12th Session
of the
Commission on Sustainable Development

Statement
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Thursday, 29 April 2004
UNHQ, New York

Mr. Chairman, Excellencies, distinguished delegates, ladies and gentlemen:

It is a great pleasure to be able to address the 12th session of the Commission on Sustainable Development and to have the opportunity to present the IAEA's approach, as a scientific and technical partner in sustainable development, to the implementation of Agenda 21, of the Millennium Development Goals and of the Johannesburg Plan of Implementation.

The IAEA, a partner in sustainable development

As a UN Agency with a scientific and technical approach to sustainable development issues, the IAEA supports initiatives undertaken at national, regional and global levels to promote sustainable development policies and practices. Its scientific integrity and technological resourcefulness provide significant operational advantage for nation development which, together with its programme focused on major environmental problems, can benefit to its partners while providing them the indispensable scientific basis that allow informed decisions.

Understanding the environment

Assessing the environment, understanding the consequences of human activities at local and global levels are a key component of sustainable development policies. Nuclear science and technology provide the most efficient tools for in-depth knowledge of water resources and of the water cycle, as well as essential means to understand land degradation and combat desertification. The relevance of policies in these areas depends largely on the identification and on the understanding of the origin and causes of water scarcity and ecological change such as desertification. The IAEA offers strategic innovation and sustainable solutions to address these major problems.

Empowering developing countries

The IAEA programme is demand driven and supports its Member States' priorities. Through scientific and technical cooperation, IAEA seeks to empower its Member States and partner institutions at local level in focusing on knowledge transfer (trainings, expert services) and support to key technical capacity. Its overall objective is to create a self-reliant scientific and technical capacity at local level that will directly contribute to sustainable development issues. It is particularly essential that the capacity created be considered by local and international partners and be fully involved in international projects. The investment made by the IAEA in building the capacity at national and regional levels should be used to catalyse other partners' investments.

Mr. Chairman, Excellencies, distinguished delegates, ladies and gentlemen,

The IAEA has been building strong partnerships with its Member States, UN organisations and other major sustainable development stakeholders in the last 40 years and is working everyday to advance our common agenda. The IAEA is convinced that synergy between science and sustainable development objectives is key to achievement of the Agenda 21, of the Millennium Development Goals and of the Johannesburg Plan of Implementation. In order to further implement sustainable development objectives, the IAEA is available to explore with all relevant stakeholders the possibility of building new partnerships.

Thank you

Annex

Highlights on IAEA activities in water resources management and in addressing land degradation

Water resources management

Water resources management is an area where nuclear science and technology have demonstrated their unique contribution to sustainable development in recent years. Sustainable water resources management requires knowledge of the hydrologic cycle and how freshwater resources are exploited and renewed. Isotope hydrology provides indispensable information about how much water is available in any given system and its quality, whether and how quickly it is replenished, where it flows from, where it flows to and whether how different bodies of water may be linked. This comprehensive hydrological knowledge base is necessary for:

- Assessing and managing groundwater resources and replenishment rates;
- Understanding river flows, water catchments, soil erosion and sedimentation processes;
- Flood management;
- Management of new water supplies;
- Hydro-electric and geothermal energy supply;
- Dam and reservoir management.

Such information is indispensable for any project in water assessment, development, and management. A few examples demonstrate how nuclear science and technology can constitute a strategic input of international projects:

- The IAEA is contributing and complementing, with the use of isotope techniques, to the Guarani aquifer programme, which is supported by the World Bank/Global Environmental Facility (WB/GEF). The aim of the GEF Guarani Aquifer programme is to support Argentina, Brazil, Paraguay, and Uruguay in developing a common scientific framework for managing and preserving the Guarani Aquifer. The long-term objective is the sustainable, integrated management and use of the Guarani Aquifer System.
- A recent partnership initiative with UNDP/GEF will contribute to the sustainable management of the Nubian aquifer. A partnership – both financial and technical – was established in 2002 through the signature of a Memorandum of Understanding between UNDP/GEF, the Government of Egypt and the Agency for the sustainable development of the Nubian Aquifer. This project, co-financed by UNDP/GEF and the Agency uses of isotope techniques to expand and consolidate the technical and scientific knowledge and database describing the aquifer system and to develop a groundwater management plan based on a monitoring network of the aquifer.

Follow-up meetings were held 1-5 march 2004 at the IAEA in Vienna with delegations from 4 countries concerned with the Nubian Aquifer (Chad, Egypt, Libya, Sudan) and relevant international organizations (UNDP/GEF, UNESCO and the Centre for Environment and Development for the Arab Region and Europe, CEDARE) as a first step in the preparation of a Strategic Action Plan necessary for the Nubian system. The goal is the peaceful and sustainable management of the water resources of the Nubian Aquifer for the benefit of all participating countries.

