

EXECUTIVE SUMMARY: SOUTHERN MALAWI SSSA

A Seed System Security Assessment (SSSA) was carried out across Southern Malawi in October 2011. It reviewed the functioning of the seed systems farmers use, both formal and informal, and assessed whether farmers could access seed of adequate quantity and quality in the short and medium term. The work covered 3 Districts, Zomba, Balaka and Chikhwawa, which were chosen to include a range of agro-ecologies and possible seed security constraints. Field research encompassed : farmer interviews, seed/grain market analysis, consultation with traders, focus group discussions (including discussions with women's groups), and key-informant sessions. Background papers were also commissioned on: a) the formal breeding sector's structures and processes; b) the formal seed sector and fertilizer structures and processes; and c) current decentralized seed multiplication and distribution initiatives.

The rationale for conducting the SSSA at this time was threefold:

- The Southern region of Malawi hosts nine of the ten most vulnerable districts in the country. Food insecurity and malnutrition are rampant. Tailored seed-related responses could help boost production system resilience, food security and overall nutritional profiles.
- There have been repeated seed aid programs in Southern Malawi, every year or every other year for at least two decades. These practices, and the assumptions guiding them, are in need of review.
- Determinations of the seed security situation in Southern Malawi have, implicitly or explicitly, been based largely on food security assessments, or the linking of a production drop (harvest failure) with an implied seed shortfall. Such food-focused tools do not contain a seed security component and most often conclude that a food deficit implies a seed deficit. Targeted, more comprehensive methods now exist to determine the short- and medium-term seed security situation.

For a better understanding of the dynamics of seed security in Southern Malawi, The Wellness and Agriculture for Life Advancement (WALA program) has joined with the Government of Malawi (especially its Seed Services) and the International Center for Tropical Agriculture (CIAT) to conduct this assessment. WALA is a consortium funded by USAID to prevent and mitigate food insecurity in southern Malawi. Led by Catholic Relief Services (CRS)-Malawi, it also brings into partnership ACDI/VOCA, Africare, Emmanuel International, Project Concern International, Total Land Care, Save the Children, World Vision, and the Diocese of Chikwawa.

Key findings are summarized below. For a full report, with across-site findings, as well as separate site-by site reports (with tailored action plans), please contact the WALA Agriculture Technical Quality Coordinator at jmkumbira@walamalawi.org

I. ACUTE SEED SECURITY FINDINGS

Multiple and diverse indicators suggest the seed security of Southern Malawi farmers in the short-term is stable.

From the farmer point of view, 2010-2012

1. For the 2010-2011 main growing season, farmers sowed 14.2 percent more seed than the 'normal' amounts in terms of overall quantities sown. In addition, 81.3% of farmers stated that they sowed the same amount or even more than usual, showing that the season was a standard or good one for most of the population.
2. Farmers relied on local channels (home saved, local markets, seed from friends or kin) to access about 70% of their seed during the 2010-2011 season. 'Friends and kin' as a source were important primarily for the vegetatively-propagated crops (cassava and sweet potato), which has key implications for how these cuttings might move more widely and quickly.
3. For the 2010-2011 season seed from agro-dealers (17.2% of all seed sown) was accessed uniquely for maize, mustard and cotton, that is, no legumes at all were bought from formal commercial channels within the SSSA sample.
4. For the 2010-2011 main growing season, development aid (from government and NGOs) accounted for 12.7% of total seed sown, again with a clear focus on a select group of crops. Notable was that maize aid accounted for 16% of seed sown and groundnut seed aid which accounted for 18.4% of seed sown for this legume. Hence, even those these two crops are the focus of the Farm Input Supply Program (FISP), farmers access upwards of 80% of seed of these targeted crops on their own.
5. Local markets were a crucial source for ensuring seed security (31.3% of seed sown) during 2010-2011, but were particularly important in higher stress areas. For instance, In drought-affected Chikhwawa, 56% of the maize seed and 79% of the pigeonpea seed sown was bought from local markets.
6. The reported plans of farmers for the 2011-2012 main season show more of the positive same. Almost 90% percent of farmers plan to maintain or increase the amounts sown across crops, and by significant margins (+27.5%).
7. These positive trends should not obscure the compelling problem farmers face in terms of finances. Cash needs for seed purchase in Chikhwawa illustrate the point. Farmers spent 2049 Mwk for the 2010-2011 season and calculate 2795.2 Mwk in seed-related cash needs for 2011-2012 (a 36% increase-largely tied to drought-related loss)¹.
8. From the farmer point of view, the rationale for using less seed or more seed (a general proxy for decreasing or expanding land area) is key. During 2010-2011 almost 50% (49.5%) of farmers planted less because of money constraints. Seed availability was mentioned by very few farmers(3-5%) and only in reference to select legumes and cassava cuttings. The

