



Comparison of the Proposed SADC System with Seed Regulations in SACU Countries and Zambia and Amendments Recommended to Effect Harmonization

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TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS	2
I. EXECUTIVE SUMMARY	3
II. INTRODUCTION	5
III. OBJECTIVES	6
IV. CROP VARIETY TESTING, REGISTRATION AND RELEASE	7
V. SEED CERTIFICATION AND QUALITY ASSURANCE	12
VI. PHYTOSANITARY AND QUARANTINE MEASURES	23
VII. AMENDMENTS RECOMMENDED TO HARMONIZE NATIONAL LEGISLATION WITH SADC PROPOSALS	27
VIII. HIGHLIGHTS	44
IX. RECOMMENDATIONS TO TAKE THE PROCESS FORWARD	45

ACRONYMS AND ABBREVIATIONS

BS	Basic seed
CS	Certified seed
DAR	Department of Agricultural Research (Botswana)
FANR	Food agriculture and Natural Resources
FAO	Food and Agriculture Organization of the United Nations
Germ %	Germination percentage
IPPC	International Plant Protection Convention
ISTA	International Seed Testing Association
Max	maximum
Min	minimum
NNFSGC	Northern Namibia Farmers Seed Growers Cooperative (Namibia)
NPPO	National Plant Protection Organization
NSCA	National Seed Certification Authority
OECD	Organization for Economic Cooperation and Development
OP	Open pollinated
PRA	Pest Risk Analysis
QDS	Quality Declare Seed
SACU	Southern African Customs Union
SADC	Southern African Development Community
SANSOR	South African Seed Organization
SMU	Seed Multiplication Unit (Botswana)
SSSN	Southern African Development Community Seed Security Network
SVRC	Southern African Development Community Variety Release Committee
UPOV	International Union for the Protection of New Varieties of Plants
VCU	Value for cultivation and use
WTO-SPS	World Trade Organization Agreement on Sanitary and Phytosanitary Measures

I. EXECUTIVE SUMMARY

Movement of seed across borders in the Southern African Development Community (SADC) region has been described as cumbersome. This is partly due to the lack of cohesion between the seed laws of different countries, which are tailored to meet the unique political, economic and cultural requirements of each individual country. This has not been in the interests of seed industry development, seed security nor overall food security.

Harmonization of legislation on seed and Phytosanitary measures is expected to ease the movement of seed across borders in the SADC region and consequently integrate small national markets into a more substantial SADC seed market. The SADC Seed Security Network has developed three proposals, namely a) SADC Crop Variety Testing, Registration and Release System, b) SADC Seed Certification and Quality Assurance System and c) SADC Quarantine and Phytosanitary Measures for Seed, to spearhead the harmonization process. This study was conducted to i) compare the three SADC documents with the national seed legislation of SACU member countries as well as Zambia, ii) document any inconsistencies, and iii) suggest amendments necessary to effect harmonization.

Botswana, South Africa, Swaziland and Zambia had Seed Acts, while Namibia and Lesotho did not have seed laws at the time of the study. The principal Acts were in harmony with the SADC drafts and did not require amendment. Three of the six Member States did not have legislation covering crop variety testing, registration and release, while Swaziland considered these issues in the principal Act, but not in the regulations. Five of the six Member States under study had regulations or handbooks used in seed certification.

With regards to seed certification, most of the changes that needed to be made to the seed regulations, seed certification schemes and handbooks, in all the countries under study, related to field and laboratory standards specific to individual crops. These included factors such as minimum isolation distances for seed fields, minimum number of field inspections, minimum purity and germination percentages, maximum moisture content, as well as the inclusion of the appropriate quarantine pests and diseases from the harmonized quarantine pest list.

Since there is no conflict between the National Seed Laws and the SADC drafts, it is important that member countries start implementing the systems immediately, while the National Authorities concurrently spearhead and facilitate amendment to the specific provisions of their regulations, seed certification schemes and handbooks that require amendment.

II. INTRODUCTION

One of the major challenges faced by the SADC region is the need to improve agricultural productivity, and to facilitate regional and international trade in agricultural products. A major constraint to agricultural productivity and food security in SADC is inadequate supply of consistently high quality seed of both cash and food crops due to climatic, economic and human factors. In years of seed shortages member states import seed from sources within and outside the region. However, member states importing seed within the region face difficulties because regulations and procedures on seed and phytosanitary measures are diverse and fragmented, hampering the movement of seed and vegetative planting material from member states with surplus to those experiencing deficits. This is partly due to the lack of cohesion between the seed laws of different countries, which are tailored to meet the unique political, economic and cultural requirements of each individual country.

Difficulties in moving seed may arise as a consequence of seed legislation, variety registration procedures, seed quality standards, tariffs, exchange control regulations as well as phytosanitary rules. The rationale for these restrictions is that controls are necessary to ensure domestic availability of seed, and prevent the introduction of exotic pests and diseases. However, excessive controls restrict cross-border seed trade and the movement of germplasm. In many instances the region has had enough aggregate seed stocks to serve many farmers at the regional level, but due to constraints brought about by the various pieces of legislation and government policies, it has been difficult to move seed from areas of surplus. Consequently a potentially large regional market is split into much smaller national markets. This has limited the potential for investment by seed companies in the region, and hence the range of seed outlets and varieties for farmers to choose from is limited. This has not been in the interests of seed industry development, seed security, nor overall food security.

Harmonization of the policy and regulatory environment relating to seeds and phytosanitary measures across countries is expected to integrate smaller and isolated national seed markets into one larger SADC market for seed. This will encourage entry in the region of new improved varieties and ease the movement of quality seed from countries with surplus to countries experiencing deficit. This is one way of contributing to improved efficiency through the reduction of transaction costs relating to seed trade and encouraging economies of scale in seed production.

The SADC Seed Security Network has developed three proposals comprising regional technical standards and regulations to guide seed harmonization. The three proposals are a) SADC Crop Variety Testing, Registration and Release System, b) SADC Seed Certification and Quality Assurance System, and c) SADC Quarantine and Phytosanitary Measures for Seed. This study was undertaken to establish whether the proposed regional regulations/systems are consistent with existing national regulations in the region. This report is a review of the SADC draft regulations/systems for inconsistencies with the national regulations of SACU Member States as well as those of Zambia. It also gives recommendations on the amendments that should be effected to national legislation so that harmonization with the SADC drafts, and consequently in the region, is achieved.

III. OBJECTIVES

To review the SADC Seed Security Network's proposed regional policy/ regulations on seed harmonization and the national regulations of Zambia and SACU countries (Republic of South Africa, Swaziland, Lesotho, Namibia and Botswana) making reference to the national legislation, so as to identify any inconsistencies, which would be brought to the attention of member states to facilitate possible amendments of national regulations to ensure consistency.

Specific responsibilities and tasks include:

- Compare the proposed regional regulations with the Zambian and Southern Africa Customs Union Members national legislations/regulations for seed.
- Identify what provisions of existing national regulations regarding seed trade, quarantine and phytosanitary measures, seed certification and quality assurance and variety testing, registration and release systems might require amending to bring national regulation in line with the regional one.
- Establish whether any provisions in the legislation would entail amending to facilitate this regional harmonization of regulations concerning the three issues namely SPS regulations, seed certification and quality assurance and varietal release.
- Propose recommendations for taking the process forward.

Expected Outputs and Deliverables

- Inconsistencies documented.
- National legislation/regulation provisions to be amended identified.
- Report for presentation produced.

IV. CROP VARIETY TESTING, REGISTRATION AND RELEASE

A) SUMMARY OF DOCUMENT ONE: SADC CROP VARIETY TESTING, REGISTRATION AND RELEASE SYSTEM

The SADC Seed Security Network (SSSN), on behalf of the Food, Agriculture and Natural Resources (FANR) Directorate will be designated to manage the SADC Variety Release System (the system). A SADC Variety Release Committee (SVRC) will be established to provide technical guidelines in variety testing, registration and release. The SVRC will develop and update variety release guidelines and procedures, identify and recommend procedures for utilization in the variety testing, registration and release system, and assist in technical backstopping of the established system.

Each SADC Member State should designate a National (Seeds/Variety) Authority that will collaborate with SSSN to implement the system. The designated National Authority will facilitate implementation of the system in the respective Member State, facilitate testing, registration and release of the variety at national level and will endorse release of the variety at SADC level, and advise breeders, seed companies and other stakeholders on procedures in the area of variety testing, registration and release.

The SSSN will develop and maintain a list of varieties released for marketing in the region. The list will be called the SADC Variety Catalogue (the catalogue). Inclusion of new varieties in the catalogue will be determined by minimum requirements as outlined by the SVRC. Varieties of any crop for which DUS and VCU data is available may be listed in the catalogue. DUS descriptions will be according to the Union for the Protection of New Varieties of Plants (UPOV) guidelines. Inclusion of a crop variety in the catalogue will be supported by VCU information derived from field experiments conducted in the major agro-ecological zones over a minimum of two seasons. The SVRC will develop guidelines for VCU testing. SADC will institute a unique numbering system for all varieties, which will be the Identification Number of a variety in the catalogue. The variety will have a name and may have synonyms, in different countries. Varieties entered on the catalogue will be valid for twenty years, and applications for renewal for further period shall be submitted not later than one year before expiry of acceptance. Inclusion of varieties in the catalogue will incur an initial application fee, and upon successful registration, an annual fee.

