

**Name of the Partnership/Initiative**

Science and technology, application of isotope techniques for Sustainable Water Resources and Coastal Zone Management. (SWARCOZM )

**Expected date of initiation:** An MoU between IAEA and UNESCO IHP has been signed in June 2002, with the partnership programme to commence in Jan 2003.

**Expected date of completion:** 2007

**Partners Involved:**

Governments: Member States of IAEA and UNESCO.

Intergovernmental organizations: IAEA; UNESCO

Major groups: National Water Resource Management Agencies, Research and Scientific Communities, Local Authorities with water resource responsibilities.

Other: IAH, IAHS, International Council of Scientific Unions (ICSU), National Committees of the International Hydrological Programme, other NGO's.

*Leading Partners:*

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**Main objectives of the Partnership/Initiative**

Please provide a brief description:

The main objective of this partnership initiative is to facilitate and enhance advanced scientific and technological methodologies such as the Isotopes Techniques to the sustainable use of water resources and coastal zone management.

Please also provide a brief description of the relationship of the Partnership/Initiative with the objectives of Agenda 21 as well as relevant goals and objectives of the United Nation Millennium Declaration:

### Relationship to Agenda 21

- The initiative contributes to WSSD outcomes on the implementation of Agenda 21, especially those chapters in Agenda 21 addressing the issues of health, sufficient food and water and a safe environment.
- Specifically, Chapter 18 of Agenda 21, called for a concerted effort to develop more integrated approaches to water management and for a stronger focus on the needs of poor people and poor nations. This partnership initiative provides a mechanism to achieve this by enhancing programmes in the partnership agencies that are focused on the sustainable development, use and management of water resources and coastal zone management in developing countries.
- One of the Millennium Development Goals is to stop the unsustainable exploitation of water resources by developing water management strategies at the regional, national and local levels that promote both equitable access and adequate supply. The partnership initiative is targeted directly at contributing to the achievement of such goals by providing scientific and technological backing and know-how to the development of sustainable water resources use practices. By this approach, basic needs can be met, vulnerabilities can be reduced, improved and secure access to water can be created, and poor people can be empowered to control the water upon which they depend..

### **Expected results:**

Please provide a brief description:

- Improved understanding of the groundwater discharge to the ocean and sea water intrusion in the coastal aquifer processes by the application of wide spectrum of isotopes techniques.
- Increased capacity of coordination among experts in hydrogeology, oceanography, coastal resources management
- Improved capacity for efficient water resources and coastal zone management and related policy development achieved by more effective collaboration between the partner agencies.
- Increased capacity of national scientific and technical institutions to use advanced techniques such as Isotopes applications in relation to water resources and coastal zone management.
- Increased capacity for long-term sustained training capability on isotopes techniques applications through development of academic centers.

### **Specific targets of the Partnership/Initiative and timeframe for their achievement:**

A review has been undertaken linking the water resources sustainability and coastal zone management priorities of the partner agencies for 2002-2007 to advanced technologies identified by the IAEA. UNESCO's Intergovernmental Programme IHP and IOC jointly organize an International symposium on "Low-lying coastal areas: Hydrogeology and Integrated coastal zone management in Bremerhaven, Germany 9-12 sep 2002. The Symposium will provide valuable guidelines for environmentally sound uses of coastal resources and solving water related conflicts. It is a contribution to the implementation of chapters 17, 18 and 27 of the Agenda 21.

Specific targets to be addressed include: management of aquifer recharge (MAR); interaction between surface water and groundwater; urban water problems; methods for estimation of recharge/discharge regimes of groundwater; use of isotopes for quantification of submarine groundwater discharge in coastal zones; effects of global changes on groundwater recharge in arid and semi-arid regions in relation to water resources management and the sustainability of groundwater use. In particular UNESCO IOC, IHP programmes and IAEA have agreed to set up the partnership programme to contribute with a multidisciplinary approach to the improvement

of the existing knowledge on groundwater discharge directly to the sea or submarine groundwater discharge (SGD). SGD is an important component in marine geochemical budgets and may influence ecosystems within the coastal zone.

These target areas for application will be addressed at strategic locations in the developing nations of Asia, Africa, Central and South America and the Middle East.

#### **Coordination and Implementation mechanism**

Please provide a brief description of expected coordination/implementation mechanism of the Partnership/Initiative.

An inter-agency co-ordination committee will be established to co-ordinate the partnership activities.

One mechanism that will facilitate coordination and implementation of the partnership has already been established: the Joint International Isotopes in Hydrology Programme (JIIHP) programme. The primary function of this programme is to ensure close links and interaction between the IAEA programme in isotope hydrology and the UNESCO – IHP VI programme.

The implementation mechanisms will include joint activities undertaken through JIIHP and co-ordination with the IAEA Technical Co-operation (TC) programme which currently has about 60 active projects in 45 countries.

Participation's of International Associations such as IAH and IAHS will facilitate coordination with the Civil society and the setting up of a wide public communication strategy

#### **Arrangements for funding**

Please describe available and/or expected sources of funding for the implementation of the Partnership/Initiative (e.g. donor government(s); international organization(s)/financial institution(s); foundation(s); private sector; other major groups, etc.)

Funding for this initiative is being provided through the regular budget and TC components of the IAEA and UNESCO programmes.

#### **Arrangements for capacity building and technology transfer**

Please include information if the Partnership/Initiative provides for training, informational support, institutional strengthening and/or other capacity building measures:

Capacity building and technology transfer is a central element of the IAEA-UNESCO partnership initiative. Training activities (workshops, training courses, promotion of post-graduate training in University Curricula, promotion of University Chairs in isotope hydrology) based around six internationally distributed UNESCO IHP centers. Transfer of the developed capacity and technology will also be achieved through the IAEA's Technical Co-operation program via specific TC projects.

Please also provide here a brief description of expected arrangements for technology transfer (if applicable).

The IAEA-TC programme will be one of the main vehicles to achieve technology transfer of new and improved techniques developed under the partnership.

**Links of Partnership/Initiative with on-going sustainable development activities at the international and/or regional level (if any)**

Please provide a brief description:

The goal of sustainable water resources development is a fundamental element of both the IAEA and UNESCO water resources programmes. The partnership agencies will increase links with other international agencies such as the World Bank. Interaction with International associations and agencies with a role to play in sustainable water resources management such as IAH, IAHS, ACSAD and SADC will be strengthened by the partnership arrangement.

**Monitoring Arrangements**

Please describe expected arrangements for monitoring of progress in the implementation of Partnerships/Initiative after it will be launched at the WSSD:

(e.g. frequency/modalities of preparation of progress reports; electronic updates, news-letters, etc)

The partnership Steering Committee will oversee and monitor progress toward the goals and priorities of the partnership initiative. The committee will have international representation drawn from senior representatives of the hydrological community network. In the case of the JIIHP partnership, an organisational structure has been established providing the modalities for reporting and oversight of the committee, with representation from India, Panama, Egypt, South Africa, Hungary, Netherlands and France. It is expected that reporting will occur on an annual basis.

**Other relevant information:**

Web-site (if available): <http://www.unesco.org/water/ihp/isotopes.shtml>

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