



# NAMIBIA SEED POLICY



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Namibia





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# List of Acronyms and Abbreviations

CBD	Convention on Biological Diversity
DART	Directorate of Agricultural Research and Training
DEES	Directorate of Extension and Engineering Services
DUS	Distinctness, Uniformity and Stability
EU	European Union
GMO	Genetically Modified Organism
ISTA	International Seed Testing Association
KAFASEPCO	Katima Mulilo Seed Producers' Cooperative
LFC	Likorerere Farmers' Cooperative
MAWF	Ministry of Agriculture, Water and Forestry
NASSP	National Agricultural Support Services Programme
NAU	Namibian Agricultural Union
NCR	North Central Regions
NCA	Northern Communal Areas
NNFSGC	Northern Namibia Farmers Seed Growers' Cooperative
NPGRC	National Plant Genetic Resource Centre
SACU	Southern African Customs Union
SADC	Southern African Development Community
VCU	Value for Cultivation and Use





# Foreword

The Ministry of Agriculture, Water and Forestry (MAWF) is unwavering in promoting a strong, vibrant and healthy development of the National Seed Industry. Consequently, it has taken a number of policy interventions in order to strengthen seed production and supply, and to improve service delivery to the farming community and seed consumers through multi-pronged, but targeted, subsidies in crop growing areas.

MAWF recognises that seed is fundamental to the production of crops. This publication is therefore intended to provide an environment which is conducive to the growth of the seed industry. The Ministry further takes cognisance of the fact that seed companies are usually reluctant to invest in countries where there are no seed laws. The development of a strong seed industry is essential to improve the delivery of good quality seeds. In this regard, a Seed Policy provides both regulatory and oversight functions.

With the above in mind, we in the Ministry of Agriculture, Water and Forestry hope that the publication of this Namibian Seed Policy will not only enhance the development of the seed industry, but that it will go a long way in meeting the demands of Government, seed growers, seed retailers, farmers and other stakeholders.

The Fourth National Development Plan (NDP IV) has identified the agricultural sector not only as one of the key drivers in achieving economic development, but also as a catalyst in the process of 'changing the development gears' of food security, and improving livelihoods and agro-business towards achieving Vision 2030's objectives.

Also, Namibia is party to regional and international agreements and conventions, and as such must align her policies and legislation to conform to her obligations under those arrangements. The SADC Seed Harmonisation Policy is case in point.

In crop production, seed is the most important input in agricultural production because the quality of seed determines, among others, the yield potential, yield stability and most importantly, the quality of the product. Understandably, the absence of seed legislation in the country will be an impediment to the growth of the seed industry in general and crop production in particular. Accordingly, the Government of the Republic of Namibia is committed to ensuring that the policy and legal environment is favourable for the seed industry's development in order to enhance the agricultural sector's contribution to the GDP.

It is generally agreed that for Namibia to realise the benefits from the seed laws, the country has to move swiftly by putting in place legislation that are beneficial to agriculture. To this end, the Namibian Seed Policy will specifically address issues related to:





- the seed certification service;
- the creation of a National Seed Council;
- the establishment of an official Crop Variety Release Committee;
- seed testing and processing;
- the seed inspectorate;
- the Seed and Seed Varieties Bill; and
- the Farmers' and Plant Breeders' Bill.

Undoubtedly, agriculture has a lot to offer in bringing about the much needed improvement in the agricultural productivity equation in order for Namibia to meet food security, while at the same time reducing poverty. An unregulated seed industry, however, has the potential of not only contaminating the genetic biodiversity, but it also poses a nagging threat to the environment if left unchecked.

I urge all MAWF officials; seed traders/retailers, processors and other relevant stakeholders to diligently adhere to the provisions of the Namibian Seed Policy for the benefit of the national economy, and for sustained and vibrant growth of the agricultural sector.

Finally, the Ministry of Agriculture, Water and Forestry would like to express its sincere gratitude to all those who have contributed to the development of the Namibian Seed Policy.

**John Mutorwa**  
Minister of Agriculture, Water and Forestry, MP  
January, 2013



# Definition of terms

**Breeder's seed (Pre-Basic seed)** refers to the seeds produced at breeder's level as a result of hybridisation, selection and/or mutation.

**Certified seed** refers to the class of seeds that are produced from foundation seed.

**Certification tag** refers to a label used by the seed certification services that contains information on the purity, germination, moisture percentages and presence of weed seeds or other crop seeds in the seed sample.

**Crop Variety Release Committee** refers to the committee constituted in terms of this Policy for giving permission for new varieties to be released for general cultivation once it meets all set conditions.

**DUS testing** refers to the agronomic trial conducted to determine the variety's distinctiveness, uniformity and stability.

**Genetic purity** means trueness to the type of any variety or plant which confirms the varietal or plant characteristics described by the breeder.

**Germination** means the resumption of the growth of a seed-embryo resulting into emergence of a young healthy plant. In laboratory conditions, it indicates the ability of a seed to produce a normal and healthy seedling which may develop into a vigorous plant if favourable conditions are provided in the soil.

**Germination percentage** refers to the number of seedlings that germinated from a randomly selected 100, 200 or 400 seeds of pure fraction of seeds.

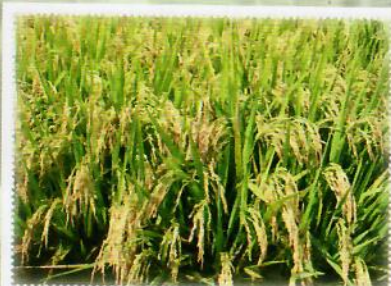
**International Seed Testing Association (ISTA) rules** refers to the rules set by ISTA regarding seed testing.

**Nucleus seed** refers to the basic source of all classes of seeds.

**National Seed Council** refers to a statutory body legally constituted to implement the National Seed Policy.

**Planting material** means all propagation material used in the process of producing a food crop.

**Release of seed** refers to the recommendations of a variety for commercial/general cultivation by a variety release committee after receiving its performance in comparison with the local standard variety over a period of certain cropping seasons.





**Seed** means a matured ovule consisting of an intact embryo, endosperm or cotyledon, and protective covering (seed coat). It also refers to healthy seedlings, tubers, bulbs, rhizomes, roots, cuttings and all types of grafts and other vegetatively propagated materials used for multiplying plants.

**Seed aid providers** refers to all institutions and organisations that are involved in the provision of seed to seed consumers.

**Seed analyst** means the person conducting seed testing activities.

**Seed certification services** refers to a regulatory body established for the purpose of certifying genuine seeds.

**Seed distribution** refers to the mechanism of seed movement from the producer to the seed consumers.

**Seed health** refers to the presence and/or absence of fungi, bacteria or virus responsible for the spread of diseases or insects in the seed lot. It also includes physiological disorders like deficiency of trace elements.

**Seed importation** refers to the process of importing seed into the country from other sources for retail and/or redistribution purposes.

**Seed inspector** means a person who takes samples from the point of sale, gets them analysed if required, and initiates prosecutions against offenders for the purpose of enforcing the Seed Policy/Seed Act.