Before a variety can be entered in the catalogue it must be released in at least two SADC countries. Thereafter, the Variety Holder may apply for regional release through the National Seeds Authority in one of the countries where national release was obtained. The application must be accompanied by a reference sample, proof of national clearances in at least two SADC countries, DUS and VCU test results. Varieties already released in SADC Member States or those under production when the catalogue is established will automatically be entered in the catalogue provided that an application is submitted with the necessary information including DUS and VCU data, and the variety is listed on the National Variety List of at least two Member States. Landraces will be eligible for registration while genetically modified varieties will not be eligible for registration until a SADC consensus is reached on the registration of genetically modified varieties.

A variety database covering all crops will be developed, updated and maintained by the SSSN. The database will include all varieties in the region, i.e. rejected varieties, released varieties and landraces. The details of the database which will be accessible to all Member States, are to be determined by the SVRC.

B) OVERVIEW OF SEED LEGISLATION AND IDENTIFIED INCONSISTENCIES WITH DOCUMENT ONE OF THE SADC DRAFTS

BOTSWANA

i) Seeds Certification Act, chapter 35:07 of 1976

The Act exists to make better provision for the testing, and for the control of the sale, export and use of seeds. The Act does not make provision for variety testing, registration and release.

ii) Botswana Handbook of Seed Certification Standards and Rules, May 1994.

According to its pre-amble, 'the handbook was published for the assistance of seed field, seed testing and law enforcement authorities and other organizations interested in high quality seed production'.

Variety Testing

The handbook does not have any provisions covering variety testing.

Variety Registration

The handbook does not have any provisions covering variety registration.

Variety Release

The handbook states that 'Only varieties recommended for release and distribution by the Department of Agricultural Research's Recommendation Committee shall be eligible for certification.' However, the handbook does not give any details regarding the variety release process.

LESOTHO

Lesotho does not yet have seed legislation or seed regulations (Zulu, personal communication).

NAMIBIA

Namibia does not have a Seed Act yet. However in the interim, stakeholders in seed production are guided by the following:

- Handbook of Crop Seed Production (Standards and Operational Procedures for Foundation, Certified and Quality Declared Seed of the Northern Namibia Farmers Seed Growers Cooperative [NNFSGC]), 2000 and;

-Standards for Foundation, Certified and Quality Declared Seed of Pearl millet, Sorghum, Cowpeas and Groundnuts of the NNFSGC.

i) Handbook of Crop Seed Production (Standards and Operational Procedures for Foundation, Certified and Quality Declared Seed of the Northern Namibia Farmers Seed Growers Cooperative [NNFSGC]), 2000.

Variety Testing

The document does not have any provisions covering variety testing.

Variety Registration

The document does not have any provisions covering variety registration.

Variety Release

The first part of the document states that 'The varieties of the crops entitled to be produced as Certified and Quality Declared Seed are limited to those officially recognized and released ones.' However the handbook does not contain any provisions detailing the variety release process.

ii) Standards for Foundation, Certified and Quality Declared Seed of Pearl millet, Sorghum, Cowpeas and Groundnuts of the NNFSGC.

This document covers seed certification and does not deal with crop variety testing, registration and release.

SOUTH AFRICA

i) Plant Improvement Act No. 53 of 1976

The Act is very comprehensive as it 'provides for the registration of premises from which the sale of certain plants or the cleansing, packing and sale of certain propagating material may be undertaken; prescribes the conditions subject to which such plants or propagating material may be sold for the purpose of cultivation; provides for the recognition of certain varieties of plants; for a system of certification of plants and propagating material with the object of maintaining the quality of certain plants and propagating material and ensuring the usefulness of the products thereof for agricultural and industrial purposes; and for the control of the import and export of certain plants and propagating material; and to provide for incidental matters.'

Variety Testing

Section 17 is concerned with the DUS requirements that a variety should fulfill before it can be recognized, while section 18 deals with the tests and trials that an applicant variety will undergo. Section 18 covers VCU testing.

The Act also makes provision for obtaining results of tests and trials from other countries for the purpose of consideration of an application for the recognition of a variety (section 15A).

Variety Registration

Section 16 deals with the application for the recognition of a variety for entry in the variety list. Section 15 and 21 cover the details that are entered onto the variety list, while section 20 deals with recognition of a variety.

Variety Release

Section 15 to 22 of the act deal with variety lists, variety evaluation, recognition of variety, as well as application procedures and requirements for recognition of varieties.

The Act also makes provision for obtaining results of tests and trials from other countries for the purpose of consideration of an application for the recognition of a variety (section 15A).

The provisions relating to variety testing, registration and release do not conflict with Document One of the SADC drafts.

ii) Regulations Relating to Establishments, Varieties, Plants and Propagating Material (Government Notice No. 1064 of 23 May 1980, as amended)

Chapter 4 (section 16 to 20A) of the Regulations addresses the recognition of varieties.

Variety Testing

Sections 17 and 18 are concerned with the tests and trials that an applicant variety will undergo.

Variety Registration

Section 16 deals with the application for the recognition of a variety for entry in the variety list. Section 19 and 20 covers recognition of a variety and the variety list.

The provisions relating to variety testing, registration and release do not conflict with Document One of the SADC drafts.

iii) South African Seed Certification Scheme (Government Notice No. R2566 of 25 November 1983, as amended)

The scheme deals with seed certification. The scheme applies to 'seed of those varieties of the kinds of plants specified in column I of Table 2, the denomination of which are entered in the varietal list'. The scheme does not conflict with Document One of the SADC drafts.

SWAZILAND

i) The Seeds and Plant Varieties Act 2000 (Act No.7 of 2000)

The Act 'provides for the control, sale, importation and exportation of seeds and matters incidental thereto.'

Part III (sections 15 to 21) deals with recognition of varieties, examination of varieties, and the variety list.

Variety Testing

Section 17 deals with the DUS and VCU criteria for recognition of varieties while section 18 refers to variety testing. Section 19 of the Act allows use of results of tests conducted outside Swaziland, for recognition of varieties.

Variety Registration

Sections 15 and 21 introduce the variety list while section 16 deals with the application of a variety for inclusion in the variety list. Section 20 deals with listing of approved varieties.

Variety Release

Section 18 describes the functioning of the Variety Release Committee.

The Act is in harmony with Document One of the SADC drafts.

ii) Seeds and Plant Varieties Regulations, 2000

The regulations largely deal with seed certification and do not make provision for variety testing, registration and release. However, the Seventh Schedule containing prescribed forms includes Form 13 'Application for release and distribution of plant variety'.

ZAMBIA

i) The Plant Variety and Seeds Act chapter 236

The Act provides 'for the regulation and control of the production, sale and import of seed for sowing and of the export of seed, and for the testing and for minimum standards of germination and purity thereof, and further provides for the certification of seed and for matters incidental to or connected with the foregoing'

ii) The Agriculture (Plant Varieties and Seeds) Regulations, 1995

The regulations are made up of two parts:

Part 1: The Agriculture (Seeds) Regulations, and

Part 2: The Agriculture (Variety Release) Regulations

Section 35 to 50 deal with variety release, variety testing and variety lists.

Variety Testing

Sections 43 to 47 deal with the criteria for variety recognition as well as variety testing.

Variety Registration

Section 49 deals with denomination of a variety while section 50 is on variety lists.

Variety Release

Subsection 3 of section 6 states that 'Only cultivars which have been approved by the Variety Release Committee shall be eligible for certification'. Sections 35 to 42 deal with the appointment and the functioning of the Variety Release Committee.

The following section is at variance with Document One of the SADC drafts:

- Section 48: 'Varieties which have been released in foreign countries and have been brought in the country for release shall be subjected to the same release'.

Although the meaning of the statement is fairly vague, the SADC system expects that applicant varieties that have already been registered in at least two Member countries and have sufficient DUS and VCU data, be treated differently, in that they should not have to undergo testing again in the rest of the Member States.

V. SEED CERTIFICATION AND QUALITY ASSURANCE

A) SUMMARY OF DOCUMENT TWO: SADC SEED CERTIFICATION AND QUALITY ASSURANCE SYSTEM

The overall objective of the SADC Seed Certification and Quality Assurance System is to encourage that seed of varieties listed in the SADC Common Variety Catalogue and traded among SADC countries is of consistently high and known quality, and that a regional market is organized where seed can move freely from one country to another. The expected outcome is seed trade among SADC countries facilitated through regionally agreed principles, standards and rules, which will improve farmers' access to quality seed.

