

**United Nations/Austria/European Space Agency Symposium on
Space Applications for Sustainable Development to Support the Plan of Implementation
of the World Summit on Sustainable Development**

**“Water for the World: Space Solutions for Water Management”
(Graz, Austria, 13-16 September 2004)**

REPORT BY THE CHAIRPERSON

**“Transboundary Water Management – Remote Sensing in Diplomacy”
Chairperson: Mr. Muhammad Sani Adamu (LCBC)**

CONCLUSIONS

**1. Dr. Dag Daler: “Promoting Sustainable Use of Transboundary River Basins and Seas:
Bridging Science and Society.”**

- Anthropogenic activities have impacted very negatively on the quantity and quality aspects of our water resources with consequent threat to both aquatic life and the well being of large human population.
- Environmentally and friendly management responses lack in many parts of the world especially the developing world because of the over-riding interest on the socio-economic gains on environmental and infrastructural development.
- Sustainable management must incorporate the principles of the Integrated Water Resources Management (IWRM) and take cognisance of the respective social norms and practices implicated in the deterioration of aquatic environment with a view to sensitising the people accordingly.
- Many rivers flow across national boundaries, most aspects of water management require international agreements and protocols, as well as sound scientific knowledge on the water resources, based on continuous monitoring and evaluation activities.

2. Dr. Serban: “Use of Space Technologies in Management of the River Danube.”

- The presentation provided an introduction to the Danube basin and covered the outputs of “The Danube and Europe: Integrated Space Applications in the Danube Basin” Conference, held in Mamaia (Constanta) – Romania between 23-25 June. Along with some highlights on several presentations and the final recommendations of the Conference.
- Space applications could play a major role in the sustainable development of the Danube basin. Such tools as satellite imagery, can be used in navigation and positioning, telecommunications. Their integration in geographic information systems can contribute to economic development, environmental management and societal integration.
- Among the recommendations of the Conference were:
 - The use of space technology in building an integrated information system for Danube Basin natural resources, environmental monitoring and risk prevention.
 - A Danube Basin water related risk management and environmental protection pilot project. It will consist of several pilot projects that formed and performed by the countries in the Danube Basin area. The Romanian Space

Agency should undertake for the start-up phase the coordination of a Danube River and Basin Network of representative organizations

3. Ms. Larisa Frank: “Assessment of Dynamics of Lake Water Resources on Flat Territories in Central Asia Using Digital Satellite Information.”

- Space technology is in its rudimental stage in Central Asian region. However, its application will significantly improve management of water resources in the region and help to resolve transboundary issues.

4. Ms. Maha Al-Zu’bi: “Water Sector Challenges in Jordan.”

- Water scarcity and shortages related problems and issues have been presented. The paper concluded that the application of space technology can be of greater assistance in solving the problems in the water stress regions, e.g. Jordan.

5. Lothar Beckel: “An ESA-Initiated Atlas on Space Observation Technology and Sustainable Water Management.”

- The paper described possible uses of satellite imagery in understanding water systems in any selected area. It showed how to read/interpret satellite images.

RECOMMENDATIONS

- Space technology should be used to provide objective information, which can lead to building trust among countries sharing water resources.
- In developing national water management plans and especially in the case of transboundary water resources, space technology should be considered along with toolbox prepared by UNEP.
- All opportunities have to be exploited in order to find appropriate approach to bring the benefit of space technology to the people/regions that suffer from water related problems and especially water shortages.
- Science and society must be recognised as equal and key players in meeting the challenges of sustainable development and environmentally sound management of water resources. ESA should therefore emphasise public awareness in its capacity building programmes.
- Space technology applications should be considered in the management of the transboundary river basins including Danube river basin.
- A Danube Basin water related risk management and environmental protection pilot project should be strongly encouraged.
- ESA should provide needed space data and training as much as possible free of charge.
- ESA should assist as much as possible in bring the space technology to all end users and decision makers.