1. **Project Leader:** Ben Strohbach (National Botanical Research Institute), Norbert Jürgens (Uni Hamburg)

2. **Title:** Towards a vegetation map of Namibia

3. **Regional Focus & Limits:** Namibia, specifically focusing on the transects.

4. **Links with main themes:**

5. **Background/rationale:**

   Very little vegetation data exists for Namibia, compared to e.g. the RSA. This has been found to be a great drawback i.t.o. land use planning, especially considering the National Programme on Land Reform. Other the past two phases, BIOTA contributed greatly towards this relatively scanty vegetation data base, with well over 2000 relevés being collected over the past 5 years. (This constitutes to about 20% of the current phytosociological database of the country!). Added to this is the efforts towards capacity building, with one M.Sc. completed, as well as one intern (hopefully by next year two interns) being trained in vegetation ecological methodologies as well as a B.Sc. Hons. qualification in Vegetation Ecology. Also of importance are other forms of capacity building: supply of software like IDRISI, ArcView and hopefully eCognition, as well as informal training in remote sensing application.

   Yet experience has found that the sample density along the 30 km wide transect currently being mapped is in many cases too thin to allow for proper upscaling around the main observatory clusters of Mile 46 / Mutompo, Erichsfelde / Omatako Ranch and Gellap Ost / Narais. Also found I that slivers of gaps are starting to develop between the BIOTA transect and other mapping projects, whilst many communities encountered along the transect are only partially described – the bulk of the community lies off the transect, including some typical sites.

   This project thus aims at filling some of the identified gaps – particularly the Khomas Hochland, the Hochfeld area (triangle between Otjiwarongo, Okahandja and Sandveld, linking to the work of the DMP study in the eastern communal areas) as well as around Mile 46 / Mutompo towards the north. At the same time an effort will be made to make the available data available in a coherent, easy accessible way – a first attempt towards a vegetation map of Namibia.

6. **Key questions:**

   - How far do identified plant communities reach? Did we find the “typical” along the transect, or are we working with “edge effects”?
   - How far and how reliable can the results from the observatories be extrapolated?
   - How compatible are our present efforts with other (previous) efforts in vegetation mapping?
   - How do we go about making the vegetation data accessible in a useful, easy to understand, easy to use way to users (especially land use planners, considering the ongoing National Programme of Land Reform)?

7. **Research approach:**

   - Stratify the study areas according to the AEZ-maps and/or remote sensing images (S01), possibly using pre-calculated segments using eCognition.
   - Survey the transect using standard Braun-Blanquet relevés as described in Strohbach (2001). Baseline survey of the new observatories.
   - Classify these relevés.
   - Combine different classifications from different workers/projects/areas into one, to get a better idea of inter-relationships. This is to be augmented with ordinations.
   - Prepare a final vegetation map using remote sensing data.
   - Prepare GIS-compatible data from the originally collected and classified data.
   - Highlight environmental and land-use issues identified from the data / observed during field work for further study.
8. **Integration with the general BIOTA research concept**: This subproject will focus on the creation of base-line data for land-use planning and long-term monitoring, but will also contribute to the understanding of diversity tendencies.

9. **Training opportunities**: Formal:
   - On-the-job training for interns, who have the opportunity to study part-time for higher qualifications.

10. **Potential collaborators**
    - S01
    - S06
    - S09
    - S11
    - Vegetation Survey of Namibia Project (NBRI / AEZ, MAWRD)
    - Project of Ibo Zimmermann