SADC will establish a SADC Seed Certification Technical Committee to oversee the implementation, auditing and further development of the system. Terms of reference of the Technical Committee will include, amongst others:

- to develop and update seed certification guidelines and procedures;
- to identify and recommend methodologies for use in the seed certification system;
- and
- assist in monitoring and technical backstopping of the established system.

The system shall be implemented in the participating countries under the responsibility of the National Seed certification Authority (NSCA) who will ensure that its Rules, Directions and Standards are strictly observed. Application from a country to join the system is submitted by the NSCA to the SADC Seed Committee (SSC). Participation is voluntary. The SSC will provide guidelines for the preparation of the applications. The application will include a list of field inspectors, seed samplers and seed laboratories that are authorised to operate the system. The applicant shall agree supervision by the SSC and to pay the prescribed fees.

The System will be developed in accordance with current rules and directions laid down in the OECD, ISTA and FAO QDS seed schemes. The system will include seed production of the following classes: a) Pre-basic, b) Basic, c) Certified Seed (1st Generation), d) Certified Seed (2nd Generation), and e) Quality Declared Seed. Satisfactory conditions for the production and processing of seed must be ensured and verified by field inspection and post-control tests. The SADC System includes only varieties of species listed in the SADC Common Catalogue for Crop Varieties. At the beginning, the System will operate with the species listed in Appendix 1 of Document Two. To further facilitate the operation of the system SADC will introduce a SADC seed label and seal.

NSCAs will be responsible for licensing of seed inspectors, seed samplers and seed analysts and will recommend capable applicant laboratories for accreditation. Registered laboratories will be subject to proficiency testing every three years. Registration requirements and guidelines for referee testing and other auditing activities will be prepared by the SSC. All samples shall be drawn from the seed lots by authorized samplers in accordance with ISTA Rules. The seed containers shall be fastened and sealed at the time of sampling and the contents of each container indicated by a new SADC label. Seed traded must meet the minimum laboratory standards listed in Appendix 1 of Document Two. To fund the operation of the

system, SSSN will develop a scheme of fees and will introduce a levy on regionally traded seed. Establishment and development of the SADC System does not imply that seed produced under other quality assurance systems cannot be traded in or between SADC countries.

B) OVERVIEW OF SEED LEGISLATION AND IDENTIFIED INCONSISTENCIES WITH DOCUMENT TWO OF THE SADC DRAFTS

From the foregoing, it is clear that the Technical Committee is yet to develop and update most of the seed certification guidelines and procedures, and recommend methodologies for use in the certification system. However the following issues are defined in Document Two:

- Accreditation of personnel
- Naming of seed classes and color of labels
- Specific requirements (Field and laboratory standards of individual crops)
- The crops that should initially be considered in the system
- Production of Quality Declared Seed
- The need for post control tests.

BOTSWANA

i) Seeds Certification Act, chapter 35:07 of 1976

The Act exists to make better provision for the testing, and for the control of the sale, export and use of seeds. The Act does not conflict with the content of Document Two of the SADC drafts.

ii) Botswana Handbook of Seed Certification Standards and Rules, May 1994.

The handbook gives general seed certification standards applicable to all crops, as well as specific requirements for maize, sorghum, cowpeas, mungbeans, sunflower, groundnuts and millet.

Inconsistencies with the SADC drafts follow. For ease of reference the numbers in brackets correspond to the numbering in the handbook.

Accreditation of personnel

Official seed inspection (VI)

- The Handbook refers to staff of the Seed Multiplication Unit (SMU) instead of seed inspectors. This is in spite of the fact that The Seed Certification Act of Botswana (section 3, 9, 10d, 12, 13) refers to seed inspectors. The SADC System requires that there be trained seed inspectors authorised/ licensed to operate the system.

Naming of Seed Classes and Color of Labels

Application for registration as a Seed Grower (VII c)

- Not all the seed classes mentioned in Document Two are included. The colors of the labels to be used for these classes are also excluded.

Specific Requirements

Maize (Open pollinated varieties)

- Isolation requirements for basic seed are different from those in Appendix 1 of Document Two (III).
- Field Inspection Table -Minimum number of inspections are inadequate (V).
- Seed Standards– some standards are different to those in Appendix 1 (V).
(The details are shown in Chapter VII of this document).

Sorghum (Open pollinated varieties)

- Isolation requirements for basic seed and for certified seed are different from those in Appendix 1 of Document Two (III).
- Field Inspection Table -Minimum number of inspections are inadequate, and information relating to basic seed is not included (V)
- Seed Standards – some standards are different from those in Appendix 1 (VI).
(The details are shown in Chapter VII of this document).

Cowpeas

- Isolation requirements for certified seed are different from those in Appendix 1 of Document Two (III).
- Field Inspection Table -Minimum number of inspections are inadequate (V).
- Seed Standards– some standards are different from those in Appendix 1 (VI).
(The details are shown in Chapter VII of this document).

Sunflower (Open pollinated varieties)

- Isolation requirements for seed fields are different from those in Appendix 1 of Document Two (III).
- Seed Standards– some standards are different from those in Appendix 1 (V).
(The details are shown in Chapter VII of this document).

Groundnuts

- Isolation requirements for certified seed are different from those in Appendix 1 of Document Two (III).
- Field Inspection -Minimum number of inspections are inadequate (V).
- Seed Standards– some standards are different from those in Appendix 1 (V).
(The details are shown in Chapter VII of this document).

Millet

- Isolation requirements for basic seed are different from those in Appendix 1 of Document Two (III).
- Field Inspection Table -Minimum number of inspections are inadequate (IV).
- Seed Standards– some standards different from those in Appendix 1 (VI).
(The details are shown in Chapter VII of this document).

Other crops

- Specific requirements for hybrid maize, pigeon pea, soybean, cotton, tobacco, rice, beans and wheat are not included.

Production of Quality Declared Seed

The handbook does not cover production of Quality Declared Seed.

Post control Tests

The handbook is silent on post control tests.

NAMIBIA

i) Handbook of Crop Seed Production (Standards and Operational Procedures for Foundation, Certified and Quality Declared Seed of the Northern Namibia Farmers Seed Growers Cooperative [NNFSGC]), 2000.

The preamble to the handbook says, 'This handbook is published for the assistance to seed growers, inspectors of seed fields and seed testing operators. It can also be used as a technical reference in case of disputes'. The following inconsistencies were noted:

Accreditation of personnel

The handbook refers to NNFSGC technical staff, and the Official Seed Officer as the personnel responsible for seed inspections, seed testing and seed sampling. Document Two require that there be trained and licensed/authorised seed inspectors, seed samplers and seed analysts.

Naming of Seed Classes and Color of Labels

- Throughout the document, the term 'foundation seed' is used instead of 'basic seed'.
- In chapter 1, article 3 on seed classes fails to specify that the blue label is for Certified Seed (1st Generation) and indicates a different color label for Quality Declared Seed. Other seed classes and the colors of their labels are omitted.

ii) Standards for Foundation, Certified and Quality Declared Seed of Pearl millet, Sorghum, Cowpeas and Groundnuts of the NNFSGC.

This document gives specific requirements for the crops listed in the title. The following disparities were noted:

Naming of Seed Classes and Color of Labels

- Throughout the document, the term 'foundation seed' is used instead of 'basic seed'.

Specific Requirements

For ease of reference the letters in brackets correspond to the numbering in the document.

Pearl Millet

- Specific field standards - some standards are different from those in Appendix 1 of Document Two (c). The details are shown in Chapter VII of this document.

- Laboratory standards - some standards are different to those in Appendix 1 of Document Two (d). The details are shown in Chapter VII of this document.

Sorghum

- Isolation – there is no separation between open pollinated and hybrid varieties, and the isolation distances differ from those presented in Appendix 1 of Document Two (b).
- Specific field standards- minimum percentage of off-types different to that in Appendix 1 of Document Two (c).
- Laboratory standards - some standards are different from those in Appendix 1 of Document Two (d). The details are shown in Chapter VII of this document.

Cowpeas

- Isolation requirements for certified seed are different from those in Appendix 1 of Document Two (b).
- Specific field standards- minimum percentage of off-types is different to that in Appendix 1 of Document Two (c).
- Laboratory standards - some standards are different to those in Appendix 1 of Document Two (d). The details are shown in Chapter VII of this document.

Groundnuts

- Isolation requirements for certified seed are different from those in Appendix 1 of Document Two (b).
- Specific field standards- minimum percentage of off-types is different to that in Appendix 1 of Document Two (c). The details are shown in Chapter VII of this document.
- Laboratory standards - some standards are different to those in Appendix 1 of Document Two (d). The details are shown in Chapter VII of this document.

Other Crops

- Specific requirements for pigeon pea, soybean, cotton, sunflower, tobacco, rice, wheat and maize are not included in the document.

Production of Quality Declared Seed

The field and laboratory standards for the crops presented in the document are provided.

Post control Tests

The documents are silent on post control tests.

SOUTH AFRICA

i) Plant Improvement Act No. 53 of 1976

Accreditation of personnel

- The Act makes provision for the authorization of public officials as well as individuals that are not public officials to perform the functions of the registrar [paragraph a) of subsection 3 of section 3]. This is in harmony with Document Two.

