Scientific and Technological Community Delegation:
Summary of Intervention: CSD-13 Preparatory Meeting
Wednesday, 02 March 20005
Intergovernmental Preparatory Meeting: Water
PM 3:00 – PM 6:00 / Conference Room 3

Main Finding: Case studies have shown the great benefit of investments in monitoring data representing hydrological and other allied variables relative to their modest costs. Such information has avoided costly over-design of water delivery systems and other water engineering works and has thus optimized financial investments.

Recommended Action: Governments should apply this cost-benefit principle for enhancing national data collection systems for both their national needs and for participating in regional and globally integrated observing systems, such as the Integrated Global Observing System (IGOS) and Global Environmental Observation System of Systems (GEOSS).

Supporting Points:

The S&T delegation reports that within our community, it is widely recognized that the state of monitoring of the world's freshwater resource base is grossly inadequate, thus hindering the formulation of quantitative indicators needed by decision-makers to assess progress towards national and international development commitments.

Worldwide, *billion* (if not *trillion*) dollar investments in societal infrastructure and human well-being are compromised by the absence of *million* dollar investments in water surveillance and information dissemination to research and application end-users.

The delegation can identify four specific focal points for interventions to reverse the systematic loss of strategic information resources as well as to create new information streams for global water resource analysis.

1. Upgrade Surface Water Flow Monitoring. Streamflow data is the basic information source upon which reliable water resource and vulnerability assessments are made. Substantial deterioration of hydrographic networks is occurring throughout the world, but particularly acute in those areas targetted for the MDGs. As an example, there has been a collective 90% loss in data reporting by African member states to the designated WMO global runoff archive since 1990. Protocols and resolutions for data sharing exist but should be more assertively enforced.

2. Institute Systematic Groundwater Supply and Use Monitoring. The same monitoring situation that plagues surface waters is also true for the groundwater, which constitutes an important global resource. A systematic assessment of non-sustainable use in low recharge arid and semi-arid areas should be executed.

3. Upgrade and Systematize Water Quality and Biological Indicator Monitoring

Capabilities. Global water resources are not defined simply by water quantity but by its state that can often be compromised owing to pollution. New techniques make it possible to identify literally 1000's of chemicals, including long-lived synthetic pharmaceuticals, in the world's freshwater resource base. There needs to be universal application of these techniques as well as systematic epidemiological studies to understand their impact on long-term human well-being.

3. Improve and Where Not Available Initiate an Integrated Reporting System for Water Use Information. Improved standards of living are accompanied by expanded infrastructure for water delivery services. In this way, society embeds itself in the water system. Scientists need to account for direct human factors that modify water supplies through water engineering and pollution loading that itself changes the character of the resource base.

4. Support International Collaborations for Data Collection, Integration, and Interpretation. An international effort to identify specific regions and drainage basins requiring resuscitation of debilitated monitoring networks should be executed. Regional partnerships are particularly important in the case of *in situ* water data sets (e.g. UNESCO-FRIEND) and need to be further strengthened. Global information partnerships are also critical, in part, taking advantage of state-of-the-art satellite and other high technology data sets. Specific partnerships should include: UNESCO-IHP family (HELP, FRIEND, Regional Centers), ICSU and its international science affiliates (Global Water System Project; GWSP), GEOSS and its affiliated National Space Agencies and operational weather bureaus. We also advise private sector engagement, bringing the sector's information technology, strategic planning, and financial resources into the dialogue.