

The Status of Obsolete Pesticides in Namibia
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Development Strategy of Integrated Pest Management and Pesticide management in Namibia by the Ministry of Agriculture

1. Background

The Republic of Namibia is situated in Southwest Africa and shares borders with Angola, Botswana, Zimbabwe, Zambia and South Africa. The country has a semi-arid climate with large areas to the west, covered by the Namibia Desert and to the east by the Kalahari Desert. The population is 1.6 million and mostly occupies the northern part of the country. About 60% of Namibians depend mainly on agriculture, which employs the majority of Namibians.

Since 1990, the government of Namibia should meet their national agricultural policy, the commercial and communal land needs and should reach self-sufficiency in staple food production and with the international regulations production standards like the:

- IPPC
- FAO code of conduct
- PIC Procedures
- POP
- Cartagena Protocol on Biosafety
- Codex Alimentarius
- EU Directives on meat and crop products (grapes, dates etc) for export

Historical overview of pest management and pesticide management in Namibia before 1990

Infrastructure development for pest management and pesticide management was neglected by Namibia's administration, whereby South Africa institutions undertook only specialist ad hoc investigation on behalf of the Namibian administration South Africa's interest in Namibia were mainly the control of malaria (mosquitoes), termites and the tsetse fly. Therefore, the development of pesticide management and pest management was very limited. And communal crop farming and trading mainly in the Northern areas were neglected, most pest control operations were implemented and managed from South Africa, with local input restricted to field operation only.

This resulted in highly developed veterinary (animal health) infrastructure, poor legal, technical and administrative infrastructure for plant quarantine, crop protection and pesticide management.

The effect was that Namibia had no proper infrastructure at independence to implement an Integrated Pest Management and pesticide management plan which includes all aspects of technical improvement of plant production systems, whether for quarantine, crop protection or public health purposes.

Since 1990

Namibia tried to overcome the shortcomings in the plant production sector and as a result an agriculture policy was developed and an adequate strategy for its implementation was approved.

What is in place?

2. Pest management infrastructure

2.1 Legal Infrastructure

Act 36 of 1947 Pesticide Registration – handling and distribution of pesticide

Act 3 of 1973 Pest Act - Plant quarantine measures

Both Acts are in the revision process since 1997.

A policy on “Enabling the Safe Use of Modern Biotechnology” was developed and it provides the basis for a planned legislation related to the handling of Living Modified Organisms. Based on the policy LMO imports are already regulated via phytosanitary procedures.

The 3 Acts provide the legal framework to strengthen plant protection capabilities in the country:

- a) By preventing new pests coming into the country - through plant quarantine.
- b) By capacity and infrastructure development to manage crop pests and pesticides nation wide.
- c) Develop the necessary legal set-up oriented to the Namibian needs.

In order to fulfil those legal obligations the Ministry developed administrative and technical procedures that include the registration and quality assurance of pesticides and the control of the distribution and use. Together with the recently established section for Pest Management, integrated pest management activities have been implemented in close co-operation with Extension Technicians all over the country.

Due to annual outbreaks of locust (Brown Locust, Red Locust and African Migratory Locust) and Army Worm, an emergency stock of 20,000 l of pesticides has to be kept under the supervision of the Directorate of Extension and Engineering Services.

The hot climate and the fragile environmental conditions made it necessary to erect a pesticide store of international standard in order to avoid any damage to the environment. After a groundwater pollution risk assessment was conducted, a site for the store could be selected. The MAWRD provided N\$ 1 million for the design and the construction to ensure that all given standards can be met. The design is based on the FAO guidelines, information received by GTZ, USAID and Novartis, Switzerland. The pesticide store will serve as a back-up for the pest management unit to ensure a quick response to locust outbreaks, which do occur on an annual basis. Before the store was built, pesticides were stored in unventilated corrugated iron structures, which could reach a temperature of up to 70C° that led to fast chemical decomposition. As those former stores were poorly ventilated there was a high risk of explosion which would have led to tremendous environmental damage.

Therefore, it was seen as a high priority for the MAWRD to erect a store of international standard. However, in order to incorporate the store into the pest management system it is essential that the involved personnel get proper training in pesticide storage management, that the store gets the necessary warning signs and that an emergency plan is developed.

2.2 Administrative Infrastructure

During the first 5 years the Sub Division updated legislation and established 4 sections which are supported by 14 staff members:

- Agricultural Inspectorate (registration and monitoring the use of pesticides, farm feed, stock remedies and fertiliser);
- Section Phytosanitary Control and soil conservation (co-ordination and administration of phytosanitary trade regulations, seed certification and production systems);
- Section Pest Management (management, migratory pest management and post harvest management, co-ordination and scientific/technical back-up of the Extension Service related to IPM, pesticides);
- Section Livestock Improvement (gene management and advisory body to livestock producer associations);
- In addition it is planned to establish a section “Food Safety”, with the responsibility to co-ordinate implement and monitor subjects related to food safety (Codex Alimentarius).