The general provisions relating to seed certification in the Act, do not conflict with Document Two of the SADC drafts.

ii) Regulations Relating to Establishments, Varieties, Plants and Propagating Material

Laboratory Standards

- Some of the standards in Table 4 entitled 'Provisions Relating to Seed and Seed Samples' are different from those in Appendix 1 of Document Two. The details are shown in Chapter VII of this document.
- In the same table, the cells containing purity and germination standards of seed should separate hybrid and open pollinated seed varieties.

Other crops

- Table 4 excludes pigeon pea.

iii) South African Seed Certification Scheme (Government Notice No. R2566 of 25 November 1983, as amended)

The South African Seed Organization (SANSOR) a voluntary organization is designated to 'exercise the powers, perform the functions and carry out the duties conferred upon, assigned to or imposed upon the authority under this Scheme --- --- - ---.' The authority exercises its power, performs its functions and carries out its duties subject to the directions of the Registrar of Plant Improvement.

The following provisions were inconsistent with Document Two of the SADC drafts.

Naming of Seed Classes and Color of Labels

- Paragraph (c) of subsection (2) of section 18, on seed classes and color of labels excludes Certified Seed (2nd Generation) and Quality Declared Seed.

Specific Requirements

For ease of reference the numbers in brackets correspond to the numbering in the Seed Certification Scheme.

Requirements Relating to Groundnuts (Annexure 4)

- Isolation requirements for basic seed production are not stated (3).
- Requirements of plants – minimum % of off-types differs from that in Appendix 1 (4).
- Inspection requirements –minimum number of inspections differs from that in Appendix 1 (5).
- Physical Requirements – some laboratory standards differ from those in Appendix 1 (6). The details are shown in Chapter VII of this document.

Requirements relating to soybeans (Annexure 19)

- Isolation requirements for basic seed production are not stated (3).
- Inspection requirements–minimum number of inspections differs from that in Appendix 1 (5).

- Physical Requirements– some laboratory standards differ from those in Appendix 1 (6). The details are shown in Chapter VII of this document.

Requirements relating to cotton (Annexure 20)

- Isolation requirements OP variety differs, and that for basic seed is not stated (3).
- Requirements of plants– minimum % of off-types differs from that in Appendix 1 (4).
- Inspection requirements –minimum number of inspections differs from that in Appendix 1 (5).
- Physical Requirements– some laboratory standards differ from those in Appendix 1 (6). The details are shown in Chapter VII of this document.

Requirements relating to sunflowers (Annexure 21)

- Isolation requirements for OP and hybrid differ from those in Appendix I (3).
- Inspection requirements –minimum number of inspections differs from that in Appendix 1 (5).
- Physical Requirements – some laboratory standards differ from those in Appendix 1 (6). The details are shown in Chapter VII of this document.

Requirements relating to rice (Annexure 27)

- Inspection requirements –minimum number of inspections differs from that in Appendix 1 (5).
- Physical Requirements – some laboratory standards differ from those in Appendix 1 (6). The details are shown in Chapter VII of this document.

Requirements relating to dry beans and garden beans (Annexure 29 and 30)

- Requirements of plants– minimum % of off-types differs from that in Appendix 1 (4).
- Inspection requirements –minimum number of inspections differs from that in Appendix 1 (5).
- Physical Requirements – some laboratory standards differ from those in Appendix 1 (6). The details are shown in Chapter VII of this document.

Requirements relating to sorghum (Annexure 35)

- Isolation requirements for OP differ from those in Appendix I. (3).
- Inspection requirements –minimum number of inspections differs from that in Appendix 1 (5).
- Physical Requirements – some laboratory standards differ from those in Appendix 1 (6). The details are shown in Chapter VII of this document.

Requirements relating to cowpeas (Annexure 37)

- Isolation requirements for OP and hybrid differ from those in Appendix I (3).
- Inspection requirements –minimum number of inspections differs from that in Appendix 1 (5).
- Physical Requirements – some laboratory standards differ from those in Appendix 1 (6). The details are shown in Chapter VII of this document.

Requirements relating to maize (Annexure 38)

- Isolation requirements for basic seed are not stated (3).
- Requirements of plants– minimum % of off-types differs from that in Appendix 1 (4).
- Inspection requirements –minimum number of inspections differs from that in Appendix 1 (5).
- Physical Requirements– some laboratory standards differ from those in Appendix 1 (6). The details are shown in Chapter VII of this document.

Requirements relating to wheat (Annexure 51)

- Isolation requirements for basic seed are not stated (3).
- Inspection requirements –minimum number of inspections differs from that in Appendix 1 (5).

Other Crops

- Pigeon pea, tobacco and pearl millet are not included in the South African Seed Certification Scheme.

Field and Laboratory Standards

- Some of the standards in the table entitled ‘Compendium of Physical Requirements, Isolation Requirements and Inspection Requirements’ are at variance with the standards in Appendix 1 of Document Two of the SADC drafts. The details are shown in Chapter VII of this document.

Production of Quality Declared Seed

The Regulations and the Seed Certification Scheme do not cover production of Quality Declared Seed.

Post control Tests

Both the Act and the Regulations provide for the conduct of post control tests.

SWAZILAND

i) The Seeds and Plant Varieties Act 2000 (Act No.7 of 2000)

The Act ‘provides for the control, sale, importation and exportation of seeds and matters incidental thereto.’ Section 22 of the Act provides for the recognition of certification schemes in other countries, and consequently recognition of seed produced under such schemes. The Act is in harmony with Document Two of the SADC drafts.

ii) Seeds and Plant Varieties Regulations, 2000

The following sections of the regulations showed inconsistencies with Document Two of the SADC drafts:

Naming of Seed Classes and Color of Labels

Third Schedule (Regulation 6 [2]) on labels –

- The label color for Certified Seed (2nd Generation) is different from that in Document Two.

Field Standards

Fourth Schedule (Regulation 6[1]) entitled Standards for Swaziland Certified Seed:

- Some of the standards differ from those in Appendix 1 of Document Two. The details are shown in Chapter VII of this document.
- Groundnut, pigeon pea, soybean, sunflower, rice, pearl millet and wheat are excluded from these tables.
- There is no separation between hybrid and open pollinated seed varieties for cotton, sunflower, sorghum and maize.

Minimum isolation distances for the following crops differ from those in Appendix 1 of Document Two:

- Maize
- Sorghum
- Beans
- Cotton
- Tobacco

Laboratory Standards

- Some of the standards in the table entitled 'LABORATORY TESTS' differ from those in Appendix 1. The details are shown in Chapter VII of this document.

Specific Requirements

For ease of reference the numbers in brackets correspond to the numbering in the Seed and Plant Varieties Regulations.

Maize

- Isolation distances differ from those in Appendix 1 (1.2).
- Field inspection- the minimum number of inspections differs from those stipulated in Appendix 1 (3).
- The % off-types for open pollinated varieties differ from that in Appendix 1 (5).

Dry Beans

- Isolation distances differ from those in Appendix 1 (1.2).
- Field inspection- the minimum number of inspections differs from those stipulated in Appendix 1 (3).
- Certification standards for cleaned seed – some standards differ from those in Appendix 1 (8). (The details are shown in Chapter VII of this document).

Cotton

- Isolation distances differ from those in Appendix 1 (1.2).
- Inspection standards - % off-type plants differ from those in Appendix 1 (4).
- Laboratory Standards - some standards differ from those in Appendix 1 (7). (The details are shown in Chapter VII of this document).

Other crops

- Specific requirements for groundnut, pigeon pea, soybean, sunflower, sorghum, cowpea, pearl millet, tobacco, rice, and wheat are not included.

Production of Quality Declared Seed

- Minimum laboratory standards for Quality Declared Seed are presented but field standards are not provided.

Post control tests

- Standards which cultivars must meet during control growing are presented.

ZAMBIA

i) The Plant Variety and Seeds Act chapter 236

The Act provides ‘for the regulation and control of the production, sale and import of seed for sowing and of the export of seed, and for the testing and for minimum standards of germination and purity thereof, and further provides for the certification of seed and for matters incidental to or connected with the foregoing’

Accreditation of personnel

- The Act has a provision for licensing seed companies as certifying agencies, and approval of any person as an official seed inspector, sampler or tester for a certifying agency. The act complies with Document Two of the SADC drafts.

ii) The Agriculture (Plant Varieties and Seeds) Regulations, 1995

The document is made up of two parts:

Part 1: The Agriculture (Seeds) Regulations, and

Part 2: The Agriculture (Variety Release) Regulations.

The following sections are at variance with Document Two of the SADC drafts:

Naming of Seed Classes and Color of Labels

Fourth Schedule (Regulation 6[2]) –

- The color of labels for Certified Seed (1st Generation) and Certified Seed (2nd Generation) differs from those in Document Two.

Field and Laboratory Standards

- Paragraph (a) of subsection (4) of section 11 on minimum number of inspections.

