeholders in seed multiplication.** There is limited coordination among stakeholders. Under current conditions it is unlikely that information regarding the amounts of seed that is multiplied, where it goes, and who has benefited from seed multiplication projects exists in one report. There has been little sharing of lessons and experiences in this field, and little sharing of impacts in the several project areas. There is no defined target per se on how much seed needs to be multiplied. This would require cataloguing and establishing a functional database.

- **Decline in the quality of seed and related issues.** There has been an increase in the number of farmers involved in seed multiplication, however there has not been an increase in the capacity of seed inspectors. Although there are para-inspectors in place, they have limited capabilities to efficiently advise farmers regarding producing better quality seed. This has resulted in the flooding of the market with poor quality seed by small-scale farmers. This has led to poor prices and is a disincentive to quality seed producers. The seed producers have not been aggressive enough to provide well-packaged and labeled seed. This requires improvement in order to attract buyers.

- **Limited marketing capacity of smallholder farmers.** Much of the seed produced by smallholder farmers is usually bought by the NGO that is promoting seed production. This has led to a dependence of the seed producers on the NGO's as the

major seed purchaser. This indicates a need to empower seed producers to be more aggressive in marketing so that they have a wider market. Apart from a few seed associations, the seed producers themselves are not well known in the marketplace. Issues of pricing and gross margins need to be well addressed so that the farmers are able to justify their asking price.

Furthermore, there has not been much publicity regarding where to purchase certified seed of different crops apart from maize and tobacco. Research has shown that most farmers do not know where to find certified seed. This goes back to the issue of coordination. It seems that we are working in isolation and there is a need for a channel to advertise and publicize the sources of certified seed.

- **Unaffordable seed prices.** Individual farmers and associations that multiply certified seed ask for exorbitant prices for their seed. This negatively affects seed diffusion. The situation is aggravated by middlemen who purchase seed from seed producers under the NASSPA at lower prices and resell it at high prices due to lack of competition. The prices are prohibitive, and many communities cannot afford to buy good quality seed. This will lead to limited impact regarding seed dissemination and should be revisited.

CONCLUSIONS AND THE WAY FORWARD FOR SUSTAINABLE SEED MULTIPLICATION AND FOOD SECURITY

NGO's have recorded commendable success in complementing government efforts to increase availability and accessibility to quality seed. However, the sustainability of small-scale seed multiplication and dissemination calls for concerted efforts from all parties concerned with food security, including the state, the public sector, the private sector, and NGO's.

There is a need to facilitate effective flow of breeder – basic/foundation – certified seed to reach farmers who are multiplying seed. Farmers should be given access to credit facilities. By promoting linkages to lending institutions, farmers will gain access to capital funding for investing in their seed enterprise. And finally, the seed industry should offer various seed varieties for multiplication and farmers should be given the opportunity to choose the varieties that best fit their varying interests.

ACTIONAID-Malawi, P.O. Box 30735, LILONGWE 3, MALAWI
Tel: 772899 / 772892 Fax: 783899 Email: Admin@actionaidmalawi.org

CONCERN UNIVERSAL, P.O. Box 1535, BLANTYRE, MALAWI.
Tel: 772899 / 772892 623716/623874
Fax: 783899 623846
Email: Admin@actionaidmalawi.org or conuni@malawi.net

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