

# **Earth Observation for integrated water resources management in Africa (TIGER) Project**

**- Concept Paper (Vers. 0.4, 26 April 2003) -**

## **1. MISSION**

The TIGER project aims at developing sustainable earth observation information services for integrated water resources management in developing countries, with a particular focus on Africa as special contribution to the NEPAD/AMCOW process.

## **2. GUIDING PRINCIPLES**

The spirit of the WSSD, expressed in the Johannesburg Declaration and its accompanying Plan of Implementation, together with the agreed Committee of Earth of Earth Observation Satellites (CEOS) WSSD Follow-up Programme serve as programmatic guidelines for the European Space Agency (ESA) Tiger project.

*Sustainability* is a key requirement. This encompasses that any technology being developed and transferred to the developing country will be integrated into the long-term strategic planning of a given country or region. Consequently, a partnership between space agencies, funding institutions, user organisations and other strategic partners shall be set-up. A special arrangement with UNESCO has been made, within which UNESCO (with its coordinating role in Intergovernmental Hydrological Programme (IHP) and the Secretariat of WWAP set up in UNESCO) provides scientific leadership on water related issues and facilitates the exchange of information and the cooperation with the hydrologists and the water related institutions worldwide. ESA in consultation with UNESCO coordinates the supply of EO-based information.

*To put sustainability into practice, only projects, which address long-term strategic objectives, will be initiated.*

The *needs of the region or country* are driving the definition and implementation of the project. Hence the partners will be involved in all phases.

*Only those activities will be pursued which receive a strong “user pull”, from the partners.*

*Appropriateness* is important to assure that the level of technology is compatible with the user's ability. Although space technology is usually considered high technology, it needs to fit the level of skills available in the region. Further, the selection of application topics needs to meet the political, social and economic priorities of the respective country.

ESA, which co-leads the Water Resources Management module of the CEOS WSSD Follow-up Programme together with NASDA, will focus on Africa as a primary geographic region. Other regions might be covered at a later stage.

### **3. CHOICE OF PARTNERS**

Principally there are three types of partners: providers, users and sustainers.

Space agencies, together with value adding industry and research institutions providers are the main providers.

Water resources management institutions in the developing countries are the main users.

Funding institutions or organisations with long-term strategic orientations in developing countries are the sustainers.

For the Tiger Project, examples of major partners of the project are:

- CEOS, the Japanese space agency, CRTS (Morocco), value adding industry and research organisations in Africa, ...
- UN Economic Commission for Africa, African users of information services, Regional intermediaries in organising user communities, ...
- UNESCO, European Commission, World Bank, ...

### **4. SELECTION OF TOPICS**

The TIGER project is user-driven, hence the selection of topics will be determined by the needs of the user community. However, in order to narrow the scope of the project to a allow a manageable identification of topics, the following criteria apply for the selection:

- Topics covered within the WSSD context;
- Topics where earth observation can significantly contribute to the required information
- Topics of strategic importance to the sustainers

As a starting point, the following areas are identified, which, however, need further refinement during the consultation process:

- Ground water resources → aquifer monitoring
- Wetland monitoring → support activities to RAMSAR convention
- River basin and lake management
- Food security (access to water for food production)
- Floods
- Desertification and drought
- Coastal zones

Education, training and capacity building are accompanying all project topics (or sub-themes) and phases. The aim is to develop a sustainable community in Africa, which

is able to operate, and in a second phase further develop, the production of information services. Close coordination with Module 1 of the CEOS WSSD Follow-up Programme (Education, Training and Capacity Building) is foreseen.

## **5. IMPLEMENTATION**

According to the general philosophy of the CEOS WSSD Follow-up Programme, the TIGER project will be modular in its evolution of partners involved and activities undertaken. A step-wise implementation is foreseen, followed by an expansion to the rest of the continent as and if appropriate.

A Kick-off Workshop in October 2003 shall serve as the main formal event to consolidate the first round of activities with the respective partners involved.

## **6. TIME SCHEDULE**

The TIGER project has three main phases, a definition phase (November 2002 - October 2003), an implementation phase (October 2003 - end 2005) and an operational phase (2006 onwards).

In liaison with the time schedule of the CEOS WSSD Follow-up Programme, the following steps are foreseen between November 2002 and November 2003:

20-21 Nov 02	CEOS Plenary, CEOS WSSD Follow-up Programme adopted
May 2003	Planning Meeting in ESA HQ, Paris
Apr 2003	Develop Project Plan
October 2003	Workshop in Africa, TIGER Kick off
Yearly reviews	