

the public, and key institutions need to act, often in new and innovative ways. However, this is not to say that in Namibia matters are in hand, that appropriate actions are taking place and that things are uniformly moving in the right direction. The preceding chapters have highlighted a large number of gaps in information and action. They have highlighted the past lack of coordination and cooperation between different institutions responsible for biodiversity conservation, the removal of data and specimens by some foreign researchers, the potential damage done by inappropriate incentives, policies, and legislation, and indeed the many lost opportunities for sustainable development and environmental protection.

However, more important than this, the preceding chapters tell us that Namibia has

- (a) a good -- though far from complete -- body of information on which to work,
- (b) a small -- though far too small -- body of dedicated and experienced biodiversity scientists who wish to work cooperatively, complemented by a network of scientists from abroad,
- (c) a number of well placed -- though often understaffed and underfunded -- institutions which are starting to understand the synergistic value of collaboration,
- (d) a protected area network covering 13.8% of the country's land surface -- though with important gaps,
- (e) a clearly identified range of issues to address as we move into the 21st century with biodiversity conservation high on our list of useful tools to direct human development in a sustainable way, and
- (f) a National Biodiversity Task Force, experienced in working together, to direct and guide this process.

6.2 Research priorities

The following research priorities have been identified from the preceding chapters.

1. To *improve our information base* for:
 - the *current conservation status of habitats and biomes* in Namibia, improving upon classifications, descriptions, and accuracy of mapped units;
 - the *taxonomy, ecology and biogeography of little known groups* such as viruses, fungi (especially mycorrhizae), algae, soil bacteria, nematodes, aquatic invertebrates, most arthropods, lower plants, and lower vertebrates, especially where these aid our understanding of the protection of biodiversity and ecological processes.

Assessments must be carried out of the minimum levels of information needed to conserve different taxa effectively and make informed planning and management decisions, taking into account time and financial constraints. Patterns emerging from the little known taxa may be similar to those of better known and more easily monitored groups. A major gap needing urgent research attention is how these lesser known groups support essential ecological processes, particularly in wetlands, the ocean, and the savannas which support agriculture in Namibia.

 - *little-known biomes, habitats and features of ecological importance* such as the escarpment and inselbergs, and inland wetlands, wherever possible using teams from different disciplines and agencies to stimulate debate, uncover novel scientific paradigms and biogeographic processes, explore options for future research and management, and raise awareness.
2. To use the best available biodiversity data to *analyse the effectiveness of the protected area network and other land use types* in protecting biodiversity, Namibian and regional endemics, red data species and our archaeological

heritage; to identify and test indicator groups as well as umbrella and keystone species for monitoring (a) conservation parameters and environmental health, and (b) impacts of environmental degradation, with sensitive species providing early warning of climate change, desertification, genetic erosion, habitat fragmentation, and pollution.

3. To better understand *current resource exploitation and harvest potentials* in Namibia's variable environment, and to monitor and regulate exploitation accordingly. Monitoring and regulation must cover commercial and subsistence use of genetic and species resources, and where appropriate include socioeconomic and ethnobiological research as well as study of behaviour, life histories, and population dynamics.
4. To better understand the important role that community management through conservancies is expected to have on biodiversity conservation, and the *potential for conservancies and other land uses to augment the protected area network*.
5. To study selected *endemic and red data species* to obtain sufficient information on their distribution, population size, life histories, behaviour, habitat needs and, in the case of threatened species, the sources of threat, to ensure their sound management and wellbeing. Research must take account of biological, not just national, boundaries.
6. To gather data on *genetic diversity of selection, fragmentation and isolated populations* of:
 - *locally domesticated crops, livestock and their wild relatives* to ensure the protection of an appropriate gene pool of diversity;
 - *restricted range species*;
 - *species in fragmented riparian forests and other habitats under direct threat*.

6.3 Other priority actions

The following priority actions are drawn from the preceding chapters of the Country Study.

1. All land in Namibia not allocated to the protected area network, mining and municipalities is generally considered open for *agricultural use*. This notion needs to be challenged, especially in an arid country like Namibia, for which food self-sufficiency is an illusory goal. In Botswana, for example, in addition to national parks, large areas are zoned as 'wildlife areas,' providing options for tourism and trophy hunting, while buffer zones exist around protected areas and corridors for migration, gene flow, and overall biodiversity protection. A number of similar opportunities exist in Namibia to zone areas for priority wildlife management, such as around the Khaudum and Skeleton Coast Parks. Nevertheless, agriculture will remain the dominant land use in Namibia for the foreseeable future. Better collaboration between agricultural and land use agencies (MAWRD, farmers' groups, NGOs, agricultural projects) and the Biodiversity Task Force must thus be established, and agricultural biodiversity planning, management and strategies for sustainability must be developed.
2. *Critical vegetation types and habitats needing urgent protection*, not currently part of the national protected area network, include:
 - *vegetation types*: mountain, thornbush, highland, dwarf shrub, camelthorn, and mixed tree/shrub savannas, semi-desert and savanna transition, and forest savanna;
 - *karst caves and sinkholes, ephemeral and saline pans, springs and seeps*;
 - Okavango, Zambezi and Kunene *riparian forests and islands*;
 - *upper reaches of ephemeral rivers*;