

**EXISTING AND POTENTIAL LAND DEGRADATION  
ALONG THE ORANGE RIVER CATCHMENT IN NAMIBIA,  
INCLUDING THE FISH RIVER CATCHMENT**

**An Environmental Situation Analysis**

**Geographical boundary of the Project**

The entire Orange River catchment within Namibia including the Fish River catchment. (Non-contributing tributaries such as the Nossob and Aaob may be omitted in this study).

**Objectives**

*Overall objective*

- Conduct an environmental situation analysis of the study area with special attention to desertification / natural resources degradation processes
- Establish the framework within which a future SEA can be undertaken

*Immediate objectives*

Identify, analyse and evaluate the causes and impacts of environmental degradation in the suggested river catchments:

**The sources of impacts** (refers to those elements of a programme or project that have the potential to cause environmental impacts):

- Current and potential land use, take into account different types of land use within this catchment: commercial and communal farming, irrigation and small stock farming, local & informal settlements, mines and parks;
- Inputs (refers to the inputs of land, renewable and non-renewable raw materials, capital equipment and labour, that are required to implement a programme or project);
- Activities (refers to all activities undertaken within the study area which may give rise to environmental impacts);
- Outputs (refers primarily to those wastes (liquid, solid and/ or gaseous)), produced through development activities, that are likely to give rise to degradation of natural resources and other environmental impacts, this should include non point as well as point source pollutants;
- Future plans and options for developments and water off-take in the Namibian side of the Orange River, including the area upstream of Noordoewer (a potential dam 30km upstream)

**Receptors of impacts** (provides information on those natural and human environments most likely to be affected (usually adversely) by the sources of impacts identified in the previous sub-section). In summary they include the following receptors:

- Terrestrial flora and fauna
- Aquatic and riparian biota
- Soil
- Air
- Landscape (with particular emphasis on potential land degradation and aesthetic impacts)
- Water-bodies
- Human development (land use, water resource use etc.)
- Sites of historical and/or cultural value

**Environmental impacts**

(Outlining the principal environmental impacts likely to result from programme's/ projects in the study area). In addition, principal positive and negative geological and socio-economic impacts should also be listed. Carefully consider and possibly test potential indicators of environmental degradation. These can be based on the results of Napcod II work, ongoing Napcod work and studies in South Africa. Look critically at irrigation schemes alongside the river and at mining activities in the catchment including all secondary and possible cumulative impacts.

### **Significance of environmental impacts through:**

- Evaluation of the impacts against environmental policies, standards and regulations (National policies and South African legislation, in a comparative perspective) and analyse how will the revision of Status of the international border affect the different facets (Technically the north bank is still the border until the revised border is officially gazetted)
- Priorities and preferences: to determine the significance of environmental impacts, account should therefore be taken of the environmental priorities and preferences (not quantifiable) held by governments, organisations and local people directly or indirectly associated with projects and programme's in the region.

### **Mitigation measures**

Summarise the range of common planning, siting, design, management and monitoring measures, which may be adopted to prevent or reduce potentially adverse environmental impacts.

### **Identification of Institutional Needs to implement the recommendations**

Review the authority and capability of institutions and programmes at local, regional and national levels and recommend steps to strengthen or expand them so that the report recommendations can be implemented (take into account the recommendations made by the NWRMR). The recommendations may extend to new agency functions, intersectoral arrangements, management procedures and training, staff, budgeting and financial support.

### **Project activities**

- Identify all Interested and Affected Parties (I&AP):
  - Karas & Hardap Regional Councils
  - LUPs Sperrgebiet consultants
  - NAPCOD
  - MAWRD (irrigation engineering)
  - DWA & Namwater
  - MET (Ramsar specialist +SPSSS Staff)
  - Wetlands Working Group
- Scoping (discussions, meetings & continuous liaison with key I&AP)
- Collect all relevant literature/ reports/ documents with regard to projects/ programmes & plans in the study area
- Identify, analyse and evaluate all activities (including mining, infrastructure, agriculture, tourism, ...) programmes and plans (Regional Tourism Plan) which lead to natural resources degradation and other environmental impacts for this specific study area
- Conclusions and recommendations (specifically on sustainable long term natural resource management) and design a framework for a future SEA to be undertaken

### **Expected Outputs**

- document/ report
- research discussion paper (summary form of the work)
- seminar (to facilitate exchange/sharing of information with I&AP)

### **Budget**

Approximately N\$ 125000 (detailed budget to be provided by UCT)

### **Time Frame**

January 2000 – November 2000

The real time frame is 3 months spreaded over 1 year, including a 3-4 week field period.