**Seed grower co-operatives** means a co-operative which is in the production and/or sale of seed to the general public.

**Seed marketing** refers to the seed marketing and selling network.

**Seed multiplication unit** means a section and/or unit charged with the responsibility of producing seeds.

**Seedling** refers to young sprout which primarily spends upon stored food in the seed.

**Seed purity** refers to the proportion of pure seed by weight in the seed sample.

**Seed science and technology** refers to the scientific discipline that deals with production, processing, testing, blending, packaging, storing and marketing aspects of the seed.

**Seed testing** refers to the technique used to evaluate the seed quality for, among others, characteristics such as purity, germination, seed health, weight, etc., before it is used for sowing.

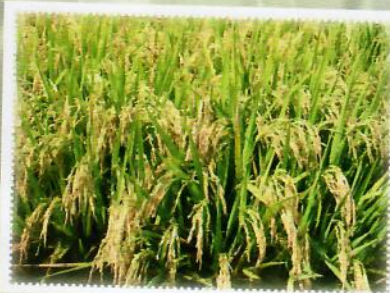
**Seed quality control** refers to the process of ensuring that the seed crop shows the characteristics of the varietal identity and that there are no circumstances which might be detrimental to the quality of the seed to be harvested (seed purity).

**Strategic seed reserve** means the required quantity of seed that must be kept in the seed silo at all material times to cater for eventualities.

**VCU testing** refers to the agronomic trial conducted to determine a variety's value for cultivation and use.

# 1. Situational Analysis

- 1.1 In Namibia, the agricultural sector is divided into a commercial farming sub-sector, where farms are privately owned, and a communal farming sub-sector, where farmers operate on land held under a communal tenure system. Crop production is concentrated in the northern regions of Namibia, a semi-arid area where the soil fertility is low.
- 1.2 The Northern Communal Areas (NCAs) comprise of seven regions, reflecting different ethnic groups, traditions, settlement patterns, and farming and cropping systems. These are the four North Central Regions (NCRs), namely Omusati, Ohangwena, Oshana and Oshikoto, as well as the Kunene, Kavango and Caprivi Regions. The majority of the population is concentrated in the NCAs, with the North Central Regions being the most populous. The major part of the cropped area is within the NCAs with production predominantly for subsistence. Within these areas, crop production is further limited by a scarcity of productive soil. The soil have a inherently low fertility and water holding capacity, so the timing, consistency and amount of rainfall are critical to output. Productivity is low, and traditionally there is limited use of purchased inputs. However, the NCAs have the greatest requirement for seed as the most basic of inputs.
- 1.3 The staple grain crops of the NCAs are pearl millet, sorghum and white maize with limited, but widespread, planting of cowpea, groundnut and Bambara nut. Millet is the dominant crop of the NCAs and is widely grown in seven regions covering about 355 200 ha. Conditions are more favourable for maize production in Caprivi. The policies pursued in the NCAs by the Government of Namibia since independence in 1990, have been motivated by the primary objective of improving food security and raising household income levels.
- 1.4 The commercial farming areas comprise large privately owned cattle ranches with fodder and grain production in the Otjozondjupa and Omaheke Regions. Commercial crop farming is concentrated in a triangle (the so-called 'Maize Triangle') formed by the towns of Grootfontein, Tsumeb and Otavi estimated at 25 000 ha. Production is rain fed with supplementary irrigation. Major commercial crop production areas under irrigation are the Hardap irrigation scheme in the Hardap Region, and the Naute Dam and Aussenkehr irrigation schemes in the Karas Region.
- 1.5 In the commercial farming sector seed is predominantly purchased from agro-dealers operating within Namibia. These agro-dealers source their seed predominantly from South Africa. However, some commercial farmers produce their own seed of some crops.





## 2. Link to the National Agricultural Policy

2.1 The ultimate goal of the National Agricultural Policy is to sustain and increase the levels of agricultural productivity, real farm incomes, and national and household food security, within the context of Namibia's fragile ecosystem. The specific objectives relating to agricultural inputs include the following:

- i) to support the private sector to ensure that adequate inputs are made available to all farmers at the right time and place at competitive prices, and that, to the extent possible, they are used correctly and at the optimal time;
- ii) to encourage foreign investment in agricultural input industries, particularly those dealing with seeds, planting material and crop protection services.

2.2 A specific objective of Government's National Agricultural Policy relating to seed, is the intention to supplement the private sector's efforts to ensure the availability of staple food crops in times of critical shortages. The Government will endeavour to increase seed accessibility in general, as well as the availability of improved seed varieties, particularly drought tolerant and early maturing varieties, and safeguard genetic purity and variation in crops. Seed production and distribution systems will be carefully handed over to the private sector once a Government seed certification service has been established.

## 3. Background

- 3.1 There is no seed law in Namibia which regulates and directs activities in the seed sector. There is no seed certification scheme with validated field and laboratory seed quality standards to regulate seed production and certification. A need does exist for the enactment of a Seed Act whose implementing regulations will include an official Seed Certification Scheme.
- 3.2 The organisation and implementation structures dealing with seed issues in MAWF are not appropriate for effective implementation of seed legislation. There is need to establish a competent authority i.e. Seed Certification Service as enunciated in paragraph 116 of the National Agricultural Policy. The competent authority should have personnel who are trained in Seed Technology or alternatively Crop Production. In addition to enforcing the seed law, the same personnel would be expected to conduct research on seed issues as they arise. The sub-unit responsible for crop breeding is unsuitable for this function and there should be a clear separation between the sub-unit/personnel responsible for breeding or seed production and the Seed Certification Service.
- 3.3 There is no official seed testing laboratory in Namibia which tests and approves seed before it is marketed. Such a laboratory, when set up, would form part of the Seed Certification Service, and is expected to develop into a centre of excellence on all seed testing issues in the country. Once set up, the laboratory would be available to test imported seed if required, and would be resorted to in times of dispute between buyers and sellers of seed. This official laboratory will have the authority to accredit other laboratories in Namibia, which meet the requirements of the law, to test seed before it is marketed. The official laboratory would be able to participate in SADC's proficiency testing programme for seed testing laboratories, and this would help to keep the official laboratory's standards in check.
- 3.4 An insufficient number of people within MAWF are adequately trained in seed certification and quality control, or seed law enforcement. Once the Seed Certification Service is identified, it would be prudent to send the appointed personnel for attachment to laboratories that are accredited by the International Seed Testing Association, so they can familiarise themselves with Seed Law enforcement, and obtain training in seed crop inspections, seed testing, seed health testing, control growing, distinctness, uniformity and stability (DUS) testing, value for cultivation, and use (VCU) testing, etc.
- 3.5 Quantities of 'certified' seed produced by the cooperatives are variable (sometimes sufficient, sometimes in surplus) and the quality is at times questionable. Seed testing is conducted by NNFSGC and is restricted to a germination test. Skills needed for business planning and management, marketing, forecasting seed demand and supply, and technical knowledge about seed are inadequate within NNFSGC. Business management and comprehensive seed testing training will benefit management members of NNFSGC. Furthermore, the Seed Certification Service's official laboratory, when established, will set up and conduct a referee testing programme with the cooperative's laboratory. All other laboratories in the





country that are testing seed, e.g. Directorate of Forestry laboratories, should participate in the referee testing programme.