¹ At the time, the official exchange rate was approximately 160 Mwk to 1 US\$

rationale for planting more is also clearcut; farmers expand seed use when they get access to more or better land, and especially in response to emerging commercial opportunities.

On the supply side, 2010-2011

On the seed supply side for 2010-2012 seasons , several findings are to be remarked

9. Farmers cited good access to agro-dealers in only two of the three sites. Those in Mlumbe (Zomba) felt distances just too far. (Extensive analyses of agro-dealer placement in the Central region show similar constraints. For those relying on foot transport, 48% are within a one-hour walk to an agro-dealer shop).
10. In terms of crops, agro-dealers in all sites sampled supplied maize and vegetable seed. Legume seed was seen on offer only tied to the FISP program.
11. The seed available on the local market was plentiful but of varying quality. Quality was especially an issue in the drought-prone region of Chikhwawa (lots of broken and immature seed/grain in the supply).

Summary:

12. Overall, communities themselves emphasized (via focus groups) that they are 80-100% seed secure across crops. Their #1 concern is around money. However, there were isolated but repeated complaints about the difficulty in accessing new and good legume seed (see below, *chronic seed security* issues).

II. CHRONIC SEED SECURITY ISSUES AND EMERGING OPPORTUNITIES

The review of medium-term trends in seed security in Southern Malawi shows some qualified moves forward as well as important and key bottlenecks.

Mixed (qualified) factors: positive and negative

1. New variety access within has been impressive, with almost 71% of farmers indicating they accessed a new variety in the period 2006–2011. However 78% of these new accessions have been of maize varieties, with negligible gains for the other 9 crops cited.
2. Inorganic (chemical fertilizer) has/will be employed by 80-85% of during the two seasons 2010-2012. Organic fertilizer (compost/manure) during the same period was/will be used by 59-65% of households. However, for both seasons and both types of inputs (inorganic and organic) 86-92% of the applications are associated with maize.

3. At every SSSA site, farmers cited problems accessing new legume varieties (pigeonpea, groundnuts , soyabbeans and cowpeas). On a positive note, NASFAM packets of beans (which could potentially be used as seed) were on offer in several supermarkets.
4. Some important decentralized seed multiplication was noted during the SSSA, for instance a group in Chikwawa which had multiplied 35MT of millet and 16 MT of sorghum seed. However, no markets had been identified for this seed supply. So the multiplication scheme had no real business plan and was being run as a subsidized aid initiative.

