SADC Member States



































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SADC Seed Security Network



Fighting Hunger and Poverty











Bad seed is a robbery of the worst kind: for your pocket-book not only suffers by it, but your preparations are lost and a season passes away unimproved.

~ George Washington, first USA President ~





Foreword

A warm welcome to you all to our new-look seed booklet. We believe that the SADC Seed Security Network (SSSN) has made remarkable achievements and equally met challenges and opportunities, which are relevant to share with you here. The SSSN relocated from Harare, Zimbabwe, and is now fully settled with a full staff complement at the SADC Food, Agriculture and Natural Resources (FANR) Directorate in Gaborone, Botswana. SSSN is now in a tremendous position to effectively move the seed agenda at the regional level and we are encouraged by the support given by the SADC Secretariat through management at the FANR Directorate.

The Swiss Agency for Development and Cooperation (SDC) continues to be exceptionally associated with issues of food security in SADC through this Network. The financial support to the next three years is, therefore, greatly appreciated and will be crucial in advancing the important agenda of enhancing seed availability for the attainment of food security. This is in line with our motto, "Fighting hunger and poverty through seed security".

In addressing problems of seed movement across borders in the SADC region, the Network has worked diligently with stakeholders and has been rewarded with the development of three important technical proposals which, when implemented, will enhance seed movement between SADC Member States. In order to consolidate the technical proposals, the Network has already started training technicians and experts to have an early understanding of the technical proposals being advanced to policy and political levels through high powered missions to Member States.

We are convinced that we are on the right track and that implementation of technical proposals we have developed together is feasible and in sight. We sense that no one country can solve all its seed problems alone and we believe that the harmonized seed regulations being proposed will bring SADC closer in the issues of seeds in line with the spirit of



regional integration. We continue to provide information on seeds through our information products, particularly the *SADC Seed Update* and magazine. We are humbled by the difficulties associated with collecting seed information from seed houses who have taken information about this commodity confidential. For the benefit of all stakeholders, we continue to handle information that we receive with extreme care and we are mindful of the delicate balancing act that we have to do to satisfy the needs of seed users on one hand and the seed houses on the other.

We are thankful for the political will emerging thus far and to our collaborators who have supported these efforts and through them we have moved a great deal. In particular, the support from International Centre for Maize and Wheat Improvements (CIMMYT), International Centre for Tropical Agriculture (CIAT) and International Crops Research Institute for Semi-Arid Tropics (ICRISAT), through the Seed Center of Iowa State University, and the Sustainable Commercialization in Africa Project (SCOSA), has been invaluable.

Finally, we encourage you to participate in this network and wish you an enjoyable reading.

Edward Dalitso Zulu Senior Project Coordinator

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Seed Focal Points in SADC Member States

The national-level activities are coordinated by Seed Focal Points, through National Seed Committees. The National Committees comprise stakeholders from the ministries of agriculture, NGOs, seed companies, seed trade associations, farmer organizations, universities and others.

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Introduction and Background

SEED Security is a precursor to food security because its availability and quality determine the potential to crop production and productivity. In the SADC region, however, good quality seed of improved varieties is not always available, especially to small-scale farmers who are responsible for ensuring household, national and regional food security. The region's seed systems are weak and do not deliver seed in an effective manner, particularly to small-scale farmers. At the same time, disasters such as droughts, floods, cyclones and conflicts have become cyclic and have further worsened the seed insecurity situation of these farmers. Further, movement of seed from one SADC Member State to another continues to be a problem because of barriers brought about by various pieces of seed legislation. As a result, sourcing of seed by countries with deficits from those with surpluses within the SADC region is hampered by diverse and fragmented seed legislations. This situation has not been in the best interest of securing food security.

SADC Seed Security Network (SSSN)

The Food, Agricuture and Natural Resourses (FANR) Directorate, through the SADC Seed Security Network (SSSN), has risen to the challenge of addressing problems of availability and access to seed across SADC Member States.

The Network was born out of a need expressed by stakeholders in SADC for a programme to improve access to seed across national boundaries. The Network was launched in July 2001 to provide leadership and coordination to address the identified

seed problems in the SADC region. It is the seed arm of the SADC FANR Directorate, with a mandate drawn from the overall guiding policy framework of SADC, the Regional Indicative Strategic Development Plan (RISDP). The evident need for such an institution and the achievements within its short life span has seen SSSN progress from the initial 12-months bridging phase to establish itself as the seed focal point in the entire SADC region. The Network is thus poised to become the centre of excellence for seed in the SADC region.