3.6 Pre-basic (breeder) seed and basic (foundation) seed is produced by MAWF on research stations. There was an unsuccessful attempt to devolve foundation seed production to NNFSGC. It is difficult to attain recommended isolation distances for foundation seed production in the NCAs, and consequently the NNFSGC attempted to produce the seed off-season. They lost the millet foundation seed harvest in the process to birds. They also attempted to produce cowpea foundation seed and there was an admixture of varieties. There is therefore need to build capacity on seed quality control within NNFSGC and other seed producers. Furthermore, it is recommended that the Ministry's Agronomy and Horticulture Research Subdivision should continue to produce foundation seed until private seed producers can prove that they are able to comply with the quality standards required, otherwise the quality of the subsequent 'certified seed' would be compromised.

3.7 Commercial farmers buy seed from agro-dealers who source it from South Africa. There is currently no requirement for the agro-dealers to produce seed lot certificates from the exporting country, when they apply for permits to import at MAWF. Seed lot certificates have information on the quality of the seed. This is standard practice internationally, when nations import seed. Namibia's seed regulations, when promulgated, should have quality standards for imported seed. Seed lot certificates from the country of origin of the seed should show that the seed intended for importation, meets Namibia's requirements before the seed can be allowed into the country.

3.8 There is no requirement that varieties should be evaluated under Namibian agro-ecological conditions, before they can be imported and sold to Namibian farmers. As a consequence, some farmers have bought and planted seed varieties that are not adapted to Namibia's conditions. Furthermore, these varieties have not produced good yields. It is important that farmers only use varieties that are adapted to the local environment as these are expected to perform well. Varieties should therefore be evaluated under Namibian conditions before being made available in Namibia. This should be followed by the compilation of a list of varieties adapted and recommended for Namibia. DART could collaborate in this exercise with the seed companies which produce these varieties. (In most SADC countries, one cannot import a variety into the country, unless it has been independently evaluated, released and listed on the official National Variety List).

3.9 Seed and planting material imported into Namibia include ornamental plants. The importation of seeds of ornamentals and trees needs to be regulated and monitored, as these can be sources of plant diseases which can later find their way to crop plants. Furthermore, ornamental plants and trees imported into some countries have become alien invasive plants when they have been grown in environments devoid of their natural enemies. Seed legislation should therefore not be restricted to agricultural crop seeds.

3.10 There are polarised views among commercial farmers on the issue of production of genetically modified crops, with some farmers in favour and some against any introduction of genetically modified seeds into Namibia's agricultural sector. The process of enacting legislation to regulate biotechnology and bio-safety issues is currently underway. It is important to encourage debate among farmers and consumers on these pertinent issues so that all views are given adequate consideration. Furthermore, since Namibia's main source of seed for the commercial seed sector, South Africa, produces genetically

modified seed, it will be important to factor in these elements when procedures for seed importation are spelt out in the seed legislation.

3.11 Before one can import seed into Namibia, one has to apply for a permit from the phytosanitary authority as required by the law (the Agricultural Pest Act), and they must obtain a phytosanitary certificate from the exporting country. Documents that are used in most SADC countries to process applications for seed imports deal with three issues: seed quality, phytosanitary status, and the GMO issue. When the Seed Act and Biosafety Act are in place, it will be important that applications for seed imports meet the requirements of all three pieces of legislation. However, it will be important that the process of approving the applications is streamlined to avoid unnecessary delays.

3.12 Namibia has limited water resources and rainfall distribution is erratic, consequently variability in seasonal rainfall can play havoc with rain fed crop production and lead to major shortages in food supply. Quality seed of improved varieties is an important agricultural input, and unavailability of seed is one of the reasons why, under disaster conditions, the normal cycle of food production may collapse. Access to quality seed is important in ensuring the resilience of the production base, which provides the inherent capacity of a country to respond to, and mitigate the impacts of a disaster. The Government of Namibia has an agreement with the NNFSGC which requires the cooperative to keep a strategic seed reserve of 100 ton of millet seed. This is commendable, and the cooperative should be supported to maintain this important seed reserve.

## 4. Scope of the Seed Policy

4.1 The policy deals with issues surrounding the quality of seed and vegetative planting material, whether it be agricultural, ornamental or for forestry.

4.2 It focuses on the development and implementation of seed programmes in order to avail adequate high quality seed and planting material to the farming community.

4.3 The policy underscores the principle that both the private and public sector offer invaluable potential to accelerate development within the agricultural and forestry sectors.

4.4 It is geared towards achieving increased agricultural productivity, food security and poverty alleviation through good governance, transparency and accountability. All these issues are spelt out in the context of the national development objectives.





## 5. Overall Policy Objective

The primary objective is to enhance availability of good quality seed and thereby ensure household food security.

## 6. Specific Objectives

This policy addresses the challenges in the seed sector with respect to research and extension, seed imports, seed production, processing and quality control, marketing, distribution and strategic seed reserves, as well as the institutional and legal framework.

### 6.1 Research and Extension

- 6.1.1 Strong research and extension support is indispensable for seed industry development and increased agricultural productivity.
- 6.1.2 Crop research and extension in Namibia is undertaken by the public sector.
- 6.1.3 Food crop research is conducted by DART, while extension is conducted by DEES.
- 6.1.4 In the plant improvement programme there are five research officers – two in the cereals programme, two in the legume programme, and one for root crops.
- 6.1.5 Some of the work being conducted by the plant improvement team involves accessions that were collected by the National Plant Genetic Resources Centre (NPGRC) from local farmers, in addition to the materials from the Consultative Group on International Agricultural Research (CGIAR) centres.
- 6.1.6 Plant improvement research is conducted on station and evaluations are also made on farmers' fields in collaboration with DEES.
- 6.1.7 Farmer participatory plant breeding work has also been conducted at Omahenene Research Station under the umbrella of Farming Systems Research and Extension (FSRE).
- 6.1.8 Work with the farmer participatory plant breeding group included storage, pounding and palatability tests.
- 6.1.9 Breeding, variety evaluation, 'release' and production of pre-basic<sup>1</sup> and basic<sup>2</sup> seed of pearl millet, sorghum, Bambara nut, cowpea and groundnuts is conducted by DART at its research stations.

<sup>1</sup> Pre-basic seed means the seed of generations preceding basic seed and of the generations between parental material and basic seed.

<sup>2</sup> Basic seed means seed which has been produced under the responsibility of the maintainer and is intended for the production of certified seed.



6.1.10 There is an unofficial variety release committee composed of personnel from DART and a representative of DEES who consider evaluation data that is presented by the breeder, after which a variety is considered 'released'.

6.1.11 After a variety is 'released', pamphlets are developed that have a description of the variety. Over the years Namibia has developed several varieties. Three millet, one sorghum, two cowpea, one groundnut, and one Bambara nut variety were developed by DART, in addition to two millet varieties that were developed by farmers Kantana and Maria Kaherero.