Negative and ongoing stresses

5. There is very little agricultural processing in rural communities – there was production of flours, pastes and beer, but not much more. This means that farmers have been unable to reap the benefits of value addition to raw agricultural products. For instance, the SSSA team identified only a single cassava processor, in Domasi (Zomba region) and this group was supported by external aid .
6. Seed system channels have generally remained static over the least five years, except for maize and vegetable seed.
7. Cassava cuttings are extremely hard to find, except for small quantities moved through social networks (kin, friends, neighbours).
8. There seems to be no formal cotton seed chain in place in Malawi. Some seed is brought in from companies in Zimbabwe. However, much of the seed is purchased from farmers who may also mix varieties. This (lowish?) quality standard poses an issue for a crop with such a high commercial stature. A similar situation seems to exist for rice. No certified seed available. Also very little on offer even in local markets. (NB: in a subsequent discussion, the Department of Extension Services in Malawi has indicated that the government has initiated plans with at least one private sector company to produce seed of adapted cotton varieties for Malawi to address this issue.)
9. Seed aid, that is free distribution of seed as part of emergency response and development initiatives, has been conducted on a large scale, with 64% the Southern Malawi population having received such aid a mean of 2.5 times over the five years. Such aid can promote dependency: some households have received seed assistance 6 times in 5 years.

So all in all, this is a highly subsidized, maize focused seed security context. There is very little innovation among the large range of legume crops, which are key for nutrition. There is near zero agro-processing and organized marketing.

RECOMMENDATIONS

The opportunity for the SSSA team to conduct assessments in diverse sites provided the field teams a useful perspective on seed security across regions of Southern Malawi..

Site-specific recommendations have been included in each site report (jmkumbira@walamalawi.org)

Below is a set of 10 key recommendations which are applicable across all sites. These are divided between recommendations for the acute stress (emergency) period as well as those pertaining to medium-term actions.

General Overview

Seed Availability *per se*, was generally not identified as the major problem in any of the assessed sites. Rather access to seed, having the funds to buy seed, was the key constraint (and especially in Chikhwawa). However, it is noteworthy that legume seed of new varieties has been especially hard for small farmers to locate.

Most seed security problems encountered in all assessment sites were not short-term ones. Any response in the short term should aim to be linked to longer-term recovery and development. As one example, this might include linking farmers more efficiently to sources of new varieties, especially for the legumes, even in the early recovery phase.

The varied site-specific SSSAs have shown that 'one size does not fit all'. The three sites assessed had different problems and challenges. A blanket response, such as giving free seed, or conducting standard seed vouchers may not solve problems with the specificity needed. Interventions need to be tailored to specific seed security constraints and opportunities in the different locations. One key factor to consider in this process is the access of local farmers to competitive and reliable sales outlets for seed and other agricultural inputs.

Seed security: immediate responses needed

1. The major urgent problems center around farmers having access to seed (point #1 above). Emergency interventions should be geared to addressing access problems. Vouchers linking farmers to local markets and other innovations are important immediate aid options which give farmers increased access to crops and varieties and other innovations of their choice.
2. Given the specific constraints found in Southern Malawi, we suggest fairs be hosted, but with a specific slant to help bolster diversity and nutrition in a region which is 'maize-rich', but poor in most other agricultural innovations. Newly labeled as DiNER vouchers and fairs (DiNER= Diversity and Nutrition for Enhancing Resilience), we recommend that DiNER fairs aim to put on agricultural elements which are particularly in short supply in the Southern region, including, but not limited to:

- a. New varieties, especially of legumes
- b. Local + traditional crops (vegetables, medicinal herbs)
- c. Fruit trees and other types of trees
- d. Small livestock: chicken, guinea fowl, doves, turkeys, rabbits

Seed security: medium-term responses needed

There is need for a broad-based rethinking on how to improve the seed security of small holder farmers in Southern Malawi. Below, we suggest first set of 'major areas for priority action'.

3. There is a real need to get more legumes into smallholder farming systems. This has to start with the scaling up of Breeder and Basic Seed. While Breeder Seed needs to remain under the direct domain of NARS/DARS, we suggest that Basic Seed Multipliers be diversified to include private as well as public sector actors. Such diversification should result in greater volumes of basic legume seed being produced and at a cheaper cost (including, seed production and marketing by farmer groups).
4. Decentralized seed production needs to become a more strategic and effective force in serving farmers as the formal seed sector will never be able to handle a) the range of crops needed for stress zones; nor b) the range of varieties. At this point, the decentralized seed multiplication initiatives seems to be having very modest (near nil) impact in the Southern Malawi zones. As a general recommendation, sustainable decentralized seed production models need to be confirmed for Southern Malawi and scaled-up, especially for the legumes and vegetatively-propagated crops.