The Genesis! Delegates from SADC Member States at the launch of the SSSN.

The Goal

SSN aims to contribute to improved food security and poverty reduction through increased seed security and better disaster preparedness in the SADC region, addressing - in particular - the needs of resource-poor small-scale farmers whose seed systems have been affected by recurrent disasters.

Immediate Objectives

- To facilitate harmonization of seed policies, rules and regulations in order to improve seed trade in the SADC region;
- To collect information on various aspects of seed and to make the information available to all stakeholders in the region;
- To identify training needs, in particular of community-based seed producers, entrepreneurs, seed personnel and extension staff, and to facilitate training; and,
- To improve and/or establish strategies for addressing national and regional disasters requiring seed interventions.

Network Activities

Facilitating Harmonisation of Seed Rules And Regulations

Movement of seed from one SADC Member State to another is hampered by the diverse and fragmented seed regulations. Harmonization of seed regulations is, therefore, constructed on this premise. The benefits likely to accrue from harmonization of seed regulations include:

a. Farmers will have a wide range of seed varieties to choose from

Harmonization of seed regulations will unbundle the currently discrete individual country populations into a large regional population of 229 million and, therefore, a large seed market. This market will be attractive to investment in crop variety development in the region. This will ultimately churn out numerous and diverse varieties. In any farming

system, a range of varieties are needed to fulfill specific socio-economic as well as agroecological needs. No single variety is likely to fulfill all the household's requirements even in a homogeneous agro-ecological zone. Harmonization of seed regulations will be critical in achieving this.

b. Reduced costs for dealing with seed regulations

Harmonized seed regulations eliminate the need to re-test seed originating from SADC Member States and, in so doing, cut down on the costs for seed testing. Similarly, the cost of testing a variety will be reduced as a variety will only need to be tested in two countries, bearing in mind the mega environments.

Organizational Structure

Steering Committee

The Network is guided by a Steering Committee, which approves work plans and budgets of SSSN.



Mrs. M. Nyirenda FANR Director



Mrs. A. Minder SDC Country Director



Mrs. M. Munamava (Botswana)



Mrs. P. Strauss
(South Africa)



Mr. Edward Zulu Secretary



Dr. J. Luhanga (Malawi)

SADC Seed Security Network

Project Management Unit

SSSN is coordinated by a Project Management Unit (PMU), headed by a Project Coordinator, based at the FANR Directorate in Gaborone, Botswana. The Coordinator is in charge of the PMU and is responsible for initiating and coordinating activities and for providing technical support to seed activities in the SADC region. Overall the Director of the FANR Directorate supervises the Network.



Edward D. Zulu Senior Project Coordinator



Daniso Mbewe
Database and
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Boitumelo Lesaso Finance and Administrative Assistant



Masego Maphage Secretary



Barabedi S. Molaletsi Driver

c. Faster releases of varieties and seed movement

Life span for certain seed varieties has in recent times shortened and the replacement of new varieties has increased. Given this scenario and the delays currently being experienced in releasing varieties, the majority of farmers are getting a raw deal. They are effectively getting spent varieties or are missing out on new and improved technologies. This can be reversed

with a harmonized system of crop variety release. Further, faster seed movement as a result of harmonization of seed regulations will ensure that farmers get their seed in time. This is important as the planting window is very small. Any delays in seed delivery has a serious repecursion on food security.

d. Better cooperation in seeds among Member States

It is said that no one country can solve its seed problems alone. Through harmonization of seed regulations, Member States will begin to have confidence in the regulations being applied in another country.

e. Competitive seed markets

More competitive seed markets will serve the small farmers better as players will concentrate on products they are good at providing. Smaller seed companies will most likely take special niches especially in open pollinated varieties (OPVs) and other crops not attractive to larger seed companies. Competition for a market share will compel seed operators to service rural areas, which are presently ill served.

Regional Variety Release



Delegates to a hands-on Variety Release Workshop, Lusaka, Zambia - August 2005.

SSSN supports technical consultation for regional agreements on procedures for regional variety release, based on data from mega environments than national boundaries. This effort is being pursued in collaboration with

International Agricultural Research Centers (IARCs), Member States, seed companies, and other players. The motivation is that a variety released in at least two Member States will be readily accepted in the other.