6.1.12 In addition to the varieties developed by DART, work has also focused on the evaluation of germ plasm of other crops, including cotton, sweet potato vines and, more recently, indigenous melons. However, there is no official mechanism for variety release covering all crops. There is also no official variety list in place in Namibia.

## 6.2 Germ Plasm Conservation and Utilisation

6.2.1 The Directorate of Forestry conducts research and extension on forestry, while the National Plant Genetic Resources Centre (NPGRC) of Namibia (housed at the National Botanical Research Institute) conducts explorations and collections of germ plasm throughout Namibia. Their focus is on the conservation of genetic resources of indigenous, wild, cultivated and other introduced plant species in Namibia both *in situ* and *ex situ*. The NPGRC is also involved in the evaluation and characterisation of local germ plasm. Germ plasm collections of pearl millet and other crops are kept at the NBRI and some research stations, e.g. at Omahenene. This material is used in the plant breeding programme.

6.2.2 Viable and effective germ plasm collection, conservation and utilisation supports sustainable research and development. Indigenous crops and tree species also play a major role in food security, health and environment. However, there has been pressure on these resources due to over-exploitation and habitat loss, which are made worse by related rapid loss of indigenous knowledge. Domestication and commercialisation of these useful plant species remains a challenge for conservation of biodiversity.

To mitigate some of these challenges, the Namibian Access to Genetic Resources and Associated Traditional Knowledge Bill has been drafted, but it is yet to be enacted into law.

## 6.3 Capacity Building

6.3.1 Biotechnology can contribute to agricultural productivity and food security. Mechanisms, however, for handling any adverse effects of biotechnology need to be put in place. The potential and perceived risks of biotechnology, especially genetic engineered products to human health and the environment, are not well understood in Namibian society, and there is a need to put appropriate mechanisms and capacity in place to address them.

6.3.2 In Namibia issues in the realm of seed science and technology, including seed health, are not adequately addressed and coordinated. There is, for instance, no seed health laboratory that farmers can resort to for diagnostics if their crops are beset by seed borne diseases. Within DART there is lack of information on seed science issues, including seed research and science based seed testing.





## Policy Statements

In order to address the challenges in research and extension for Germ Plasm Conservation and Utilisation, and Capacity Building, the Government will:

- i) provide adequate financial support for variety development, seed science and seed health research and extension, commensurate with the seed sector's importance to the economy.
- ii) support and encourage variety development and maintenance programmes, as well as the production of basic seed.
- iii) avoid exhaustive variety testing under research conditions without assessing farmers' preferences.
- iv) encourage breeders to continue sourcing variable germ plasm to broaden the genetic base of various crops and plant species, and support domestication and conservation of biodiversity.
- v) put in place a streamlined and official process of variety evaluation, release and registration in order to avail new varieties to users in the shortest possible time.
- vi) ensure that seed companies and seed cooperatives have equal access to varieties developed by the public sector.
- vii) promote the use of improved varieties of seed in extension messages and materials by Directorate of Extension and Engineering, and in farmer training by DART. Demonstrations will be used to reinforce the message.

## 6.4 Seed Importation

6.4.1 The seed industry in Namibia is made up of the formal and informal sector. Within the formal sector there are no private seed companies involved in seed production. The main crops grown by commercial farmers are maize, wheat, cotton, groundnuts and field beans. In the current season approximately 9 000 ha of white maize was planted by commercial farmers (including the irrigation schemes) and 700 ha of cotton, in addition to approximately 200 ha of groundnuts and 200 ha of field beans. Agri-business companies such as Agra, Agro Business Consultants and Hardap Corporation, supply all the necessary inputs, including seed, which are mainly sourced from South Africa. These companies also import pasture, vegetable and flower seeds.

6.4.2 There is no seed testing of imported seed in Namibia. Furthermore, the application process for importation of seed does not require that importers produce seed lot certificates originating from the exporting country. There is therefore a lack of information on the planting quality of seed imports.

6.4.3 In addition to the agri-business companies, individual farmers can also import seed. There is no requirement for registration before one can import or sell seed. Some individuals import substandard seed illegally without applying for a permit, and may sell this seed to unsuspecting farmers. There is a danger that this substandard seed could be contaminated with diseases. Registrars of seed importers and seed dealers as entities that handle seed, and have appropriate facilities to handle and store seed, could

help to address this problem. Only registered seed merchants would be given permits to import large amounts of seed.

6.4.4 A problem that has been encountered by some farmers is that of planting varieties that are not adapted to local conditions. This is because there is no local evaluation of the varieties under Namibian agro-ecological conditions by the companies that produce them. Furthermore, there is no requirement that a variety be registered in Namibia before it can be imported. An owner of one of the agri-businesses welcomed legislation and quality control on seed activities, as this would protect both the genuine dealers as well as the farmers. In addition to the requirement for a phytosanitary certificate, imported seed should be accompanied by a seed lot certificate<sup>1</sup>.

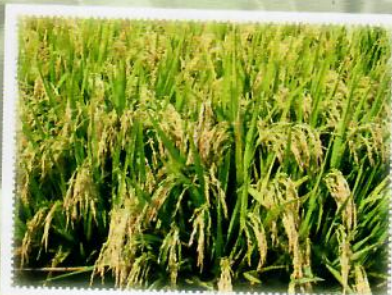
6.4.5 Instances where commercial farmers have had problems with the quality of seed that they have used were mentioned during the interviews. Recently several farmers at the Hardap Irrigation Scheme bought seed which germinated poorly (germination of about 60 %). The seed appears to have started germinating within bags before it was planted, probably as a consequence of inappropriate packaging or storage. The Namibian Agricultural Union (NAU) is concerned that there is no mechanism in place to check imported seed before it is planted. NAU has also noted an increase in farmers that are having to cope with diseases such as karnal bunt, *Ustilago maydis* and *Diplodia* spp., which may have been introduced with the seed.

6.4.6 NAU has requested seed dealers to check the quality of seed before it is sold to farmers, but the seed dealers do not have seed testing facilities. Furthermore, there is no legal requirement for them to test the seed. Farmers have expressed the need for certified seed. However, not all seed produced in South Africa is certified, as South Africa practices voluntary certification. Information on prevention and control of crop diseases is also increasingly requested by farmers.

6.4.7 There are farmers within the commercial sector who are keen to produce genetically modified crops; while on the other hand, there are those that are opposed to the production of GMOs. The latter do not want their crops to be contaminated by GMOs, because they would like to have access to perceived niche markets where GMOs are not accepted. NAU therefore felt that there is an urgent need for regulation in this area, so that the interests of all stakeholders can be protected.

6.4.8 In the forestry sector there are concerns that alien invasive plants can come into Namibia through unregulated imports of planting material. It is common knowledge that alien invasive plants, which have proved to be extremely difficult to control in many countries, were largely imported for ornamental purposes. In the absence of their natural enemies they then grow out of control in the countries into which they have been imported. Regulation of importation of ornamental and forest planting material will therefore also be valuable in this regard.

<sup>1</sup> A seed lot certificate is a seed analysis report of quality attributes of the seed lot.