Fifth Schedule (Regulation 14) –

- Some of the field standards and laboratory standards are different from those in Appendix 1 of Document Two. The details are shown in Chapter VII of this document.

Sixth Schedule (Regulation 15) -

- Some of the minimum standards for purity and germination tests are different from those in Appendix 1. The details are shown in Chapter VII of this document.

Other Crops

- Pigeon pea is not included in the Fifth Schedule and the Sixth Schedule.

Post Control Tests

- Section 21 of the Regulations provides for control growing of seed lots that have been sampled and tested.

Production of Quality Declared Seed

iii) The Plant Varieties and Seeds (Quality Declared Seeds) Regulations 1999

These regulations apply to quality declared seed (QDS). The regulations are not in conflict with Document two of the SADC drafts that requires that production of QDS must follow procedures outlined by FAO. Only listed varieties can be produced as QDS.

VI. PHYTOSANITARY AND QUARANTINE MEASURES

A) SUMMARY OF DOCUMENT THREE: SADC QUARANTINE AND PHYTOSANITARY MEASURES FOR SEED

The SADC Quarantine and Phytosanitary Measures for Seed and Vegetative Plant Material System is being formulated to contribute to the prevention of entry and spread of seed-borne pests and those borne on vegetative plant material among member states, and to facilitate easy movement of seed and vegetative plant material within the region. SADC will establish the Phytosanitary Technical Committee to oversee the implementation, auditing and further development of the system.

Pest Risk Analysis (PRA) will be used in the justification of quarantine and phytosanitary measures put forward in the control and containment of quarantine pests. SSSN panel of experts on PRAs will be established for the production of PRA reports for dissemination to National Plant Protection Organizations (NPPOs) of SADC Member States. In earlier meetings, experts from the region prioritized 18 crops as the starting point for the rationalization of quarantine and phytosanitary measures, for the regional system. Furthermore, quarantine seed-borne pests and those borne on vegetative plant material, which may present a risk to the seed industry were identified, and are listed in Table 1 of Document Three. Use of this list, which is shorter than the one used by phytosanitary inspectors in the past, will reduce the time spent inspecting imports and exports at entry and exit points, leading to timely clearance of consignments.

Member States should prevent the introduction and spread of quarantine pests through seed certification, and implementation of international standards as contained in the World Trade Organization Agreement on Sanitary and Phytosanitary Measures (WTO-SPS), and the International Plant Protection Convention (IPPC). When importing seed and vegetative plant material, Plant Quarantine and Phytosanitary Services in member states should make use of the list of quarantine pests by stating measures to be taken prior to the entry of consignments into the region on the Plant Import Permits, for exporting countries to comply with. The exporting member state would then respond by stating on the Phytosanitary Certificate or Phytosanitary Certificate for Re-export that it is able or unable to meet the set requirements meant to safeguard the importing Member State against quarantine pests. Member States should export seed and vegetative plant material only if they comply with the requirements, and when importing, they should accept consignments only if compliance has been achieved.

Consignments of exports and imports should be accompanied by Plant Import Permit and Phytosanitary Certificate. Both the consignment and accompanying documents should be presented to the Phytosanitary inspectors at the entry or exit, in order to prevent the entry of quarantine pests through the seed trade. The various documents constitute tools attesting to compliance with set standards and requirements and act as a component of pest risk management. These include phytosanitary certificates, plant import permits, non-compliance notification, certification of seed, and conveyance treatments.

Member States should recognize that an alternative level of protection can be obtained by applying different ways to prevent introduction and spread of quarantine pests in the region. The method used should be declared, and must be technically and economically feasible. In the interest of promoting regional seed trade among Member States, the use of mutually recognized alternative measures should be encouraged.

B) OVERVIEW OF SEED LEGISLATION AND IDENTIFIED INCONSISTENCIES WITH DOCUMENT THREE OF THE SADC DRAFTS

Most of the issues dealt with in Document Three fall under Plant Health and Quarantine Services and are administered by NPPOs in member countries. Relevant legislation and regulations are contained under Plant Health legislation. However in some countries, seed regulations will cite quarantine pests that must be inspected for in the seed field when the seed crop is actively growing. This document compares the SADC proposals with seed regulations in SACU countries as well as in Zambia. A comparison will therefore be made between the quarantine pests cited or omitted under different national seed regulations and those in Table 1 of Document Three.

BOTSWANA

Botswana Handbook of Seed Certification Standards and Rules, May 1994

Maize

- Maize diseases that should be inspected for in seed fields do not include those that are in Table 1 of Document Three.

Cowpeas

- Cowpea diseases that should be inspected for in seed fields do not include the one that is in Table 1 of Document Three.

Sunflower (Open pollinated varieties)

- Sunflower diseases that should be inspected for in seed fields do not include the one that is in Table 1 of Document Three.

NAMIBIA

Standards for Foundation, Certified and Quality Declared Seed of Pearl millet, Sorghum, Cowpeas and Groundnuts of the NNFSGC.

- Cowpea disease that should be inspected for in seed fields is not stated.

SOUTH AFRICA

South African Seed Certification Scheme

Requirements relating to soybeans (Annexure 19)

- Disease listed in Table 1 of Document Three is not included.

Requirements relating to sunflowers (Annexure 21)

- Disease listed in Table 1 of Document Three is not included.

Requirements relating to dry beans and garden beans (Annexure 29 and 30)

- Diseases and nematode listed in Table 1 of Document Three are not included.

Requirements relating to cowpeas (Annexure 37)

- Disease listed in Table 1 of Document Three is not included.

Requirements relating to maize (Annexure 38)

- Diseases listed in Table 1 of Document Three are not included.

Requirements relating to wheat (Annexure 51)

- Disease listed in Table 1 of Document Three is not included.

SWAZILAND

Seeds and Plant Varieties Regulations, 2000

Maize

- Disease listed in Table 1 of Document Three is not included.

Dry Beans

- Some of the diseases listed in Table 1 of Document Three are not included. The details are shown in Chapter VII of this document.

ZAMBIA

ii) The Agriculture (Plant Varieties and Seeds) Regulations, 1995

- Quarantine pests listed in Table 1 of Document Three are not included in the field inspection tables.

VII. AMENDMENTS RECOMMENDED TO HARMONIZE NATIONAL LEGISLATION WITH SADC PROPOSALS

For maximum clarity, it is recommended that the documents, handbooks, and regulations of each country be used as references while working through this section. Text which is recommended to replace existing wording, is underlined. Blank spaces in tables indicate that the existing text is correct.

BOTSWANA

Botswana Handbook of Seed Certification Standards and Rules

For ease of reference, the Roman numerals and numbers in brackets correspond to the numbering in the handbook. The following amendments should be made to the handbook, to bring it into agreement with the SADC proposals.

1. Accreditation of personnel

Official seed inspection (VI)

- Field inspection shall be conducted by trained inspectors. Remove 'from SMU' (1).
- Replace SMU staff with seed inspectors (2).
- Replace ISTA regulations with ISTA rules (3).
- Replace SMU with seed inspectors (4).

2. Naming of seed classes and color of labels

Application for registration as a Seed Grower - Certified Tags (VII c)

Change to:

- Pre-basic seed (instead of breeder)
Basic
- Certified seed (1st generation) - Blue
- Certified seed (2nd generation) – Red
- Quality Declared Seed – Green

3. Specific Requirements:

Maize (Open pollinated varieties)

Isolation requirements (III)

- | <u>Class</u> | <u>Isolation distance (meters)</u> |
|--------------|------------------------------------|
| • Basic seed | replace 200 with <u>400</u> |

Field Inspection (V)

Minimum number of inspections:

- Hybrids - Basic and Certified seed –change 3 to 5.
- Open pollinated – Basic seed change 1 to 4.
Certified seed change 1 to 3.

Seed fields should be inspected for the following maize diseases:

- *Peronosclerospora phillipiensis*
- *Cochliobolus heterostrophus*

Seed Standards

Factor	Standards for each class	
	Basic	Certified
• Pure seed (min)	change 98.0 to <u>99.0</u>	change 98.0 to <u>99.0</u>
• Inert matter (max)	change 2.0% to <u>1%</u>	change 2.0% to <u>1.0%</u>

Sorghum (open pollinated varieties)

Isolation requirements (III)

- Class Isolation distance (metres)
- Basic change 200 to 400
- Certified change 200 to 350

Field Inspection (V)

Minimum number of inspections

- OP: Basic seed –change 3 to 4;
- Hybrid: Basic seed –change 3 to 5; Certified seed –change 3 to 5.

Seed Standards (VI)

Factor	Standards for each class	
	Basic	Certified
• Pure seed (min)	change 98.0% to <u>99.0%</u>	
• Inert matter (max)	change 2.0% to <u>1.0%</u>	
• Moisture (max)	change 13.0% to <u>12.0%</u>	change 13.0% to <u>12.0%</u>

Cowpeas

Isolation requirements (III)

- Certified seed: change 10m to 5m.