Tied to #4

- 4.1 Decentralized seed multiplication groups need to develop an assessment of the cost-effectiveness of their organization and delivery strategy. They should be encouraged to produce only if a) viable markets are identified and b) their own agro-enterprise and marketing skills have been enhanced and c) they have a realistic and robust business plan.
- 4.2 Links need to be specifically catalyzed to tie decentralized seed producers with continuing and new sources of germplasm.
5. **Cotton seed systems:** There are a number of cotton varieties that have been released in Malawi, and farmers seem to like them. However, at present there does not seem to be any commercial system to produce significant amounts of certified seed of these varieties in Malawi (This issue is explained further in Annex 1.1). The government of Malawi is currently making a major push to promote cotton production. But if this initiative is to be effective, it is very important that simultaneous efforts are made to produce seed of cotton varieties that are adapted to the various agro-ecological zones in which cotton is produced, and that this seed becomes available to the farmers that need/want it on a sustainable basis.

6. **Seed systems for vegetatively propagated crops:** For vegetatively propagated crops, decentralized farmer- based “seed” production systems are probably the most effective (see further explanation in Annex 1.2). In order to ensure broad access and be effective, the producer-groups should be plentiful and well-distributed throughout the target area. They should also be well-trained in how to maintain disease-free populations, be closely linked to reliable sources of new varieties and disease-free parent material (probably research institutions) and each group needs to have a well developed and robust business plan.
7. Delivery mechanisms for giving all farmers regular access to new varieties need to be intensified. Sale through agro-dealers provides only one venue but should be encouraged, especially in small pack sizes (100, 200, 500 g). Sale in regular country stores, open markets (also point #10 below) or even supermarkets (with proper labeling) might be considered. In addition, agro-enterprise groups and seed loan groups (with clear marketing plans) might be formed around seed (point 10 below). In all cases, enhanced delivery options need to be complemented by vigorous media campaigns helping farmers to make informed decisions about whether to use the new materials. This latter process could benefit from the large number of “farm radio” projects and programs that are operating in Malawi.
8. Given that local markets (and their traders) are important for farmers’ seed supply, more attention should be given to encouraging that these open seed/grain markets supply the kinds of potential seed farmers need. As one point of departure, seed/grain traders could be powerful partners in helping to move *new modern varieties* widely, within and among farming communities (linked to point 7). Traders might also be linked to options for safeguarding and improving the quality of seed they put on offer. This could involve: linking traders to credible sources of good quality seed; working with them on techniques of seed bulking; recommending options for separate and improved seed storage.

Ultimately, non-seed issues will drive the seed security sector. Food and livelihood security generally, are linked to the financial capacity of farmers. The last two recommendations focus on needs for: a) generating cash, through Village Savings and Loans (VSL) Programs and b) developing agro-enterprise market chains.

9. **Village Saving and Loan Programs (VSL):** VSL are described in more detail in Annex 1.3. In a relatively short time (12 – 24 months) the VSL funds are often large enough to allow members to borrow enough money to access key agricultural inputs like seed and sometimes fertilizer or pesticides. In regards to having secure access to seed and other important inputs in the future, VSL should be promoted in order overcome the most common constraint – which is access to cash among the poor.
10. **Rural agro-enterprises** are mechanisms of potential impact that are currently severely underdeveloped. Farmers are selling their agricultural produce in raw form, or only slightly modified as in the case of maize and cassava, sold as flour. As a start in promoting agro-enterprise development, profitable business models that work for

smallholder farmers need to be tested and then scaled-up (see Annex 1.4 for suggestions on methodology). Ultimately, linking smallholder farmers effectively to markets is the best solution to increase incomes and both seed and food security, and also to create the demand that will support crop breeding and private sector production of good seed and/or planting materials of improved crop varieties.