## Policy Statements

To address the above challenges in seed importation, the Government will:

- i) ensure that the focus of all seed activities shall be to provide the highest quality seed (in genetic, physical, physiological, and phytosanitary quality components) which is economically feasible.
- ii) require that wholesalers of seed, including seed aid providers<sup>1</sup> with the appropriate seed handling and storage facilities, be registered with the Seed Certification Service as seed sellers. Only registered dealers will be given permits to import large amounts of seed, in addition to being permitted to sell seed to farmers.
- iii) prescribe procedures which seed merchants should follow when they import and export seed, as well as the minimum requirements with respect to seed quality, packaging and labelling that the seed should comply with.
- iv) prescribe requirements for maintenance of proper records and official documents required for international seed trade.
- v) require that importers of seed should produce seed lot certificates from the country of origin of the seed when they apply for permits to import seed.
- vi) produce a list of varieties for prescribed crops<sup>2</sup> that are adapted to Namibian conditions for the information of Namibian farmers. Evaluation of the varieties, before they are placed on the list, could be conducted by DART in collaboration with the private sector.
- vii) develop guidelines to provide for the isolation of genetically modified from non-genetically modified seed crops.

## 6.5 Seed Production, Processing and Quality Control in the Formal Sector

6.5.1 The Northern Namibia Farmers Seed Growers' Cooperative (NNFSGC) is the main formal or organised seed production and supply organisation in Namibia. Beside this cooperative, whose major focus is on the North Central Regions, KAFASEPCO (Katima Mulilo Seed Producers' Cooperative) in Caprivi and LFC (Likorerere Farmers' Cooperative) in Kavango recently entered the seed sector. Efforts towards the development of the seed industry in Namibia have mainly been focused on development of improved varieties of millet, sorghum, groundnut, Bambara nut and cowpeas by the subdivision of Agronomy and Horticulture within the Plant Production Division of DART. The improved varieties have potential to enhance farmers' yields, improve household food security and income generation.

<sup>1</sup> Seed aid providers include donors, non-Governmental organisations and providers of seed gifts.

<sup>2</sup> The National Seed Council will prescribe the crops whose varieties will be listed.

6.5.2 Pre-basic seed and basic seed are produced by the Plant Production Division of MAWF who sell it to the Board of the NNFSGC. From there it is sold to the seed growers of NNFSGC, but also to KAFASEPCO and LFC. In the 2002/03 season there was an attempt to devolve basic seed production to the NNFSGC. However, the cooperative failed to produce good basic seed. There was a mixture of varieties in the cowpea basic seed. Furthermore, very little millet basic seed was harvested, after an attempt to produce it off season (to avoid anticipated isolation distance problems), as the seed was eaten by birds before it was harvested.

6.5.3 NNFSGC sells the basic seed to its growers (who are members of the cooperative), KAFASEPCO and LFC, who then produce 'certified seed' according to the standards that were established by DART. A field inspection service is provided by staff members from DART (with a breeding background) and technicians from DEES (with seed certification training). A member of the management of NNFSGC, KAFASEPCO or LFC occasionally joins the inspections.

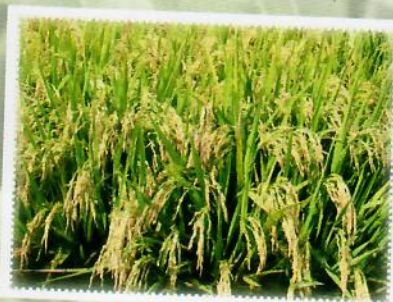
6.5.4 This is part of the Government's attempt to privatise activities it has been involved in which could better be performed by the private sector. NNFSGC grew out of a group of seed growers who were involved in the seed production of Okashana 1 together with DART at Omahenene Research Station. In 1996 they formed NNFSGC, and they have been producing 'certified seed' since then. NNFSGC is made up of a Board of Directors, the Supervisory Committee and members. The cooperative has right of use of seed screening, grading, threshing, cleaning, processing, storage, bagging and labelling facilities, as well as a seed treatment unit, which belong to Government and are located at Omahenene Research Station. Several buildings and a seed testing laboratory within the facilities at Omahenene, also belong to Government. There is a management contract between the two parties (Government and the NNFSGC) regarding the use of infra-structure and equipment.

6.5.5 Some members of staff of NNFSGC have been trained in seed certification according to the standards set by the Government. After harvest and delivery to the NNFSGC, each seed lot from a seed producer is tested for germination by staff of the cooperative after which it is processed.

6.5.6 The agreement between NNFSGC and the Government (July 1998) states that '... seed shall be produced in quantities sufficient at all times to meet the varying domestic demands of the Namibian market'. Seed supply estimates of the amount of seed produced by NNFSGC are in the range 30 % to 45 % of the estimated annual seed consumption in the North Central Regions, and production has sometimes been erratic (Deputy Director Plant Production Research MAWE, personal communication).

6.5.7 The agreement between Government and NNFSGC states that the cooperative shall ensure that the seed is grown exclusively from basic seed procured by the Ministry. There have, however, been instances when some of the growers have planted 'certified seed' instead of basic seed. It appears, though, as if in recent times growers have sometimes been allowed to produce seed from 'certified seed'. This system was introduced by a donor funded seed project. This seed is termed 'quality declared seed'. The germination percentage that the quality declared seed is required to meet, is lower than that of 'certified seed' and it is also sold at a lower price.

6.5.8 The seed producers of LFC in the Kavango Region and KAFASECO in the Caprivi Region recently ventured into seed production at a much smaller scale. These two cooperatives are receiving support from Extension staff of MAWF. However, within MAWF, issues surrounding seed certification, seed





quality control, seed industry regulation and the accompanying legislation are not adequately catered for. **There is a need to put appropriate mechanisms and capacities in place to address these issues.**

6.5.9 Members of management of the cooperatives received some technical training in Sweden, as well as in Zambia. Unfortunately because of staff turnover and apparent internal management problems, the objectives of the cooperatives for a steady increase in seed production could not be met. Production has fluctuated and some disgruntled members have left the cooperatives. Some members have even bought basic seed from the cooperatives, had their crops inspected and approved, but then refused to deliver the seed and sold the seed on their own.

## **6.6 Seed Production, Processing and Quality Control in the Informal Sector**

6.6.1 In the informal sector, sources of seed for farmers are farm saved seed, farmer to farmer exchange and local markets. This may simply be grain or grain selected for seed before or after harvest. These practices often result in low quality planting material with a subsequent reduction in yields. In general, the informal sector operates in areas which are not served by the formal sector, as well as for crops for which no improved varieties exist. From a macro-economic point of view, this planting material is not the most cost-effective and its contribution to national food production is limited. Despite the fact that such seed may be seen by the farmer as the best option, it is often used because improved seed is not available and/or the farmer does not understand the benefits of improved seed.

6.6.2 A significant proportion of farmers procure seed from the informal sector in their communal areas. It appears as if farmers prefer their own traditional varieties of millet, some of which tend to have a requirement for a longer growing season as compared to the improved varieties. Researchers have observed that if the rainy season starts early, farmers tend to plant their own traditional varieties, but if the start of the rainy season is delayed, they tend to buy seed of improved varieties, which have a shorter growing period.