Field inspection (V)

Minimum number of inspections:

- Basic seed: change 2 times to 3 times.
- Certified seed: change 2 times to 3 times.

Seed fields should be inspected for:

- Peanut stripe potyvirus

Seed Standards (VI)

Factor	Standards for each class	
	Basic	Certified
• Pure seed (min)	change 98.0% to <u>99.0%</u>	
• Inert matter (max)	change 2.0% to <u>1.0%</u>	
• Germination (min)	change 80.0% to <u>75%</u>	change 70.0% to <u>75%</u>

Sunflower (Open pollinated varieties)

Isolation Requirements (III)

- Change 100 metres to 1000metres for basic seed.
- Change 100 metres to 800 metres for certified seed.

Seed fields should be inspected for:

- Tobacco ringspot virus

Seed Standards (V)

Factor	Standards for each class	
	Basic	Certified
• Germination (min)	change 85.0% to <u>75%</u>	

Groundnuts

Isolation Requirements (III)

- Change 10 metres to 5 metres for certified seed.

Field inspection (V)

Minimum number of inspections:

- Basic seed: change 2 times to 3 times.
- Certified seed: change 2 times to 3 times.

Seed Standards

Factor	Standards for each class	
	Basic	Certified
• Pure seed (min)	change 97.0% to <u>98.0%</u>	change 97.0% to <u>98.0%</u>
• Inert matter (max)	change 3.0% to <u>2.0%</u>	change 3.0% to <u>2.0%</u>
• Moisture (max)	change 10.0% to <u>9.0%</u>	change 12.0% to <u>9.0%</u>

Millet

Isolation Requirements (III)

- Change 200 metres to 400 metres for basic seed.

Field inspection (IV)

Minimum number of inspections:

- Basic seed: change 2 times to 3 times.
- Certified seed: change 2 times to 3 times.

Seed Standards (VI)

Factor	Standards for each class	
	Basic	Certified
• Moisture (max)	change 13.0% to <u>11.0%</u>	change 13.0% to <u>11.0%</u>
• Germination (min)	change 85.0% to <u>75%</u>	change 85.0% to <u>80%</u>

4. Other crops

Specific requirements of the following crops as well as their quarantine pests and diseases should be added to the handbook: -

- hybrid maize,
- pigeon pea,
- hybrid sorghum,
- soybean,
- cotton,
- tobacco,

- rice,
- beans, and
- wheat.

5. Production of Quality Declared Seed

- Regulations covering production of Quality Declared Seed should be written.

6. Post Control Tests

- Seed regulations should have provisions covering post control tests.

7. Variety Testing Registration and Release

- Regulations covering variety testing, registration and release, which are in harmony with Document One of the SADC drafts should be promulgated.

NAMIBIA

Handbook of Crop Seed Production (Standards and Operational Procedures for Foundation, Certified and Quality Declared Seed of the Northern Namibia Farmers Seed Growers Cooperative [NNFSGC]), 2000.

1. Accreditation of personnel

- Seed Regulations should reflect that authorized/licensed seed inspectors, seed samplers and seed analysts are responsible for seed inspections, seed testing and seed sampling.

2. Naming of Seed Classes and Color of Labels

- Throughout the document, the term ‘foundation seed’ should be replaced with ‘basic seed’.
- In chapter 1, article 3 states that blue labels should be attached onto certified seed. The seed class should be changed to Certified seed (1st Generation).
- The same article states that red labels should be used on Quality Declared Seed. This should be changed to green labels.

Standards for Foundation, Certified and Quality Declared Seed of Pearl millet, Sorghum, Cowpeas and Groundnuts of the NNFSGC.

- Throughout the document, the term ‘foundation seed’ should be replaced with ‘basic seed’

3. Specific Requirements

Pearl Millet

c) Specific field standards

- The maximum % of off-types (based on 1000 plants) should be 0.5 for basic seed as well as certified seed.

d) Laboratory standards

	Basic	Certified
Germination	<u>75</u>	
Moisture content	<u>11.0</u>	<u>11.0</u>

(max)		
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Sorghum

b) Isolation

	Basic	Certified
Sorghum (OP)	<u>400</u>	<u>350</u>
Sorghum (Hybrid)	<u>750</u>	<u>500</u>

c) Specific field standards

- The maximum % of off-types (based on 1000 plants) should be 0.2 for basic seed and 0.5 for certified seed.

d) Laboratory standards

	Basic	Certified
Pure seed (min)	<u>99.0</u>	
Inert matter (max)	<u>1.0</u>	
Germination (min)	<u>80</u>	
Moisture content (max)	<u>12.0</u>	<u>12.0</u>

Cowpeas

b) Isolation distance

- Certified seed – change from 10 meters to 5 meters.

c) Specific field standards

- The maximum % of off-types (based on 1000 plants) should be 0.2 for basic seed and 0.5 for certified seed.

d) Laboratory standards

	Basic	Certified
Pure seed (min)	<u>99.0</u>	
Inert matter (max)	<u>1.0</u>	
Germination (min)	<u>75</u>	<u>75</u>
Moisture content (max)	<u>13.0</u>	<u>13.0</u>

Seed fields should be inspected for:

- Peanut stripe potyvirus

Groundnuts

b) Isolation distance

- Certified seed – change from 10 meters to 5 meters.

c) Specific field standards

- The maximum % of off-types (based on 1000 plants) should be 0.2 for basic seed and 0.2 for certified seed.

d) Laboratory standards

	Basic	Certified
Pure seed (min)	<u>98.0</u>	<u>98.0</u>
Inert matter (max)	<u>2.0</u>	<u>2.0</u>
Germination (min)	<u>75</u>	<u>75</u>
Moisture content (max)	<u>9.0</u>	<u>9.0</u>

4. Other Crops

Specific requirements of the following crops as well as their quarantine pests and diseases should be added to the handbook: -

- hybrid and open pollinated maize,
- pigeon pea,
- hybrid sorghum,
- soybean,
- sunflower,
- cotton,
- tobacco,
- rice,
- beans, and
- wheat.

5. Production of Quality Declared Seed

- Field and laboratory standards for Quality Declared Seed of crops that are not presently covered in the document should be provided.

6. Post control Tests

- Regulations should make provision for post control tests.

7. Variety testing, registration and release

- Regulations for variety testing, registration and release, which are in harmony with Document One of the SADC drafts, should be promulgated.

SOUTH AFRICA

Regulations Relating to Establishments, Varieties, Plants and Propagating Material

Laboratory Standards

Table 4: Provisions Relating to Seed and Seed Samples.

- Standards for hybrid seed and open pollinated seed should be separated
- Laboratory standards for pigeon pea should be added to Table 4.
- The cells dealing with purity and germination of seed should be amended as follows:

Table 4: Provisions Relating to Seed and Seed Samples

Kind of plant	Max. content% other matter	Max. content% other matter	Germination	Germination
	Basic seed	Certified seed	Basic seed	Certified seed
Groundnut			Change 70 to <u>75</u>	Change 70 to <u>75</u>
Soybean	Change 4 to <u>1.0</u>	Change 4 to <u>1.0</u>		
Cotton OP	Change 4 to <u>1.0</u>	Change 4 to <u>2.0</u>		Change 70 to <u>75</u>
Cotton Hybrid	Change 4 to <u>1.0</u>	Change 4 to <u>2.0</u>		Change 70 to <u>75</u>
Sunflower OP	Change 4 to <u>2.0</u>	Change 4 to <u>2.0</u>	Change 70 to <u>75</u>	Change 70 to <u>85</u>
Sunflower Hybrid	Change 4 to <u>2.0</u>	Change 4 to <u>2.0</u>	Change 70 to <u>80</u>	Change 70 to <u>80</u>
Tobacco	Change 4 to <u>1.0</u>	Change 4 to <u>1.0</u>	Change 80 to <u>85</u>	Change 80 to <u>85</u>
Rice	Change 4 to <u>2.0</u>	Change 4 to <u>2.0</u>	Change 70 to <u>80</u>	Change 70 to <u>80</u>
Pearl millet	Change 7 to <u>2.0</u>	Change 7 to <u>2.0</u>	Change 60 to <u>75</u>	Change 60 to <u>80</u>
Beans	Change 4 to <u>1.0</u>	Change 4 to <u>1.0</u>	Change 60 to <u>70</u>	Change 60 to <u>75</u>
Sorghum OP	Change 4 to <u>1.0</u>	Change 4 to <u>2.0</u>	Change 70 to <u>80</u>	Change 70 to <u>80</u>
Sorghum Hybrid	Change 4 to <u>1.0</u>	Change 4 to <u>2.0</u>	Change 70 to <u>80</u>	Change 70 to <u>80</u>
Wheat	Change 1.5 to <u>1.0</u>	Change 1.5 to <u>1.0</u>	Change 80 to <u>85</u>	Change 80 to <u>85</u>
Cowpea	Change 4 to <u>1.0</u>	Change 4 to <u>2.0</u>	Change 60 to <u>75</u>	Change 60 to <u>75</u>
Maize OP	Change 4 to <u>1.0</u>	Change 4 to <u>1.0</u>	Change 70 to <u>90</u>	Change 70 to <u>90</u>
Maize Hybrid	Change 4 to <u>1.0</u>	Change 4 to <u>1.0</u>		Change 70 to <u>90</u>

OP: Open pollinated

South African Seed Certification Scheme

1. Naming of Seed Classes and Color of Labels

- Paragraph (c) of subsection (2) of section 18 must be expanded to add (1st Generation) to sub-paragraph (iii).
- The following sub-paragraphs should also be added; (iv) Certified Seed (2nd generation) which must have a red label, and (v) Quality Declared Seed with a green label.

