

## **CONCEPT PROJECT**

### **Drought and Desertification Control in Sudan**

**Descriptor:** Sudan is the largest (2.5 million km<sup>2</sup>) and most seriously affected country by desertification in Africa. The arid and semi-arid lands cover an area of 1.78 million km<sup>2</sup>, which represents about 72% of the total area of the country. The civil war in the south of Sudan has created very difficult socio-economic conditions and caused internal and regional migrations and displacement of people from war-affected areas. The population in the rural areas relies heavily on natural resources for subsistence (cultivation of marginal lands, reliance on wood-fuel, range lands ... etc) and thus the consequence is serious land degradation. Sudan suffers from serious brain drain that has impacted negatively on technological base, scientific know-how, technical and educational capacity, leading to substantial capacity building requirements. Harrison and Jackson (1958) have distinguished the following three main ecological zones:

#### **Desert Zone**

It receives an annual rainfall of zero to 75 mm and is only used for short periods by camels and sheep in good years of rainfall.

#### **The Semi-Desert Zone**

This zone covers the northern parts of North Darfur, West Darfur and North and West Kordofan, the northern limits of the White Nile, Gezira, Khartoum, Gedarif, Kassala, Red Sea, River Nile and the Northern states. Annual rainfall varies from 75-300 mm. The vegetation is valuable for grazing and its distribution is more related to soil types rather than rainfall. The characteristic dominant woody species are Acacia sp. While the dominant grass cover is mainly annual with few perennials.

#### **Woodland Savanna**

This is the largest ecological zone and it covers large expanses in Kordofan, Darfur and the Blue Nile States. The annual rainfall varies from 300-800 mm. 6

Some valuable grazing areas are found in Southern Darfur and Kordofan States.

This extensive ecological zone is divided into

- 1- The low rainfall woodland Savanna in which large areas is used for cultivation and livestock production under nomadic pastoralism.
- 2- The high rainfall woodlands Savanna which occurs in the wetter parts of the south on the slopes and terraces in an alluvial soil complex. The natural vegetation forms are woodland savanna with shrubby undergrowth and sparse grasses.

#### **Objectives:**

- Establishment of nursery techniques and restocking of gum Arabic gardens.
- Concept of traditional reserves and water catchment techniques
- Arresting the ongoing land degradation.
- Capacity Building, Awareness Raising and Partnerships
- Conservation key areas
- Building desertification monitoring indicators, integrated information systems on environment and desertification, data collection.

#### **Justification:**

Assessment of land degradation and its trends was based on the interaction of the factors of climate, soil, vegetative cover and the current human activities. Accordingly the concerned desertified states could be grouped into three categories. The states within each of the three classes share some common factors. The first class encompasses the most arid States, which are located in the northern and northeastern zones of the Sudan. It includes the Northern, the River Nile and Kassala States. Due to the relatively high aridity coupled with excessive agricultural land use, the land is experiencing a serious state of desertification. This stage has already been manifested in the form of bare lands around villages and water points. Riverbank erosion (Haddam) and sand dunes accumulation particularly in the western side of the Nile are all common symptoms of deterioration.

The second class includes the states that are dominating the central clay plain of the Sudan, as well as the main irrigation schemes. These are the States of Gedarif, Sennar, Gezira and White Nile. This region enjoys a relatively high annual rainfall (100 – 500mm) and hence moderately desertified.

The area had a fairly good vegetative cover but, currently the land has undergone serious degradation as irrational mechanized farming, extensive woodcutting and over-grazing are over mining land resources. northern Gezira and the western part of the White Nile are now experiencing progressive sand dune encroachment.

Class three includes the western Sudan States of North Kordofan, west Kordofan, North Darfur and West Darfur. The soils are predominantly sandy and due to their favorable permeability and workability the soils are being extensively used for rain-fed traditional farming. These states are also the main resort for the nomadic pastoralists who flee livestock pests and diseases in the clays further south during the wet season. Consequently a multiple factors of climate, soil and irrational land use have contributed greatly to the current state of land degradation. But still the fact remains that prevention of land degradation is more cost-effective than suffering the severe consequences.

Sudan is one of the Sudano-Sahelian countries that have been seriously affected by drought and desertification since the late sixties to the present. The researches show that the area affected by desertification between Lat. 10o – 18oN is approximately 1,260,000 km<sup>2</sup>, which is about 51% of the country's total area. Also According to results of Questionnaire prepared and presented by Turkish delegations to Sudan's Participation at meeting of UNCCD COP 10 in Republic of Korea, there are important issues such as Geographic Information Systems, sand stabilization, Afforestation techniques, Combating Desertification, Water Harvesting, Watershad Rehabilitation ,Rural Development that both country could have coordination, collaboration, sharing experiences each other.