Network Activities

Collaboration in Quality Assurance and Seed Certification

SSSN coordinates technical consultations for regional agreements on:

- A detailed technical system which introduces common terminology, procedures and standards for seed certification; and,
- A programme of collaboration in SADC on quality control of seed moving through regional seed trade. This includes a programme of regional referee seed testing.



Delegates to a hands-on Seed Certification Workshop, Maputo, Mozambique, February 2004.

Phytosanitary for Seed

SSSN coordinates technical consultations for regional agreements on rationalising pests subjected to import and export controls. The Network works with stakeholders to identify only pests that have real economic relevancy and eliminating those that are common in the region. The Network



Delegates to a hands-on Phytosanitary for Seed Workshop, Pretoria, South Africa, August 2004.

further promotes simpler testing and clearance procedures for seed-borne pests and diseases and other initia-tives to improve easier movement of seed.

Other activities on harmonization of seed regulations include assistance to Member States in enacting Intellectual Property Rights (IPR) legislation and accreditation systems which will allow both the

private and public sectors to cooperate on issues of seed quality assurance.

SADC Seed Security Network SEPTEMBER 2005

Challenges

SSSN is a lead project on seed issues at the SADC Secretariat and is funded by Swiss Agency for Development and Cooperation (SDC) for three years and only less than two years remain. The Network has devoted the current phase towards development of systems which will at some stage require to be implemented and managed. Sustainability of SSSN to complete the development of systems and oversee implementation and management of the processes will continue to be a challenge, especially after the current phase of donor funding.

Partnerships

SSSN works with, and is grateful for the support of, all partners and stakeholders and International Cooperating Partners in the seed industry.



Invaluable stakeholders. Some SSSN partners.

Achievements Network Activities

Capacity Building and Networking

Working with stakeholders, SSSN has built a network of data collection technicians working in Member States, provided software and hardware and facilitated training in database management and seed technology and entre-preneurship for data technicians, community-based seed producers and trainers from universities, NGOs and government institutions.

By August 2004 over 60 seed technicians from Member States had been trained in various aspects of seed and 14 data technicians in seed database management. The training has enhanced capabilities of Member States to manage community seed programmes and in gathering seed-related information to increase the region's seed trade and its preparedness for disasters.



Seed technology training, Lusaka, Zambia, October 2004.

Training has also been tailored to prepare seed technicians to have an early understanding of the current harmonized seed regulations. This will be important in ensuring that implementation of the technical proposals, once approved, is enhanced.

Seed Advocacy

In collaboration with its network of stakeholders, SSSN has elevated the seed agenda to an advocacy issue and mobilised political support in the SADC region in recognition of the importance of seed to food security and poverty reduction.



Hon. Alexis Luhila,
Deputy Minister of
Agriculture and
Cooperatives in Zambia,
opening a seed workshop
on technical consideration
for variety release in
Lusaka, Zambia, July
2005.



Dr A. Daudi - Permanent Secretary in the Ministry of Agriculture in Malawi officially opening a harmonization workshop held in Malawi in July 2004.

Training

The Network designs courses and conducts training in various aspects of seed technology and seed programme management and mobilises support for training activities.



Participants to a Training of Trainers Workshop at Malkerns, Swaziland, May 2005.

Information Dissemination

The Network facilitates exchange of information on seed and seed security in the SADC region through publications (newsletter, magazine, brochures and other printed materials) and networking. The Network is in the process of creating a seed database and has been pro-actively involved in creating a network of data technicians and building their capacities to collect seed-related data.

Improving National and Regional Disaster Preparedness in Seeds

SSSN, through a network of Seed focal Points located in all SADC Member States, has been actively involved in compiling and regularly updating information on available seed stocks and where the stocks can be found, demand and other pieces of seed-related information.

Achievements Achievements

SSSN's achievements include the development of technical proposals for a SADC Variety Release System, SADC Seed Certification and Quality Assurance System and SADC Phytosanitary for Seed System which, when implemented, will improve movement of seed between SADC Member States:

SADC Variety Release System

Various systems of variety release that are operative in the SADC Member States delay and sometimes prevent release of seed varieties. This limits farmers' access to new varieties and increasingly their choices of seed varieties. Further, the system duplicates efforts, is costly and delays returns on investment.