2. Specific Requirements

For ease of reference the numbers in brackets correspond to the numbering in the Seed Certification Scheme.

Requirements relating to groundnuts (Annexure 4)

Isolation requirements (3)

- Specify that this refers to certified seed production (3.1).
- Change 3.2 to: For production of basic seed a unit shall be surrounded by an isolation area which is at least 10m wide.

The current 3.2 becomes 3.3.

Requirements of plants (4)

- 0.5% changes to 0.2%. (4.2.2)

Inspection requirements (5)

- Indicate that plants shall be inspected at least three times (5.1).

Physical requirements (6)

- Replace 70 with 75 (6.1.1).
- Replace 7.0 with 9.0 (6.1.4).

Requirements relating to soybeans (Annexure 19)

Isolation requirements (3)

- Specify that this refers to certified seed production (3.1).
- Change 3.2 to: For production of basic seed a unit shall be surrounded by an isolation area which is at least 10m wide.

The current 3.2 becomes 3.3.

Requirements for plants (4)

- No plants infected with tobacco ringspot virus shall occur on the unit (4.3).

Inspection requirements (5)

- Indicate that plants shall be inspected at least three times (5.1).

Physical requirements (6)

- Replace 2.0% with 1.0% (6.1.4.2).
- Add 'have a moisture content of not more than 12.0%'.

Requirements relating to cotton (Annexure 20)

Isolation requirements (3)

- Replace 50 metres with 100 metres (3.1.1).
- Add 'in the case of basic seed production, and 400metres wide for certified seed production' (3.1.2).

Requirements of plants (4)

- Replace 0.5% with 0.3% (4.1.2).

Inspection requirements (5)

- Indicate that plants shall be inspected at least three times (5.1).

Physical requirements (6)

- Add 'in the case of certified seed, and 70 for basic seed' (6.1).
- Add 'in the case of certified seed, and 1.0 per cent for basic seed' (6.3.2).
- Add '6.5. have a moisture content of not more than 10.0%'.

Requirements relating to sunflowers (Annexure 21)

Isolation requirements (3)

- Replace 1 500 metres with 1 000 metres (3.1.1.1).
- Replace 500 metres with 800 metres (3.1.2.1).
- Replace 1 000 metres with 1 500 metres (3.1.2.2).

- Add '6.4. have a moisture content of not more than 12.0%'.

Requirements relating to cowpeas (Annexure 37)

Isolation requirements (3)

- Add 'in the case of certified seed, and 10metres in the case of basic seed. (3.1)'

Requirements for plants (4)

- No plants infected with Peanut stripe potyvirus shall occur on the unit. (4.6)

Inspection requirements (5)

- Indicate that plants shall be inspected at least three times (5.1).

Physical Requirements (6)

- Replace 70 with 75 (6.1.1).
- Add 'in the case of certified seed and 1.0 per cent in the case of basic seed' (6.1.4.2).
- Add '6.3. have a moisture content of not more than 13.0%'.

Requirements relating to maize (Annexure 38)

Isolation requirements (3)

- Add to this statement:
'in the case of intended production of certified hybrid seed, 400 metres in the case of intended production of basic seed of hybrid maize, at least 200 metres in the case of intended production of certified seed of open pollinated varieties, and 400 metres in the case of intended production of basic seed of open pollinated varieties'(3.1).

Requirements of plants (4)

- Add 'for hybrid seed, and 0.5 per cent for open pollinated varieties' (4.1.1).
- Replace 0.5 per cent with 0.3 per cent. Add 'of hybrids, and 1.0 in the case of the intended production of certified seed of open pollinated varieties.'(4.1.2)
- No plants infected with *Peronosclerospora phillipensis* or *Cochliobolus heterostrophus* shall occur on the unit .

Inspection requirements (5)

- Indicate that 'plants shall be inspected at least three times in the case of the intended production of certified seed, and four times in the case of the intended production of basic seed of open pollinated varieties, and five times in the case of the intended production of hybrid varieties'.

Physical Requirements (6)

- Add 'in the case of the intended production of hybrid varieties, and at least 90 in the case of intended production of open pollinated varieties.'(6.1)
- Replace 14.0 per cent with 13.0 per cent (6.1.3)
- Replace 2.0 per cent with 1.0 per cent (6.1.5.2).
- Replace 14.0 per cent with 13.0 per cent.(6.2.3)
- Replace 2.0 per cent with 1.0 per cent (6.2.5.2).

Requirements relating to wheat (Annexure 51)

Isolation requirements (3)

- Add 'in the intended production of certified seed, and 10 metres in the intended production of basic seed.'(3.1)

Requirements for plants (4)

- No plants infected with *Tilletia indica* shall occur on the unit (4.3).

Inspection requirements (5)

- Indicate that plants shall be inspected at least three times.

3. Other Crops

The following crops should be included in the Seed Certification Scheme:

- pigeon pea,
- tobacco, and
- pearl millet.

4. Field and Laboratory Standards

Compendium of Physical Requirements, Isolation Requirements and Inspection Requirements (Correct figures have been put in the cells requiring amendment)

Kind	Maximum		Minimum	Minimum isolation (m)				Minimum inspection
	Other Material	Moisture	Germ %	OP CS	OP BS	Hybrid CS	Hybrid BS	Number
G/nuts		9.0	75		10	-	-	3
Soybean	1.0	12.0			10	-	-	3
Cotton		10.0		100	100	400		3
S/flower			85-OP	800	1000	1500		3
Rice		12.5	80			-	-	3
Beans	1.0	13.0	CS-75	5	10	-	-	3
Sorghum	BS-1.0	12.0	80		400			Hybrid-5 OPBS-4 OPCS-3
Wheat					10	-	-	3
Cowpea	BS-1.0	13.0	75		10	-	-	3
Maize	1.0	13.0		20 0	400	350	400	Hybrid-5 OPBS-4 OPCS-3

OP: Open pollinated

CS: Certified Seed

BS: Basic Seed

5. Production of Quality Declared Seed

- Production of Quality Declared Seed must be included in either the Regulations or the Seed Certification Scheme, and it must follow procedures outlined by the FAO.

SWAZILAND

Seeds and Plant Varieties Regulations

For ease of reference the numbers in brackets correspond to the numbering in the Regulations.

1. Naming of Seed Classes and Color of Labels

According to the Third Schedule (Regulation 6 [2]) the label for Certified seed (2nd Generation) has a red stripe on white.

- This should change to a red label.
- Furthermore, the label for Emergency class seed which is red, must be changed to another color to avoid confusion with that of Certified seed (2nd Generation).

2. Field Standards

- Fourth Schedule (Regulation 6[1]) entitled Standards for Swaziland Certified Seed - separation should be made between hybrid seed and open pollinated seed for cotton, sunflower, sorghum and maize.

Isolation distances:

Maize :hybrids and open pollinated – minimum isolation distance:

- certified seed - 400m changes to 350 m for hybrid and, 200m for open pollinated.

Sorghum open pollinated:

- 400m for certified seed changes to 350m.

Hybrid sorghum should be added:

- Basic seed -750m
- Certified seed – 500m.

Beans

- Basic seed – 50m must change to 10m.
- Certified seed – 25m must change to 5m.

Cotton must be presented as hybrid and open pollinated.

- The isolation distance should be 500m for basic seed of hybrid cotton and 400m for certified seed.
- The isolation distance for open pollinated cotton seed crops is 100m for both basic seed and certified seed.

Tobacco

- Basic seed isolation distance should change from 500m to 800m.

3. Laboratory Standards

Some of the laboratory standards in the table entitled Laboratory Tests, must be amended as shown.

LABORATORY TESTS

Species	Minimum Purity %	Minimum Germination %	Maximum Moisture %
Maize	BS 99.5 changes to <u>99.0</u>		12.0 changes to <u>13.0</u>
Sorghum	CS 98.5 changes to <u>98.0</u>		11.0 changes to <u>12.0</u>
Beans	BS 99.5 changes to <u>99.0</u>	BS 80 changes to <u>70</u>	14.0 changes to <u>13.0</u>
Cowpeas	CS 98.5 changes to <u>98.0</u>	BS 80 changes to <u>75</u>	14.0 changes to <u>13.0</u>
Groundnut	CS 97.5 changes to <u>98.0</u>	BS 85 changes to <u>75</u> CS 80 changes to <u>75</u>	14.0 changes to <u>9.0</u>
Cotton	CS 98.5 changes to <u>98.0</u>	BS 80 changes to <u>70</u>	
Tobacco	BS 100.0 changes to <u>99.0</u>	BS 90 changes to <u>85</u> CS 90 changes to <u>85</u>	

BS: Basic seed

CS: Certified seed

The following crops must be added to these tables:

- a. Groundnut,
- b. pigeon pea,
- c. soybean,
- d. sunflower,
- e. rice,
- f. pearl millet and
- g. wheat.