6.6.3 However, the Government recognises that farmer seed selection and retention is a good practice which should not be discouraged. This is especially important in Namibia where farmers periodically go through long periods of drought. Seed saving of traditional varieties by farmers increases diversity on farmers' fields.

## **6.7 Forest Seed**

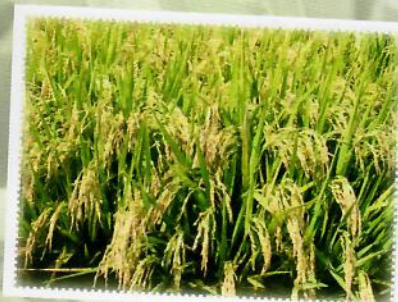
Seeds of forest trees and other plants are collected from natural populations, tested for germination and then dispatched by staff of the Directorate of Forestry. However, protocols for handling seed of some indigenous forest species have not been developed. In addition, the quality of the seed is not assured, partly because there is no official seed testing laboratory which monitors and provides technical back-up to the tree seed laboratory. Furthermore, research on forestry seed issues has not been given adequate support.

## Policy Statements

To address the challenges in seed production and processing, Government will:

- i) establish, through appropriate policies and programmes, an environment conducive to the development of the seed industry. It recognises the importance of both public and private investments and the need for these to be prioritised. Direct Government investments will include research, training, seed certification and testing. Private investment will be encouraged through policies which promote ease of entry to markets, fair competition and the provision of support services. The private sector shall be responsible for the production, processing, distribution and marketing of seed.
- ii) encourage and support the private sector to produce all seed required by farmers. Government shall not competitively produce and market seed of any kind supplied by the private sector. Government shall only produce seed/planting material that is required by farmers, but which is not available from the private sector or seed classes (e.g. pre-basic and basic seed) that are required by the private sector for the production of certified seed. Government seed production shall, wherever possible, be under contract with private farmers. These private farmers shall be paid, guided, supported and supervised in a manner which enables them to develop financially and in their ability to organise and apply improved seed and crop production technologies to ultimately become self-sustaining private-sector seed entrepreneurs.
- iii) enact the Seed Act governing the seed industry. A realistic seed law is essential to ensure reliable standards of seed quality, protect seed users and suppliers, and develop a quality-oriented seed industry.
- iv) promulgate a Seed Certification Scheme as part of the enabling regulations of the Seed Act. This will be a set of technical rules, which will stipulate field and laboratory standards, which certified seed has to meet.
- v) ensure harmonisation of seed legislation, regulations and procedures with SADC member countries to facilitate seed trade.
- vi) enforce Truth In Labelling and conduct spot-checks of seed that is sold in the market. Government may introduce compulsory certification<sup>1</sup> of high value strategic crops or crops that are particularly susceptible to problem diseases, e.g. viral diseases. Seed certification will, however, be voluntary.
- vii) establish a variety release and registration procedure. Variety registration will be voluntary. However, compulsory registration<sup>1</sup> will be necessary for a limited number of strategic crops.
- viii) encourage the use of irrigation facilities for increased seed production.
- ix) establish an accurate, detailed and up-to-date seed data base which provides information on seed use and national seed demand for seed suppliers to plan seed production and distribution. Farmers

<sup>1</sup> The National Seed Council will recommend to the Minister the strategic crops that will be eligible for compulsory certification and compulsory registration.





will also need information on seed availability. The National Seed Council shall be responsible to establish and maintain such a data base and collect and disseminate such information on a timely basis, in order to support management and decision-making by seed suppliers and users.

- x) develop and define modalities for seed production, and handling protocols of forestry and other plant species exhibiting special attributes.

## 6.8 Seed Quality Control

6.8.1 In order to realise the genetic potential inherent in improved plant varieties for sustainable agriculture, quality control is critical. Seed quality control is essential in providing consumer protection with regard to purity, germination capacity, genetic integrity and freedom from diseases. It also aims to ensure provision of high quality seeds to users. Currently the monitoring of seed quality and vegetatively propagated material for crops, vegetables, flowers, trees, and other plant species is weak and sometimes non-existent within Namibia and at border entry points. This could result in the influx and use of planting material of unknown quality, and may pose a threat to national food security and sustainable agriculture. There are several seed merchants, nurseries and garden centres, which provide planting material to farmers in Namibia, but they are not all registered as seed traders with MAWF. They do not receive advisory services from MAWF, and their activities are not regulated or monitored.

6.8.2 Seed quality control is assured through certification. Seed certification is a legally prescribed scheme underwritten by provisions of a Seed Act. The basic objective of seed certification is to make available seed of superior qualities and to guarantee these qualities by means of a certificate, seal and label. The emphasis is on genetic quality, which is varietal trueness to type with high requirements for germination and physical purity. Stringent field requirements are also laid down for seed production.

Seed certification involves the following:

- registration of seed merchants, seed growers and seed crops,
- field inspection,
- processing,
- sampling,
- laboratory testing,
- sealing and labelling,
- lot examination, and
- pre- and post-control testing.

However, an official seed certification scheme is not yet in place in Namibia. The Handbook of Crop Seed Production, which is used by members of NNFSGC, was an attempt to put in place interim seed standards that seed growers could use as guidelines. **The capacity of the 'regulatory' bodies (DART and DEES) are, in terms of infrastructure and personnel, currently inadequate for effective service delivery.**



## Policy Statements

To address the challenges in seed quality control, the Government will:

- i) establish an official seed testing laboratory within the Seed Certification Service, which will test seed according to International Seed Testing Association (ISTA) rules and ensure that farmers are availed good quality seed.
- ii) facilitate the official seed testing laboratory so it can join ISTA.
- iii) establish, through the Seed Certification Service, a national referee seed testing and analyst training programme to ensure standardised procedures and repeatable test results because reliable, repeatable seed testing results are essential for orderly seed supply. This will initially cater for the seed testing laboratories under the Directorate of Forestry Research as well as the laboratory currently operated by NNFSGC.
- iv) strengthen the capacity in the seed producing cooperatives through regular technical training of seed growers and management.
- v) promulgate a regulation that compels every seed producing organisation to have its own internal quality control unit, because the adequate control of seed quality requires constant supervision, checks, inspection and tests.
- vi) invest in strengthening the capacity of Phytosanitary Services for efficient and effective service delivery.
- vii) ensure that appropriate and effective penalties are put in place in the Seed Law to deter those who provide poor quality seed to farmers.
- viii) set standards, in conformity with international standards, for appropriate packaging materials for various crop species.
- ix) develop certification guidelines for tree seeds and other plant species of commercial interest in consultation with stakeholders.
- x) ensure that relief seed<sup>1</sup> supplies are sourced only from registered seed enterprises, and that they are of a known quality.
- xi) promote education of farmers and other stakeholders to understand and appreciate the benefits of using good quality seed.

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<sup>1</sup> Relief seed supply includes seed provided through donor support, donor projects and gifts.