The proposed system of variety release seeks to enhance the process of release of seed varieties in the SADC region to the benefit of farmers and variety owners. Some of the features of the system include:

- i. SSSN, on behalf and under the supervision of FANR Directorate, will be designated to manage the SADC Regional Variety Release System during its formation;
- ii. Testing and release of varieties will be done in at least two countries, including the country of application, for two seasons. This will be done by independent competent agricultural organizations (public or private), taking into account the broader environments that cut across the SADC region; and,

the SADC region; and,

Mr. Edward Zulu (Left) briefing Hon. Dario Daniel Katata, Deputy Minister of Agriculture in Angola on progress wide in Harmonization of seed regulations, September 2005.

Enhanced Flow of Seed Information

Through its information products (SADC Seed Updates and SADC Seed News Magazine), SSSN has better informed regional seed stakeholders about the seed situation in SADC, which has facilitated planning ahead of the season.

Further, with the support of the network of Seed Focal Points located in SADC Member States, the Network has been actively involved in compiling and regularly updating the following information for the region:

- Available seed stocks and where the stocks can be found;
- Inventory of seed companies, NGOs, and others involved in seed production and marketing;
- Catalogue of seed varieties; and,
- Current seed rules and regulations in SADC countries.



Achievements Achievements

Table 3: Proposed list of pests to be checked during export and import of seed

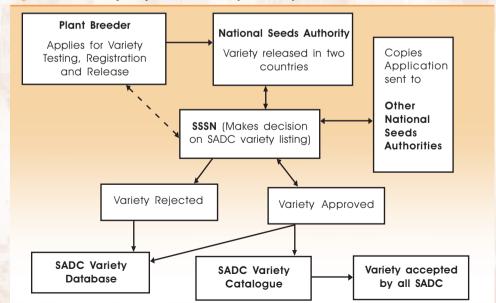
Crop	Pests Requiring Controls
Zeamay (Maize)	Peronosclerospora phillipensis Cochliobolus heterostrophus
Brassica (cabbage family)	Tobacco rattle tobravirus
Triticum spp. (Wheat)	Tilletia indica
Allium spp. (Onion)	Tomato black ring nepovirus Ditylenchus dipsaci Tobacco rattle tobravirus
Phaseolus spp. (beans)	Bean mosaic virus Tomato black ring nepovirus Ditylenchus dipsaci
Vigna spp. (Cowpeas)	Peanut stripe potyvirus
Helianthus spp. (sunflowers)	Tobacco ringspot virus
Capsicum spp. (peppers and chillis)	Pepper mild mottle tobamovirus
Lycopersicum esculentum (tomato)	Tobacco ringspot virus Tomato black ring nepovirus
Nicotiana spp. (tobacco)	Tobacco ringspot virus Ralstonia solanacearum
Glycine spp. (Soyabean)	Tobacco ringspot virus
Pisum spp. (peas)	Pea seed borne mosaic virus Ditylenchus dipsaci Phoma pinodella
Manihot esculenta (Cassava)	Mononychellus tanajoa East African cassava mosaic virus Cassava brown streak virus African cassava mosaic virus
Ipomoea batatas (sweet potato)	Synchytrium endobioticum Ralstonia solanacearum biovar 4 Sweet potato mild mottle ipomovirus Sweet potato feathery mottle virus Aphelenchoides besseyi Aphelenchoides ritzemabosi Ditylenchus destructor Ditylenchus dipsaci Radopholus similes Cylas puncticolis Agrius convolvuli Alternaria alternate



Stakeholders at the Harmonisation of Seed Regulation Workshop, Lilongwe, Malawi, July 2005.

iii. SSSN will register in the SADC Variety Catalogue, successfully released varieties and such varieties will be eligible for use in all SADC Member States, effectively abolishing the need for further testing of varieties that have undergone the proposed procedure. A variety will only need to be tested and released once and it will have wide usage in the region. The scheme is briefly described in Figure I below:

Figure 1. Structure of Proposed SADC Variety Release System



Laboratory Tests

Achievements **Achievements**

Proposed SADC Seed Certification and Quality Assurance System

Seed experts formulated a common SADC Seed Certification Scheme. This will help in ensuring that all SADC Member States will have a common test procedure and naming of seed classes as shown in Table 1 below:



Mr. Edward Zulu (Right) presenting documents to Mr. Julio Mchola - Permanent Secretary in the Ministry of Agriculture in Mozambique on Harmonization of Seed Regulations, September 2005.