2.3 Technical Infrastructure

Section pest management	
Infrastructure	Activities
-Central Pesticide store	Pesticide management linked with migratory pest monitoring Maintenance of equipment Disposal of obsolete pesticides <ul style="list-style-type: none"> ➤ For example: 250 t BHC disposal in 1999 (support by AVACSA/RSA government/GTZ) ➤ Ongoing survey within line institutions <p>Planned: capacity building on safe management practices for pesticide handling (target Sectors: Health / fire-brigade / store keeper / supervision)</p>

- Crop pest identification and management service

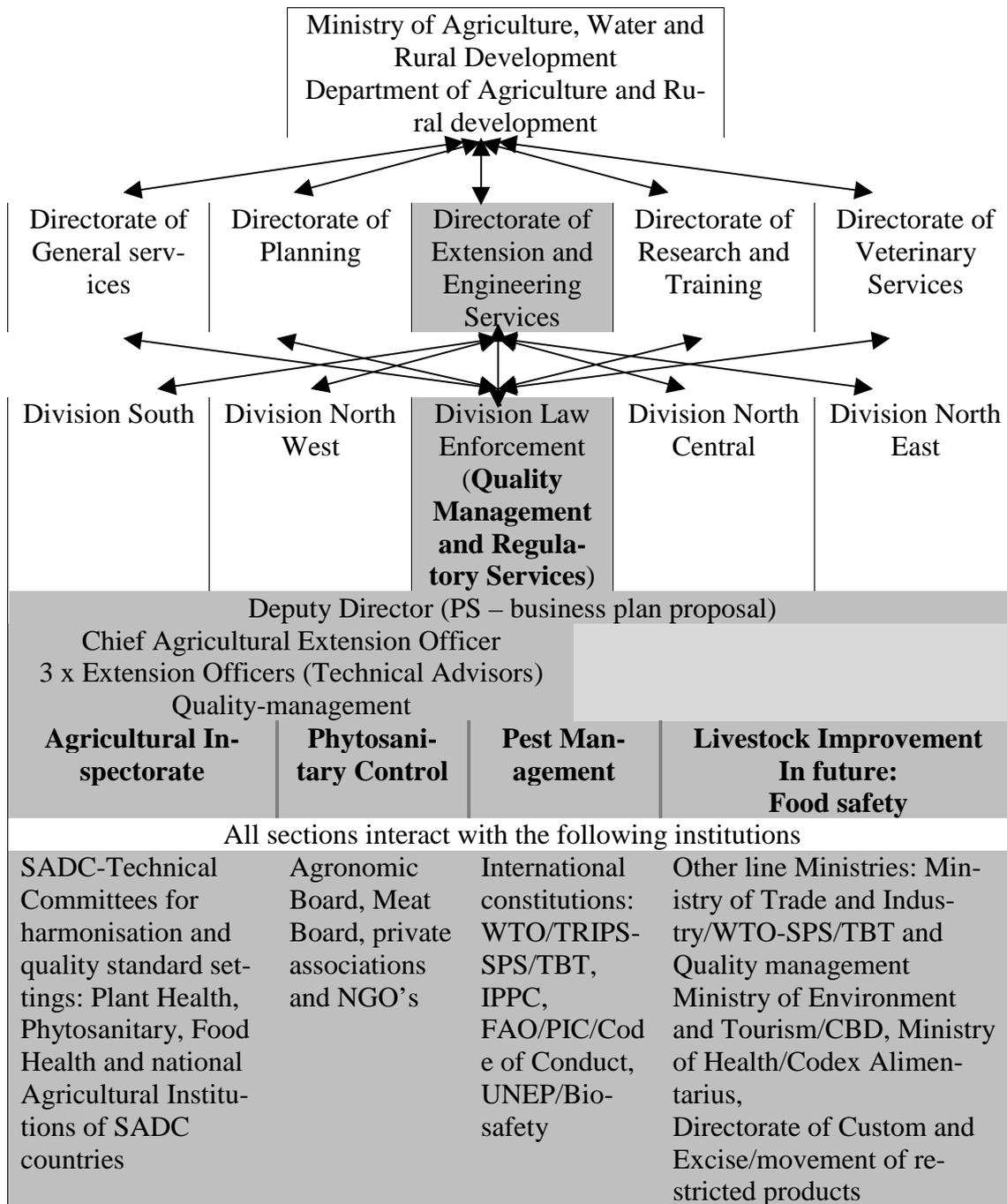
- Locust monitoring and control network
 - breeding area identification and monitoring for **Brown Locust** (South of the Country), **Red Locust**, **African Migratory Locust** (Northeast of the Country)
- **army worm**
 - 40 trap network along the Northern borders
- **Black Fly Control** along Orange River (agreement with RSA close to be finalised)
- Vegetable pest management program, (**Fruit Fly** survey and control technique evaluation on grapes and vegetables)
- Storage management program includes **LGB** management (pilot project in East Caprivi)
- **Neem tree** distribution program
- Training for trainer programs based on pest management guide and pest identification guide

Planned:

Long term program: Quality assurance of agricultural production schemes, niche market development on: exportation of table grapes to USA and dates to Europe ‘Eco-standards development for EU market-Pesticide residual problematic’

Short term: Lack of Migratory pest training for trainer program and Pesticide Storage Management

The Sections are administered within the Ministry as follows:



3. Discussion

Institutional arrangements

Pest management Extension activities in the country	Centralised pest management Section	The pesticide Registrar The Phytosanitary body The Food safety regulatory body
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The objective:

To introduce good pest and pesticide management practices countrywide by reducing the losses in our crop production systems through means of IPM.

- 1) Developing a streamlined institutional back up for Agriculture Sector and promote Export opportunities within the Ministry
- 2) keeping a healthy plant:
 - by cultural methods
 - biological methods
 - chemical methods
 - genetic methods
- 3) keeping the loss to a farmer at acceptable level:
 - through economical threshold level oriented control methods
 - and by implementing forecast systems (trapping and monitoring)
 - train farmers in Integrated plant and Pest Management
 - avoid accumulation of pesticides
- 4) keeping new pests out of the country:
 - through pest risk assessment oriented plant quarantine system
- 5) Strengthening farmers responsibility in pest monitoring and control.