## 7. Seed Marketing, Distribution and Strategic Seed Reserve

7.1 The marketing of seed imported into Namibia is undertaken by wholesalers who are not registered as seed merchants as there is no requirement for them to register as such. Good storage conditions are necessary to maintain seed quality. It is therefore important that the seed storage facilities of seed merchants are inspected and approved to ensure that they are suitable before they are registered to market seed. Seed sellers should also be required to keep a record of all the seed they handle, which in turn will help to improve the traceability of seed.

7.2 Marketing of the seed produced by NNFSGC is achieved by:

- i) the Cooperative selling directly to farmers; and
- ii) traders buying from the Cooperative and then selling to farmers.

These traders are not registered as seed sellers, nor is there any advisory service which provides them with information regarding how seed should be handled and stored.

7.3 The agreement between NNFSGC and the Government requires that seed prices should only be reviewed upwardly every three years. To keep prices stable over this period despite inflation, NNFSGC is paid a subsidy by Government, which should compensate the cooperative for potential losses in income. This subsidy will decrease with time, until it is removed completely. Prices are negotiated between the Government and the cooperative. The wholesale seed price that was agreed on in 1998 was \$5 per kilogram for all varieties of pearl millet, sorghum and cowpeas, and in 2005 it was \$6 per kilogram.

7.4 NNFSGC is also required to maintain a strategic seed reserve of 100 ton of millet seed for Government. However, in some years there has been an under provision of this strategic seed reserve. In 2012 for example, the cooperative has only managed to store a reserve of about 75 ton of seed. This suggests that supply of seed to farmers could be insufficient.

### Policy Statements

To address the above challenges on seed marketing, distribution and the strategic seed reserve, the Government will:

- i) prescribe minimum standards for qualities of seed that may be traded.
- ii) promulgate seed regulations to govern seed trade and require that seed traders be registered with Government if they meet the prescribed requirements.
- iii) provide advisory services for seed traders and stockists regarding the way in which seed should be handled, as well as the maintenance of seed premises.

- iv) encourage competition in the seed industry.
- v) encourage the export of seed, provided national seed requirements are met (under suitable material transfer agreements where necessary) or when such seed has been produced from crops that are registered solely for export.
- vi) ensure that seed cooperatives sell seed at a viable price and work towards the eventual removal of seed price control.
- vii) ensure availability of seed in the event of drought or other disasters by maintaining a national seed reserve for strategic crops.
- viii) consider, in emergency situations, temporarily relaxing certain aspects of quality standards which do not affect genetic quality, to facilitate provision of seed relief on a case-by-case basis, with specific time limits.

## 8. Institutional and Legal Framework

There are several organisations involved in the seed sector in Namibia. However, the Government has not yet designated or constituted a regulatory organisation to oversee the seed industry, although the National Agricultural Policy mentions that a Seed Certification Service will be established. There is no seed association in the private sector.

### Policy Statements

In order to address the above challenges on institutional framework, the Government will:

- i) identify key actors in the sector with the aim to assign appropriate roles that are dictated by the needs of the industry.
- ii) establish the National Seed Council (by transforming the Interim National Seed Council) which will advise the Minister of MAWF on matters relating to the planning and coordination of the seed sector, as well as on the implementation and updating of the seed policy.
- iii) establish an implementation agency (the Seed Certification Service), which will ensure that all seed offered for sale will be subject to the requirements of the Seed Act. The Seed Certification Service will conduct external quality control operations, protecting both seed users and suppliers, and will be responsible for enforcing the Seed Act. It will perform all the necessary tasks in the seed certification programme, including seed crop inspection and operation of the official seed





testing laboratory. It will be responsible for the training of seed inspectors and seed analysts in seed technology to meet the needs of the Namibian seed industry. Government will ensure that the required human, financial and infrastructural resources are provided.

**NB: The unit of Plant Production Research responsible for crop breeding is unsuitable for this function. There should be a clear separation between the unit responsible for breeding and seed production, and the Seed Certification Service. The Seed Certification Service could, however, still be placed within the Directorate Research: Plant Production as is the case in some SADC countries (e.g. Malawi, Zambia and Zimbabwe).**

- iv) let the production of all pre-basic, basic and certified seed be under the supervision of the Seed Certification Service.
- v) to the extent possible, allow the Seed Certification Service to recover some of its costs by charging for the services that it will provide (the charges will be reviewed annually). In this regard a Seed Services Fund will be established.
- vi) establish a Variety Release Committee (whose registrar will be provided by the Seed Certification Service). The Variety Release Committee will protect the interests of farmers, but will not unduly constrain the entrance of new varieties to the market.
- vii) nominate the Seed Certification Service as an independent institute that will conduct or delegate the conduct of DUS and VCU tests to evaluate varieties before they are presented to the Variety Release Committee.
- viii) promote the formation and strengthening of private enterprises, including farmer cooperatives and seed companies involved with seed production, to enhance the growth of the sector.
- ix) encourage seed merchants and seed cooperatives to form a seed association for the purposes of articulating their concerns.

## 9. Legal Framework

9.1 There is no overall Act which governs the seed industry in Namibia, although some legislation relevant to this field does exist, but it dates back to the time of the South African administration. The Agricultural Pest Act 1973 stipulates requirements relating to the freedom of seed lots from pests and diseases, and as well as phytosanitary requirements for imported seed. The Plant Quarantine Bill to combat the introduction of plant pests and diseases (which, when enacted, will repeal The Agricultural Pest Act 1973) and the Biosafety Bill (which intends to establish a regulatory regime for research and production within the country, as well as for export and import of genetically modified organisms and

their products) are expected to be enacted into law in the near future. These pieces of legislation are to be enforced by different institutions, which means coordination will be important.

9.2 The Seed Act, when enacted, is expected to regulate the seed industry.

### Policy Statements

To address the challenges in the legal framework, the Government will:

i) ensure that the Seed Act is in harmony with other existing and related Acts in Namibia, seed legislation in the SADC region and international agreements that Namibia is party to.

ii) manage the Seed Act to comprehensively address all legislative issues relating to seeds or planting materials. These issues include making provision for:

a seed certification scheme, seed classes and standards which comply with international requirements,

the setting of penalties that deter flouting of the seed laws, and

the incorporation of regulations covering forestry seed and other species.

## 10. Policy Advisory and Updating

10.1 Government further recognises that its present seed policy is relevant to the current state of development of the seed sector and the institutional capacity to undertake the required activities. As this is an evolutionary process, periodic reviews of the National Seed Policy will be undertaken to ensure that it continues to be appropriate to the needs of the farmers.

10.2 To keep this National Seed Policy current and applicable to changing conditions, the National Seed Council shall meet regularly, deliberate on all factors affecting seed supply and use, and advise the Minister on policy modifications needed to keep the policy current and supportive. The Minister shall consider such recommendations, discuss them as appropriate, and in accordance with applicable laws, issue modifications to the National Seed Policy to improve its suitability and applicability to current conditions without changing its long-term intent and validity.