Table 1: Proposed SADC Seed certification scheme

Seed Class	Code	Produced from	Label Colours				
Pre-basic	А	Breeder's Seed	Violet band on white				
Basic	В	Pre-Basic or Breeder's Seed	White				
Certified Seed (1st Generation)	C1	Basic or higher seed classes	Blue				
Certified Seed (2 nd Generation)	C2	C1 or higher classes of seed	Red				
Quality Declared Seed	QDS	Complies with special requirements	Green				

In implementing the SADC Seed Certification Scheme, experts further proposed minimum standards shown in Table 2 below:

Table 2: Proposed minimum standards for seed certification

Crop	Field Requirements							Laboratory Tests					
Botanical Common Name Name		Minimum isolation distance (m)		Maximum % of off-types (based on 1000 plants)		Minimum number of inspections		Minimum germination (%)		Minimum % pure seed (by weight)		Maximum moisture (%)	
		BS (B)	CS (C)	BS (B)	CS (C)	BS (B)	CS (C)	BS (B)	CS (C)	BS (B)	CS (C)	(AII Classes)	
Arachis hypgoaea L.	Groundnut	10	5	0.2	0.2	3	3	75	75	98.0	98.0	9.0	
Cajanus cajan L.	Pigeon Pea	400	200	0.1	0.3	3	3	75	80	99.0	98.0	13.0	
Glycine max L. Merrill	Soybean	10	5	0.2	0.5	3	3	70	70	99.0	99.0	12.0	
Gossypium hirsutum L.	Cotton (H)	500	400	0.2	0.3	3	3	70	75	99.0	98.0	10.0	

Best Seed Certified Seed Phytosanitary experts and stakeholders in the region reviewed pests currently subjected to import and export controls in seed trade and they have shown that most of these pests are common in all SADC Member States and

neither are they seed-borne nor of economic importance. The pests listed in the table on Page 12 are the only ones that will be checked for seed moving in regional trade. This is a much reduced pests list and inspectors will only have a few pests to check for, resulting in speeding up the process of inspections at the points of entry.

	Botanical Name	Common Name	Minimum isolation distance (m)		Maximum % of off-types (based on 1000 plants)		Minimum number of inspections		Minimum germination (%)		Minimum % pure seed (by weight)		Maximum moisture (%)
			BS (B)	CS (C)	BS (B)	CS (C)	BS (B)	CS (C)	BS (B)	CS (C)	BS (B)	CS (C)	(AII Classes)
	Gossypium hirsutum L.	Cotton (OP)	100	100	0.2	0.3	3	3	70	75	99.0	98.0	10.0
	Helianthus annuus L.	Sunflower (OP)	1000	800	0.2	0.5	3	3	75	85	98.0	98.0	10.0
ı	Helianthus annuus L.	Sunflower (H)	3000	1500	0.2	0.5	5	5	80	80	98.0	98.0	10.0
	Nicotiana tabacum L.	Tobacco	800	400	0.2	0.5	3	3	85	85	99.0	99.0	8.0
	Oryza sativa L.	Rice	5	5	0.2	0.3	3	3	80	80	98.0	98.0	12.5
	Pennisetum glaucum L.	Pearl millet	400	200	0.5	0.5	3	3	75	80	98.0	98.0	11.0
	Phaseolus vulgaris L.	Beans	10	5	0.1	0.2	3	3	70	75	99.0	99.0	13.0
	Sorghum bicolor L. Moench	Sorghum (OP)	400	350	0.2	0.5	4	3	80	80	99.0	98.0	12.0
	Sorghum bicolor L. Moench	Sorghum (H)	750	500	0.2	0.5	5	5	80	80	99.0	98.0	12.0
	Triticum aestivum L. emend. Fiori et Paol.	Wheat	10	5	0.1	0.3	3	3	85	85	99.0	99.0	13.0
	Vigna unguiculata L Walpers	Cowpea	10	5	0.2	0.5	3	3	75	75	99.0	98.0	13.0
	Zea mays L.	Maize (OP)	400	200	0.5	1.0	4	3	90	90	99.0	99.0	13.0
	Zea mays L.	Maize (H)	400	350	0.1	0.3	5	5	70	90	99.0	99.0	13.0
		77.57											

Field Requirements

Proposed Phytosanitary for Seed System

Crop