Overall, this SSSA recommends a move away from short-term, gap-filling interventions and towards strategic investment in smallholder –driven variety, seed, and agricultural marketing systems. Simultaneously, it suggests a sharpened focus on food security, which particularly emphasizes crop diversification and nutritional enhancement.



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Annex 1: Technical Issues related to Recommendations

1. The cotton seed issue developed from the fact that cotton ginning companies were distributing seed to the farmers they worked with (either subsidized, or for cash or credit). Seed was obtained as a by-product of their ginning process and then sold back to farmers. This might have been fine, except that different companies distributed different varieties, and at harvest time farmers often sold at least part of their cotton crop to the buyers that were paying the highest prices – not necessarily to the cotton company that had provided them with the seed. Thus when cotton companies ginned the cotton harvest, the seed that was extracted was not necessarily from the same variety that the company had distributed. This resulted in farmers receiving cotton seed of mixed varieties, and not always ones that were adapted to their areas. During the course of the study it was observed that while several cotton varieties had been released in Malawi, there did not seem to be any companies that were actually producing seed of these varieties. There was some seed of pure varieties purchased from Zimbabwe and distributed to farmers, but farmers indicated that even when they used this seed, the varieties were not always adapted to their agro-ecological zones.
2. Vegetatively- propagated crops like cassava and sweet potato require specialized production systems for planting materials. This is because the planting materials are: bulky to transport; have a relatively short “shelf-life” once they have been cut off the parent plant; and they can carry with them any disease that the parent plant has. In addition, because they have exactly the same genetic make-up as the parent plants, they are easy for the farmers themselves to maintain and multiply, once they have them – and this is not attractive to commercial companies. Thus efficient decentralized farmer-based systems for the production of planting materials are likely to be more effective than relying on commercial companies to produce, distribute and market the planting materials.
3. Village Savings and loan (VSL) programs differ across agencies, but have some common fundamentals. They are “accumulating savings and credit” programs. In these programs, small groups of 10 – 20 individuals join together. They agree on an amount that they are going to save regularly, and when they have accumulated sufficient capital they start making small loans to members of the group. In principle, the total amount of savings is never loaned out to a single individual at one time – in case of defaults. All loans are paid back at an agreed interest rate (usually 10 – 20%/month), so between the saving and the interest from the repayments, the funds tend to grow quite rapidly, even when the initial savings amount was quite small. At the end of 12 months the groups usually do a “share-out”, returning to each individual the amount they had contributed in savings, plus the associated interest. This amounts to an annual audit. The groups then usually agree on what amount of the share-out they will return to the “kitty”, elect new officers, and start the cycle again. These VSL programs are extremely effective in helping the very poor accumulate both savings and assets. The savings and access to credit provide a hugely important buffer against adversity and allow households to protect productive assets. The VSLs have proven to be a very effective way to generate cash – or access to credit – for even the poorest rural households.
4. in regards to agro-enterprise in Malawi, transformation of cassava has been but one market chain of interest. USAID is focusing on both dairy and legume value chains as other options

for smallholder farmers. However, the key thing that is needed in order to link smallholder farmers to markets in sustainable and equitable ways is capacity building for the farmers in a range of key skill sets (see “Preparing Farmer Groups to Engage Successfully with Markets. www.crs.org/publications). As part of this process, farmers should be involved in a “market opportunity identification” process to identify key products that they can produce and market effectively in their communities. They also need to understand the value chains associated with those products so that they can decide at which point they should enter the value chain. Lastly, they need to be organized and have a well developed business plan to assure success of their enterprise(s). Ultimately, generating more income will allow smallholder farmers to make larger investments in increasing their productivity (purchasing the necessary inputs and/or labor) and diversifying their production systems and enterprises.