

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.2

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Structure and elements of the project and course of the project over the three Phases

Norbert Jürgens*, Ute Schmedel & M. Timm Hoffman

Due to the increasing public awareness of global environmental change and its socio-ecological impacts, the scope and structure of the BIOTA Southern Africa project was adapted over the project period.

Phase I (2000–2003)

During Phase I the structure of the project was mainly defined by four main topics, which were understood as a cascade of elements being built on each other.

Structure of BIOTA Southern Africa during Phase I

- i **Assessment** of existing biodiversity
- ii **Monitoring** of the changes of biodiversity
- iii **Understanding** of drivers and mechanisms of change
- iv **Interventions:** Tools for management, restoration & conservation

Looking back, this was an entirely appropriate structure for the starting period. It had a critical mass of activities dealing

with the basic currency of biodiversity research i.e. organismic diversity. It explicitly dealt with change in time and the understanding of key processes affecting this change. The final goal was clearly defined at the end of the cascade in terms of improved management, restoration, and conservation.

Phase II (2004–2006)

There were quite visible changes in moving from Phase I to II of the project,

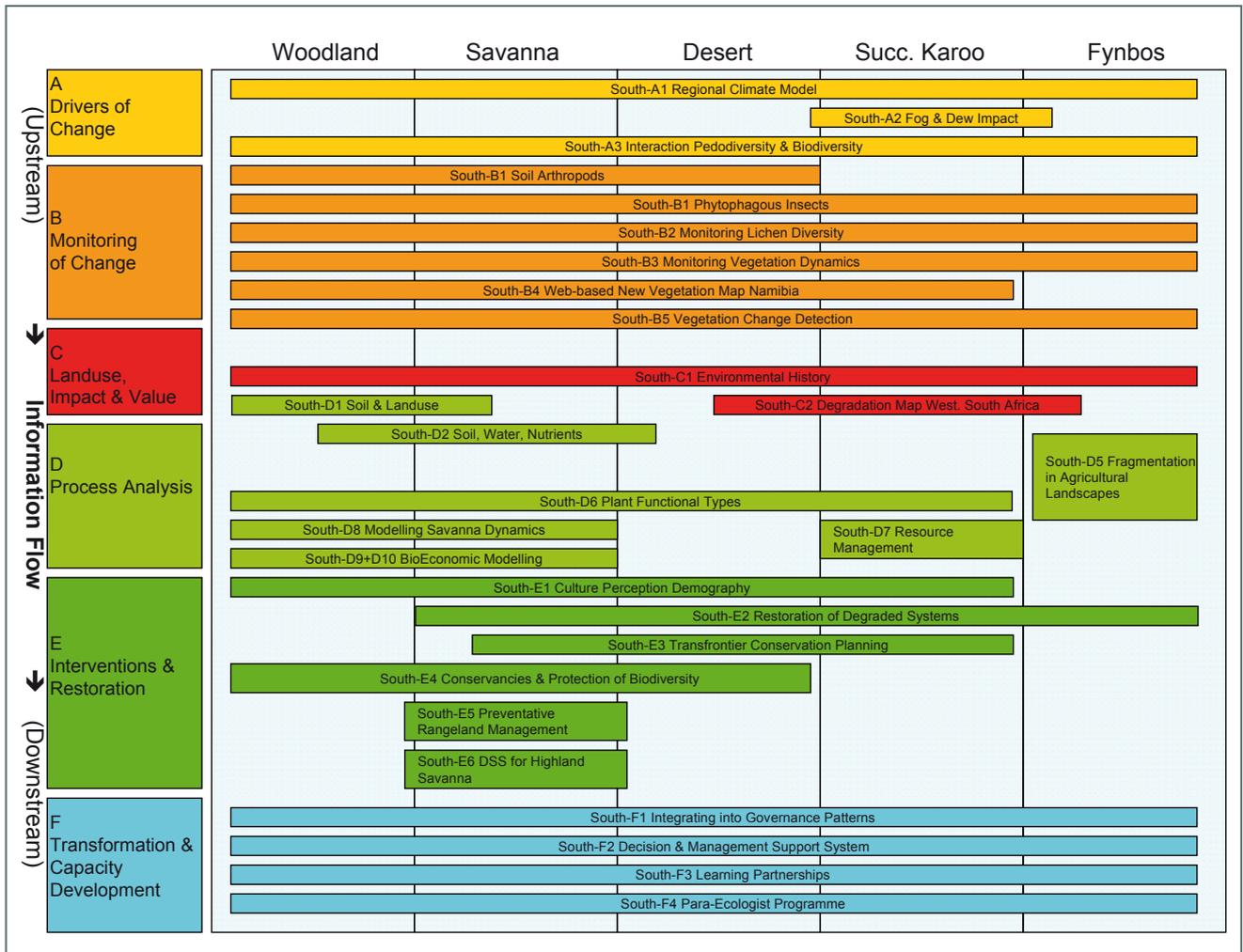


Fig. 2: Work packages in Phase III of BIOTA Southern Africa (2007–2010).



Photo 1: The German Federal Chancellor Angela Merkel (left) and the Federal Minister of Economic Cooperation and Development Heidemarie Wiecezorek-Zeul (center) discussing with Professor Norbert Jürgens (right) the concept and research findings of BIOTA Southern Africa. Cape Town, October 2007. Photo: Bundesregierung / Guido Bergmann.

Phase III (2007–2010)

During the preparation of Phase III, there was a clear shift of paradigms communicated by the BMBF as the funding institution. The German Ministry strongly emphasised the need for the application of scientific knowledge. As a consequence, the BIOTA Southern Africa project adjusted the project activities. Each work package was defined as a stepping stone in a cascade of steps (see Fig. 2) resulting in a contribution for finally applicable results in terms of either

- E **Interventions and restoration** or
- F **Transformation and capacity development**