**Focus:** The project will focus on the following broad areas:

- Establishment National Resarch Centers about Land Degradation and Desertification
- Programmes and activities related to institutional building for coordination, monitoring and evaluation.
- Environmental Awareness and Information – raising awareness
- Programmes and activities related to capacity building and human resources development

### **Beneficiaries**

The main beneficiaries and target groups of this project will include Government officials, academicians farmers, laborers, Women, Youth, NGOs, CBOs and Private Sector trade unions and land committees in all affected local communities,

**Results:** The expected results include:

- A better-integrated approach towards sustainable development in desertification affected areas.
- Substantial increase in desertification control activities at grassroots level
- Effective coordination and communication between application fields
- Initiating an integrated information system on desertification.
- increased public participation,
- increased environmental awareness and information
- Development cooperation between Turkey and Sudan
- Small-scale income activities

**Outputs:**

- At least 100 officials of related ministries and other stakeholders trained in Land Application Techniques
- At least 100 officials of the civil society, women groups, community based organizations, etc empowered to participate in development of sustainable land management
- At least 10 manuals, toolkits, and other materials on Land Application techniques
- At least 10 pilot projects on afforestation and reforestation developed and implemented;
- At least 100 experts trained in the protection Implementation areas to supply sustainable;
- At least 1 mid-term and 1 final evaluations of the project undertaken and reports produced.

**Activities:** The following are activities to be carried out under the project:

- Training at relevant levels.
- Improvement and strengthening of communication channels.
- Promoting environmental public awareness using popular and state of the art communication channels.
- Enhancing scientific research in the field of environment at federal and state levels.
- Introducing environmental education programmes in curricula courses at various levels, including scientific research outputs.
- Extending and promoting the utilization of environmental sound intermediate technologies in rural areas.
- Promoting and developing alternative renewable energy
- Increasing the storage capacity of ground water through the construction of dams, terraces, and water harvesting techniques.
- Compilation of information and data on natural resources surveying, land use mapping and establishing information bank.
- Improvement and rehabilitation of degraded rangelands through reseeding, nurseries, enclosures, and rehabilitation of vegetation cover especially in the marginal areas
- Development of forest cover and afforestation through dune fixation, shelterbelts, community forests, enclosures and greening of public utilities and rehabilitation of gum Arabic belt.
- Capacity building, training and scientific research to support sectoral institutions, academic, NGOs, public organizations, trade unions and land committees in all affected local communities
- Protection of the Nile basin and its tributaries against gullying and sand encroachment.
- Development Integrated participatory Watershad Project

**Verifiable Indicators:** The verifiable indicators of the project include:

- the number of officials of ministries, experts, agencies and other stakeholders trained in Land conservation
- the number of pilot and demonstration projects developed and implemented;
- the number of guidebooks and manuals on environmental law and biodiversity conservation policy produced.
- Creating capacity for the early warning of drought, and for devising mitigation measures.

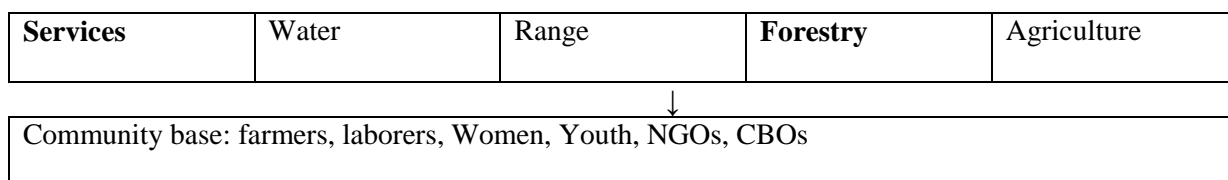
**Implementation Modalities**

The project will be country-driven and participatory, involving all relevant stakeholders. It will support the regional administrations to take enabling roles, and act as regulators. There are a wide range of civil society groups that are active in supporting the development and rehabilitation of Sudan. And there is a great scope to engage such groups as partners with evolving governance structure and reconstruction. The project will create discussion platform in which stakeholders exchange ideas and share information about the damaged and destroyed environment of the country, focusing on how to address the problem collectively.

The implementation of the project will be mainly at country level but **General Directorate of Combating Desertification and Erosion ( CEM )** will provide training and technical expertise. CEM will start with the pilot project and will collaborate with TIKA, as well as local environmental NGOs that are implementing projects in the field. National (Niger) Coordinator will be identified to train on the job, if unfamiliar, to manage and coordinate all national activities. With this person, there will be a team of about 3 National Task Force who will form the base for building national capacities. They will be working closely with the coordinator. The coordinator will participate in the development of national training programmes. This core group will form the basis for sustaining the project activities when the project ends.

### Implementation Structure

Higher Council for Coordinating Drought and Desertification Control Programmes (HCCDDCP) → State Coordination Council → Project Coordination Council → Village Development Council↓



### Partners

The three main categories of stakeholders involved at the national level are:

- Government and its various entities.
- TIKA
- Natural resources users and other civil society sectors and NGOs.
- External partners consisting of developed country parties, United Nations (UN) agencies, non-governmental organizations (NGOs), multilateral and regional financial institutions.

### Risks and Assumptions

- Lack of efficient public awareness and popular participation mechanisms.
- Lack of adequate community services in the project areas.
- Some of the projects are heavily sector oriented, with slow cash flow process.
- Lack of trained manpower in the field.
- Lack an effective assessment and monitoring evaluation system, with coordination at minimum.

### Sustainability

The project is intended to provide the initial steps in building an enabling situation for sustainable land management, Land conservation in Eritrea. The sustainability of the project will be enhanced by the strong emphasis on local institutional capacity-building and strengthening of existing national institutions. Through the participatory process of the project, country ownership will be fortified.