The IAEA has 73 active projects related to water involving member states and partners all over the world. Other examples include: Mitidja Plain (Algeria), Aquifers in the south-eastern region (Burkina Faso), Duala Sedimentary Basin (Cameroon), Erdos Basin (China), Rift Valley (Ethiopia), Gunung Kidul Area (Indonesia), Kufra and Sarir Basins (Libya), Oshivelo and Kalahari Aquifers (Namibia), Tillabery Region (Niger), Chad Basin aquifer (Nigeria), Tehran Watershed (Iran), North-western Sahara Aquifer System (Algeria, Libya, and Tunisia), Rio Lempa (El Salvador).

Land degradation

The IAEA is pursuing innovative approaches based on nuclear science and technology that provide efficient and sustainable solutions to address land degradation and desertification problems:

- For example, since 1997, the IAEA has been supporting seven countries (Egypt, Islamic Republic of Iran, Morocco, Pakistan, Syrian Arab Republic, and Tunisia) in their fight against land degradation. In the interim, other countries joined this interregional project: Jordan joined the project in 1999, and Algeria and the United Arab Emirates in 2001.

  The project is demonstrating the feasibility of using saline groundwater to grow salt-tolerant plants on wastelands to produce biomass that could be economically used as food, forage, firewood, green manure, and agro-industrial feedstock and coined the term - "biosaline agriculture". Sites consisting of 5 to 10 hectares of wasteland located in arid areas where the only source of water is saline groundwater were selected for introduction of salt-tolerant plants and for demonstration of a technical package for soil management by end users and beneficiaries. The project involves four main thrusts: (1) introduction of salt-tolerant plant species and selection of those having comparative advantages over others; (2) good irrigation management using neutron moisture meters and other techniques so as not to allow surface salt accumulation; (3) regular monitoring (chemical, isotopic, and other) of groundwater within an area of several kilometer radius around the site to build an information base about the quality, quantity, and sources of recharge to determine sustainability; and (4) passing on the technology to the end users to achieve the desired impact.

- Combating desertification in the Sahel: Desertification and/or soil degradation of dry land in arid and semi-arid regions is a serious and complex problem with great social, economic, and environmental impacts. Degradation caused by water and wind erosion, and chemical and physical processes is exacerbated by human interventions that eliminate the sparse vegetation cover through overgrazing and firewood collection. Estimates of African desertification show that 74% of rangeland, 61% of rain-fed cropland, and 18% of irrigated land are severely affected in 33 countries of the region. The objective of the project is to intensify sustainable food production in the rain-fed agriculture of the countries in the Sahel in order to enhance food security while combating desertification. Specifically, to develop, pilot-test, and promote the adoption of improved and integrated soil, water, and nutrient management technologies in cropping systems through the use of nuclear and related techniques. In the short term, these outcomes are expected to improve the productivity of the system; and in the long term, to restore and maintain the soil fertility to effectively combat dry-land degradation.

Bringing scarce resources together in a complementary management approach is particularly indispensable in this area. The IAEA has signed an agreement with the International Center for Biosaline Agriculture (ICBA) and has initiated a partnership with the Global Mechanism of the United Nations Convention to Combat Desertification to better integrate advanced science with land management development problems.

For further information concerning the IAEA and partnerships for sustainable development please consult the IAEA website: http://www.iaea.org and its Department of Technical Cooperation website http://www-tc.iaea.org

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IAEA partnerships on water/environment registered at the WSSD

Lead Partner: International Atomic Energy Agency
Science and technology, application of isotope techniques for Sustainable Water Resources and Coastal Zone Management. (SWARCOZM)

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.

Expected results include :

* 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 us 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.

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Lead Partner: International Atomic Energy Agency (IAEA)
Application of Nuclear and non Nuclear Techniques for the Monitoring and Management of Harmful Algal Blooms in the Benguela Coastal Region
Partnership: University of Copenhagen -International Atomic Energy Agency (IAEA).

Sub-regional Benguela Coastal Region: Harmful micro-algal toxins represent a major threat to public health and marine living resources in the Benguela region. The main objective of this Partnership/initiative is to develop an integrated monitoring program to address the adverse effects of harmful algal blooms through the application of isotopic and classic techniques, in order to contribute to the sustainable development and management of the Benguela marine coastal environment. More specifically:

1. To transfer to Angola, Namibia, and South Africa, the identification/quantification method for toxic phytoplankton and the receptor binding assay (RBA) and related assays technologies for algal toxins.

2. To establish the capability to monitor toxic phytoplankton and to perform receptor assay methods for algal toxins in the Member States laboratories.