



Biodiversity in Southern Africa

Vol. 1

**Patterns at Local Scale
The BIOTA Observatories**

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Cover photograph: Under harsh desert conditions a large Camelthorn (*Acacia erioloba*) is surviving at the eastern edge of the large Namib dunefield (Dieprivier), with view of the escarpment in the distance.

Photo: Torsten Heydenreich, Rostock/Germany.

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Article I.1

– Author's copy –

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Challenges and international framework

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The ultimate justification for a large biodiversity research project like BIOTA AFRICA (see Fig. 1 on the left side) is the perceived decline of biodiversity and its impact on human societies. However, this justification is merely the general context while the concrete goals and activities of the project are driven by the global discussion on global change in general and change of biodiversity in particular. This foundation of the project needs to be acknowledged. The integration of the project into the global discussion makes us confident that its products will be acknowledged as a contribution to the solving of a problem of global dimension and hence will be turned into application by the different stakeholder groups involved. It is also important to recall the roots of the project within an international political and societal process because it strongly influenced the scope of the project, which again defines the role and value of each single subproject, work package, and activity.

At the highest level of international political mechanisms, the project follows the definition of biodiversity of the UN Convention on Biodiversity (CBD) by integrating both **conservation** of biodiversity and sustainable **use** of biodiversity. This also includes the view that the decline of biodiversity is not only man-made but implies one of the grand challenges of humankind, i.e. to shift from an ever-growing and ever-expanding exploitation of natural resources to sustainable management within feasible limits. This obviously requires a transition from spontaneous and relentless economic expansion driven by necessities or opportunities to sound, knowledge-based, planning and management becoming a mainstream within societies. Therefore, the scope of biodiversity research is much wider than just studying organisms and ecosystems. It rather integrates the study and understanding of environmental and biological processes with the study of societal processes. This integration has the ultimate goal to inform and

potentially redesign societal processes in order to support and enable sustainable management decisions. This also implies the adjustments of governance systems and the education of future generations.

At another level, the International Global Change Science Programmes, combined within the Earth System Science Partnership (ESSP), and especially the International DIVERSITAS programme, played an eminent role in defining the agenda of the BIOTA AFRICA project.

Within DIVERSITAS and its core projects, in parallel with the lifetime of the BIOTA project, scientists from many countries have developed and implemented science plans, which have also been used as an orientation for many elements of BIOTA. Therefore, the BIOTA project is regarded by DIVERSITAS as a flagship project, and has been presented as such in many publications. This was also true for the development of the Biodiversity Observation Network GEO BON within GEOSS (for details see Chapter I.3).