During Phase III the project was well developed and its reputation grew in Africa, as well as in Germany. The visit of the German Federal Chancellor Angela Merkel to BIOTA research sites near Cape Town, South Africa, in October 2007 (Photo 1) was a highlight that gave BIOTA excellent media visibility. In February 2008, the German Federal Minister of Education and Research Annette Schavan visited BIOTA Observatories in the Savanna Biome southwest of Windhoek, Namibia, and discussed the needs for scientific contributions for sustainable management with Ministers and local landusers. In September/October 2008 some 400 participants met for the BIOTA AFRICA Congress, which was organised by BIOTA Southern Africa at Spier (South Africa).

which were not only due to the general maturation of the goals of biodiversity science itself. A very important difference to the design of Phase I was the much stronger involvement of the African partners. While African partners were involved in Phase I of the project, such involvement was based largely on earlier cooperation between individuals. The bringing together of whole research communities within a structured joint planning process was critical for the success of Phase II. During the initial planning period for Phase I, resources were limited and the funding of even one international planning workshop was out of the question. However, the situation was very different during the planning for Phase II. At that time, the major planning was done during well-structured and facilitated workshops in several African venues. Therefore, the needs of African landusers were more strongly reflected in Phase II than was possible in Phase I and a stronger emphasis was also placed on people-centred research activities

“Inventories and basic assessments”, one of the four major topics in Phase I, disappeared from the agenda for Phase

II whereas the monitoring activities continued. Process analysis was focused at functional types and interactions. In Phase II, three of the integrative themes were focussed directly on human aspects. Theme iii addressed not only the impact of landuse on the environment but also the value that different landuse practices had for humans. Theme iv aimed at developing tools and instruments for interventions towards restoration and management while Theme v aimed to inform policy at multiple levels.

Integrative main themes of BIOTA Southern Africa during Phase II

- Theme i Natural **dynamics** in space and time
- Theme ii Understanding natural **processes** of change
- Theme iii Understanding **human use**, value and impact in space and time
- Theme iv **Interventions** (strategies, tools, techniques) for sustainable use of biodiversity and biodiversity management
- Theme v **Inform policy** on local, national, and international level