## 11. Steps Necessary to Implement the Seed Policy

### 11.1 Draft and enact the **Seed Act of Namibia**.

11.1.1 There is need to draft and publish the **enabling regulations of the said Act**. These regulations should comprise a seed certification scheme which is a set of technical rules and quality standards. This will stipulate field as well as laboratory standards that seed, produced and marketed in Namibia, should comply with, in addition to procedures, that should be followed when registering seed organisations, associations, companies, seed wholesalers and possibly seed retailers. Procedures to be followed by seed importers and seed exporters should be stipulated. Procedures for evaluation of varieties, DUS and VCU testing of varieties and application for recognition of varieties should be described. The mandate and composition of the Variety Release Committee, as well as the roles to be played by applicants for variety release, should be clarified. The maintenance of the national variety list, the registration of seed growers, licensing of seed inspectors, seed samplers and seed analysts, seed testing rules and procedures, seed labelling requirements and issues surrounding seed containers, should form part of the regulations.

11.1.2 The Minister must designate an organisation, public or private, to exercise the powers, perform the functions and carry out the duties conferred upon, assigned to or imposed upon the National Seed Certifying Authority in the legislation, i.e. the **Seed Certification Service** that will implement the legislation.

11.1.3 Appoint a **National Seed Council** – for the purpose of implementing the National Seed Policy: it is imperative that the Government of Namibia constitutes a National Seed Council which should be a high level policy making body.

According to SADC Seed Subcommittee recommendations this body should comprise the following members:

- i) Minister or Permanent Secretary responsible for Agriculture as Chairperson.
- ii) High level representatives of Government ministries and agencies whose support is essential to the seed programme.
- iii) Agro-industries, and crop seed production and marketing agencies, including Agricultural universities.
- iv) Representatives of the farming community.

11.1.4 The functions of this council, among others, will be:

- i) to formulate and update seed policy statements and implementation guidelines.

- ii) monitor and coordinate the implementation process of the national seed programme and other relevant institutions.
- iii) identify and document actions requiring donor funding, as well as facilitate and coordinate donor assistance in the seed programme.
- iv) advise the Agriculture Ministry on any matters concerning the national seed programme.
- v) identify and commission special studies in any aspect of the seed programme.

11.1.5 An Interim National Seed Council has been established within MAWF. It is recommended that this interim body should facilitate the enactment of seed legislation and should be transformed into the National Seed Council once seed legislation is in place.

11.1.6 The National Seed Council will be responsible for the overall policy guidelines and monitoring of the development of the national seed system.

Two bodies,

- i) the Seed Certification Service, and
- ii) the Crop Variety Release committee,

will report to the National Seed Council. Each body will be responsible to the Council on matters pertaining to its mandate.

11.1.7 **Crop Variety Release Committee** – the assessment of a variety and control of its release to farmers is crucial to a country's seed industry development programme. The importance of this is twofold. Firstly, it avoids the harmful effect on crop production caused by the use of varieties that are not adapted to their environment and the consequent monetary loss to farmers at household level, and secondly, it provides protection to breeders against unauthorised exploitation of their varieties.

11.1.8 The Crop Variety Release Committee will be a statutory committee whose functions will include to:

- i) review proposals for release of new varieties.
- ii) define eligibility requirements for varieties.
- iii) arrange reciprocal recognition of varieties with other SADC member countries.
- iv) prepare of a national variety list.
- v) delete or add to the variety list.
- vi) establish an independent variety testing institution/mechanism.





11.1.9 The Crop Variety Release Committee should comprise the Registrar (from the Seed Certification Service), representatives of relevant Government and private sector institutions, including seed trade organisations, agro-industries and seed growers, Agricultural universities, farmers' organisations, quality control organisations, produce processors, e.g. millers, ginneries, etc. (depending on the crop).

11.1.10 Within the Seed Certification Service there will be:

- i) a seed testing laboratory, and
- ii) a seed inspectorate.

11.1.11 **Seed Testing Laboratory:** An important step for quality control is the establishment of an official seed testing service within the Seed Certification Service, partly for enforcement purposes and partly to provide an advisory service to farmers and seed processors. The basic tests that would initially be conducted by the laboratory are:

- i) purity analysis,
- ii) germination test, and
- iii) determination of other seed species;

commonly referred to as routine tests and reported on a seed analysis certificate.

11.1.12 The seed testing laboratory will be staffed by seed analysts who are also official seed samplers with the following functions:

- seed sampling;
- purity testing and identification of other seeds;
- germination tests;
- seed moisture tests;
- seed health tests;
- seed testing research.

11.1.13 Training for seed analysts is available in South Africa. However, a very effective way of having seed analysts trained, is to send them for attachment to one of the ISTA-accredited laboratories in SADC. These are Government laboratories in South Africa, Zambia and in Zimbabwe. Training is also available in Europe and attachment to an ISTA-accredited laboratory in Europe could also be beneficial.

11.1.14 Seed inspections: Seed multiplication must be carried out by registered seed producers who should adhere to prescribed seed production standards. To ensure that the standards are adhered to, seed crops should be subjected to field inspections conducted at all important stages of crop development. The intended result is the avoidance of contamination of seed crops and hence provision of high quality seed. Furthermore, since it is usually very difficult to distinguish seeds of two varieties of the same species in a seed laboratory, examination of growing plants through field inspections and control growing (planting samples of the produced seed) may be the only practical means of ensuring variety purity during seed multiplication.



11.1.15 Within the Seed Certification Service there will be a **Seed inspectorate**, composed of seed inspectors who are also official seed samplers, with the following functions:

registration of seed growers and registration of seed crops;  
seed crop inspections of breeder, foundation and certified seed;  
phytosanitary inspections;  
pre- and post-control testing;  
distinctness uniformity and stability testing;  
value for cultivation and use testing;  
registration of seed companies, seed traders and inspection of trading facilities;  
spot checks of harvested seed on the market;  
seed sampling;  
seed science and technology research.

11.1.16 A need therefore exists to build a seed inspection team, which must be made up of people with some training in Crop Production. The minimum training some SADC member countries require seed inspectors to have, is a Certificate in Agriculture, but one will also find personnel with post-graduate training in Agriculture on the Seed Inspection teams. Training for seed inspectors is available in Zambia and the Netherlands.

11.1.17 Draft and enact the **Plant Breeders' Rights Act** – Namibia may want to do this because of its obligations in the Trade Related Intellectual Property Rights (TRIPs) Agreement of the World Trade Organisation. In some countries implementation of this legislation is also a function of the Seed Certifying Authority. This activity has a place in this institution mainly on account of the close relationship between the inspection for cultivar purity under the seed certification scheme and the examination of new cultivars for plant breeders' rights protection.

11.1.18 The Act is essentially a *sui generis* system of private property rights similar to the patents system, but differing from that system in certain respects because it deals with living material. Application for the grant of plant breeders' rights must be technically examined on the basis of distinctness, uniformity and stability. If the plant concerned meets the above criteria, then the registrar of plant breeders' rights shall grant the applicant plant breeders' rights in respect of the new cultivar.

11.1.19 Namibia has an option to join the International Union for the Protection of New Varieties of Plants (UPOV) or not. Zimbabwe has had a Plant Breeders' Rights Act since 1971, but is not a member of UPOV. However, Namibia's major trading partner, South Africa is a member of UPOV.







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