

The role of the National Herbarium of Namibia in the conservation of plant genetic resources

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Introduction

Since the discovery of *Welwitschia*, international botanists have regarded Namibia as a hunting ground for unusual and often unique plant species. It was this keen interest that eventually led to the founding of the South West Africa Herbarium in April, 1953. This coincided with the decision to extend the botanical survey of South Africa with the division of botany of the Department of Agriculture playing a significant role in the establishment of the Herbarium. Over the years, the relevant authorities have built up a herbarium of international status which liaises with universities and other herbaria throughout the world.

The National Herbarium of Namibia presently houses a collection of some 60 000 reference plant specimens which are representative of the richly diverse flora of our country. A back-log of material is still awaiting processing due to staff shortage and inadequate facilities for a period of almost four years.

The National Herbarium and conservation of plant genetic resources

In its capacity as archive, the National Herbarium of Namibia assists in the identification and naming of plant material for various government departments like agriculture, forestry, wildlife and education as well as the general public. An essential prerequisite for the *meaningful* conservation of plant genetic resources is this provision of recent scientific names and full documentation of each sample. To establish a separate herbarium as part of the genebank for housing voucher specimens would be neither practical nor economical. In a country like Namibia, where competent staff with suitable training in plant taxonomy is a rare commodity, the genebank should not

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have to compete with the National Herbarium for recruiting staff but should rather collaborate on the handling of systematic documentation and curating aspects.

The preserved herbarium material provides data for the compiling of inventories and species lists for national parks as well as the different ecological zones and is a good indication of the distribution of various species in Namibia. Ethnobotanical information from herbarium specimen labels indicates potentially useful wild plants, the collection of which should form an important part of the national project for conservation of plant genetic resources e.g. Rodin's study of the KwaNyama Owambo's (1985). By providing this information, the National Herbarium can play an important role in the effecting and coordinating of exploration and collecting expeditions being undertaken by local and international collectors.

Collection work in the field as well as the processing of the resulting material, is part of the traditional task of herbarium personnel. Germplasm collection trips have been undertaken independently and also in collaboration with IBPGR which provided the opportunity for training of herbarium staff in specialized germplasm collecting techniques. Collection emphasis was placed on grasses, legumes with forage potential and wild relatives of crop plants. The Cucurbitaceae, or melon family, in particular, appears to have a centre of diversity in Namibia and attention should be given accordingly to its collection and biosystematic study. The introduction of wild species of *Citrullus* and *Cucumis* into breeding programmes could transfer traits like drought resistance into the related cultivated varieties. In this regard, they represent a group of great economic potential whose importance has been largely neglected or ignored. We are at present, in conjunction with the IBPGR, investigating the priorities for germplasm collection of this family based on locality data recorded on specimens housed in the National Herbarium. In the same way, collection priorities for any other wild plant species can be set by interpretation of information obtained from the herbarium. Inventory lists, compiled by herbarium staff, can identify endangered or rare species and once the main threats have been revealed, conservation priorities can be formulated and collection strategies proposed.

Future collecting missions are being tentatively planned for the coming year. Special attention will be given to the local landraces of millet in northern Namibia as well as to the wild species occurring in the winter rainfall area of the southern Namib. Training will feature as an important aspect of both proposed missions.

An undeveloped area adjacent to the grounds of the National Herbarium has been ear-marked for development as a botanic garden. Although it is still uncertain as to which Ministry should develop and manage the area, we feel strongly that the National Herbarium should be the obvious choice. Even though its main purpose would be for education and tourism, such a botanic garden would also be important for the national programme in that for long-term conservation of plant genetic resources to succeed, the public has to be made aware as to the basic importance of plants.

A major problem experienced by the Herbarium in the past is that it was often regarded as being a purely academic scientific institution without contributing to

economic or human resources development in Namibia. By expanding our functions to include new disciplines within the botanical field, we are trying to rectify this pre-conceived image. The inclusion of the National Genebank in the National Botanical Research Institute, of which the National Herbarium can be regarded as the pivotal unit, provides the ideal opportunity to illustrate this new approach.

A technician from the Herbarium is at present studying for the Masters degree in plant genetic resources at the University of Birmingham and one of our technical assistants is to attend a short course in plant propagation methods at ILCA in Addis Ababa. Staff members organized and participated in a crop collection course which was held locally in Rundu with funding received from the SRGB and expertise being supplied by IBPGR and ILCA.

Even though the National Genebank is not yet operational, provision has already been made to incorporate voucher specimens of germplasm accessions into the national collection. They will be filed in distinctive folders and, unlike normal herbarium collections, will not be lent out to other herbaria for revision.

An urgent need exists to sensitize both the authorities and the general public as to the importance of a plant genetic resources programme for this country and its implications for future development. At the same time, the National Herbarium and the Genebank should be perceived to be two units that function hand-in-hand, forging a working relationship that will strengthen their role in sustainable development in Namibia.

References

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