4. Specific Requirements

Annex 1. Specific requirements relating to seed.

Maize

Isolation (1.2):

- Add 350m for certified hybrid seed and 200m for certified OP.

Field inspection (3)

- At least 5 field inspections for hybrid maize seed.
- Add - A seed field shall not contain *Peronosclerospora philipensis* or *Cochliobolus heterostrophus* (3.4).

Inspection standards for open pollinated varieties (5).

- At least 4 field inspections for basic seed of open pollinated maize.
- At least 3 field inspections for certified seed of open pollinated maize.

Dry Beans

Isolation (1.2):

- 25m changes to 10m for basic seed and 5m for certified seed.

Field inspection (3).

- At least 3 field inspections shall be carried out.

A seed crop shall be inspected for;

- Tomato black ring nepovirus,
- Ditylenchus dipsaci.

Certification standards for cleaned seed (8)

- moisture content must change from maximum 15.0% to 13.0% (2c).

Cotton

Isolation (1.2)

- Basic seed: 500m for hybrid, and 100m for OP.
- Certified seed: 400m for hybrid, and 100m for OP.

Inspection standards (4)

Varietal purity standards (off-types permitted) shall not be more than 0.3% for certified seed.

Laboratory Standards - certified seed (7)

Purity -min. 98.0%

5. Other crops

Specific requirements of the following crops as well as their quarantine pests and diseases should be added to the regulations: -

- pigeon pea,
- hybrid sorghum,
- soybean,
- sunflower,
- groundnuts,
- cowpeas,
- tobacco,
- rice,
- pearl millet, and
- wheat.

6. Production of Quality Declared Seed

- Field standards for Quality Declared Seed should be included.

7. Variety testing, registration and release

- The Regulations should be amended to include provisions on variety testing, registration and release, which are in harmony with Document One of the SADC drafts.

ZAMBIA

The Agriculture (Plant Varieties and Seeds) Regulations

1. Naming of Seed Classes and Color of Labels

Fourth Schedule (Regulation 6[2])- Seed certification Scheme for General Seeds

- Certified seed (1st Generation) – label should change to blue.
- Certified seed (2nd Generation) – label should change to red.
- Emergency class seed – label should change from red to avoid confusion with Certified seed (2nd Generation).

2. Field and Laboratory Standards

- Paragraph (a) of subsection (4) of section 11 must be amended to read, 'for open pollinated, a minimum of three inspections, one of which shall be clearing for harvesting'

Fifth Schedule (Regulation 14) -Standards for certified seed.

Correct figures have been placed in the cells requiring amendment.

A. Field Inspection

Species	Minimum isolation (metres)		Min % of off-types based on 1000 plants	
	Basic	Certified 1	Basic	Certified 1
Rice	5		0.2	0.3
Wheat	10	5	0.1	0.3
Maize		Hybrid-350		
Pearl millet	400			0.5
Sorghum	Hybrid-750	OP-350 Hybrid-500		
Soybean			0.2	0.5
Beans	10	5		
Cowpea			0.2	0.5
Groundnut	10	5	0.2	
Sunflower	OP-3000 Hybrid-1000	OP-800	0.2	0.5
Cotton	OP-100 Hybrid-500	OP-100 Hybrid-400		0.3
Tobacco	800			0.5

- Include the 'harmonized quarantine pest list requiring controls in import and export in the SADC region' to the Fifth Schedule.

Laboratory tests (Correct figures have been placed in the cells requiring correction)

Species	Purity %		Germination %		Maximum Moisture content %
	Basic seed	Certified seed	Basic seed	Certified seed	
Maize			Hybrid-70		13.0
Pearl millet	98.0		75		
Rice	98.0		80	80	12.5
Sorghum					
Wheat	99.0	99.0	85		13.0
Beans			70		13.0
Cowpea			75		13.0
Soybean			70	70	12.0
Groundnut		98.0	75	75	9.0
Sunflower			OP-75 Hybrid-80	Hybrid-80	10.0
Cotton			70		
Tobacco			85	85	

Sixth Schedule (Regulation 15) - Minimum Standards of Seed Quality (C1)

Purity and Germination Tests (Correct figures have been placed in the cells requiring correction)

Species	Purity (% by weight)	Germination capacity (% by number)
Maize (OP)		
Pearl millet	98.0	80
Rice	98.0	80
Sorghum (OP)		80
Wheat	99.0	85
Beans	98.0	70
Cowpea		
Soybean	99.0	
Groundnut	98.0	
Sunflower (OP)	98.0	85
Cotton	98.0	75
Tobacco	99.0	80

3. Other Crops

- Pigeon pea should be included in the tables above.

4. Variety testing, registration and release

. Section 48 reads 'Varieties which have been released in foreign countries and have been brought in the country for release shall be subjected to the same release.'

With regards to variety testing, this section may need to be changed so as to conform to the SADC Crop Variety Testing, Registration and Release System, which considers data that has been generated from other SADC member countries.

VIII. HIGHLIGHTS

Botswana, South Africa, Swaziland and Zambia have Seed Acts which vary in the extent to which they cover seed issues. Lesotho and Namibia do not yet have Seed Acts.

The principal Acts are in harmony with the SADC drafts and will not require amending. This is desirable since the amendment of Acts of Parliament is generally a lengthy process requiring that the amendments be approved by Members of Parliament.

Botswana does not have Seed Regulations yet, but it has the Handbook of Seed Certification Standards and Rules, containing general seed certification standards as well as specific seed certification requirements for six crops.

South Africa's 'Regulations Relating to Establishments, Varieties, Plants and Propagating Material' are wide ranging in their scope and content, while the South African Seed Certification Scheme covers more than fifty kinds of plants.

Swaziland's 'Seeds and Plant Varieties Regulations' incorporates an Annexure with specific requirements relating to seed of three kinds of plants.

Zambia has two sets of regulations, one focusing on Certified Seed while the other is on Quality Declared Seed. The Agriculture (Plant Varieties and Seeds) Regulations, 1995 has standards for all the crops included in the SADC drafts with the exception of pigeon pea.

Although Namibia does not have Seed Regulations, the country uses two documents namely, the 'Handbook of Crop Seed Production (Standards and Operational Procedures for Foundation, Certified and Quality Declared Seed of the Northern Namibia Farmers Seed Growers Cooperative [NNFSGC]), 2000' and the 'Standards for Foundation, Certified and Quality Declared Seed of Pearl millet, Sorghum, Cowpeas and Groundnuts of the NNFSGC'. The latter contains standards for four kinds of crops.

Botswana, Namibia, and Lesotho did not have regulations dealing with crop variety testing, registration and release. In the case of Swaziland, these issues were dealt with in the Act but not in the regulations.

In all the countries whose legislation was under study:

- seed classes are defined in the same way although there may be slight differences in the terminology used;
- seed fields must meet some specified field standards;
- seed sampling and seed testing is conducted in accordance with ISTA rules;
- seed for sale must meet certain minimum laboratory standards; and
- phytosanitary requirements must be met before seed can be imported/exported.

There are few issues of substance in the National Seed Regulations that are in conflict with the SADC drafts. These include naming of seed classes and colors of labels, field standards, and laboratory standards.

Most of the substantial changes that need to be made in the Seed Certification Schemes, Seed Regulations and Handbooks, are to field and laboratory standards.

IX. RECOMMENDATIONS TO TAKE THE PROCESS FORWARD

Since there is no conflict between the National Seed Laws and the SADC drafts, it is important that National Authorities in member countries commence implementing the SADC systems as soon as possible to facilitate regional seed trade. National Authorities could forthwith implement aspects of the SADC systems along side their national system e.g. facilitation of regional variety listing, use of common terminology for seed moving in trade, and use of the 'Harmonized Quarantine Pest List Requiring Controls in Import and Export in the SADC Region'.

Furthermore, National Authorities should concurrently spearhead and facilitate amendment to the specific provisions of their regulations, seed certification schemes and handbooks that require amendment, especially with regards to laboratory standards.

Namibia and Lesotho should expedite the drafting of seed legislation and facilitate the processes culminating in the promulgation of seed legislation. These Member States should ensure that their legislation is not in conflict with the SADC drafts.

Seed Trade Associations and Seed trade practitioners should be informed of the existence of the SADC systems and encouraged to use them. This will be especially important in countries where private sector personnel are licensed to perform seed certification procedures.

Some of the countries have very comprehensive legislation covering all aspects in the SADC drafts, while some countries have very rudimentary standards. In the long term, it is important that all the countries update their legislation to cover all aspects, and all crops in the SADC drafts.