

# **Statement by the Scientific and Technological Community at CSD-16**

**Multi-stakeholder Dialogue Session, Friday, 9 May 2008**

Presented by Gisbert Glaser, ICSU

Mr. Chairman,

Many partnerships exist world wide between farming and scientific and technological communities. The challenge for agricultural science and engineering is to provide good science and sound technologies to farmers in very diverse socio-economic and ecological systems. Much of the needed knowledge already exists within the scientific and engineering communities; however the knowledge often does not reach those that could benefit the most, in particular small-scale farmers in developing countries.

When focusing on small-holding communities in developing countries, we often rightly note our inability to match development interventions to peoples' needs. Understanding rural vulnerability is critical now more than ever before, as we attempt to deal with the rising food costs and changing climate.

The Scientific and Technology Community will need a better understanding of the livelihood dynamics in rural communities, which as we all know are not homogenous and yet we continue to generate and attempt to implement one size fits all interventions. For the small-scale farmers, it is essential that any introduced technology be appropriate and low-cost for their particular site specific applications. To enhance technology uptake by the poor and women in particular, we need basic disaggregated statistics on the human capital base, social networks, the natural resource base, financial, physical resources and the coping mechanisms. This requires data that is collected on a longitudinal basis with databases that are updated regularly.

Unfortunately such information is not readily available because of insufficient investments in research and development; the whole infrastructure for data collection at household level is weak; institutions tasked with analysis of such data lack technical capacity and are usually under-staffed. Consequently, we bemoan the poor use of research outputs and yet we do not sufficiently understand the real needs by the farmers and pastoralists concerned. We continue to plan on the basis of inaccurate data generated from short term research studies leading to reactive policies that fail to address the long term problem. The Scientific and Technological Community is calling for increased and consistent investment in R&D, starting with the resources needed to collect data on rural livelihoods- such as household surveys, production data, and data on use of natural resources. There is need to use local expertise in national

universities to build information databases so that the information is locally owned and used for improved targeting and pro-active policy development.

Mr. Chairman, extension services and basic agricultural research targeted to these small farmers must be significantly strengthened. More investment in human capital through education and in infrastructure such as roads will be essential. As regards education, special attention should be given to the gender dimension. Targeting small-scale agricultural systems by forging public and private partnerships helps realize existing opportunities.

The uncertainty associated with recurrent droughts, climate variability and changing climate is a disincentive to investment in tropical drylands and adoption of agricultural technologies and market opportunities, prompting the risk-averse farmer to favor precautionary strategies that buffer against climatic extremes over activities that are more profitable on average. All avenues for managing climate risk must be exploited, not the least also in efforts to achieve a successful "African Green Revolution". Promising investments in this regard include:

- Improved water management – from field-scale water harvesting and conservation, to large-scale surface irrigation systems where they are feasible; Low-energy tillage and planting techniques in areas of mechanized farming;
- Innovative financial mechanisms, such as index-based insurance, for transferring risk from vulnerable rural populations;
- Climate information products and services that empower farmers and other agricultural stakeholders to better manage the risk that they face; and
- Safety nets, and climate-informed early warning and response systems, that protect livelihoods as well as lives when climatic stresses exceed the coping capacity of rural communities.

Effective climate risk management will require greater coordination between the agricultural development, food security early warning and response, and climate science communities.

Farmers, national policy makers and research scientists are seeking reliable data and information based on long-term observations of numerous environmental and land use parameters related to all the topics reviewed at this CSD session. These data needs include: changes in land cover and land quality;

desertification; availability of freshwater resources; loss of biodiversity; and impacts of climate change. In order to meet these data requirements, national long-term terrestrial observation systems should be strengthened and established where they do not yet exist. At the same time national observation systems should be nested in the global environmental observing systems, including the Global Climate Observing System.

Mr. Chairman, partnerships between the S & T Community and the other major groups and with governments are critical to the development and implementation of sustainable solutions. Government support for scientific and engineering capacity building and training at the local and national levels is a fundamental need, in particular in developing countries.

Thank you.