CSD-17 IPM, Thematic Discussion on Drought, Wednesday, 29 February 2009

Contribution on Behalf of the Scientific and Technological Community Major Group

James Hansen, International Research Institute for Climate and Society, Columbia University

Madame Chair,

The Scientific and Technological Communities recognize that effective early warning systems – coupled with coordinated early response mechanisms, and drought-resilient livelihood and land management strategies – are vital for reducing the negative consequences of drought. Climate change will alter the risk and severity of drought, but in ways that can be only partially anticipated. This increases the urgency of effective mechanisms for monitoring and responding to emerging droughts. We offer four recommendations for enhancing the contribution of drought early warning and response systems to food security and rural livelihoods.

First, we recommend that early warning systems for drought impacts be extended to serve a broader set of development stakeholders – ranging from regional economic communities, to national governments, to development and food security organizations, to commodity markets, to rural communities. To illustrate this point, early warning systems for food security response organizations and donors are among the best developed. Yet food crisis management, climate-based advisory systems for farmers, and weather index insurance applications share a common need for the best possible estimates of weather impacts on crop or forage production at a high resolution. They differ primarily in the lead time of information and timing of intervention. A common climate-informed crop monitoring and forecasting platform; which provides continuously-updated, probabilistic information about drought impacts at a suitable spatial resolution; could serve these multiple applications.

Second, particular effort should be invested to ensure that vulnerable rural communities, who are the ultimate stewards of fragile lands and intended beneficiaries of intervention, receive and are empowered to act on early warning information. The challenge of delivering timely and relevant information and guidance to remote rural communities will require investment both in the capacity of agricultural extension services, and in rural ICT infrastructure.

Third, we recommend that the current state of knowledge and methodology be exploited to improve the relevance, resolution, accuracy and lead time of early warnings of drought impacts on crops, forage and hydrological systems. Accuracy (at a given lead time) and lead time (at a given level of accuracy) can be improved by integrating multiple types of information: monitored weather, remote sensing of vegetation and land surfaces, and seasonal climate forecasts. Downscaling and calibrating predictions, and quantifying risk, depend on historic climate records. In many contexts, this will often require investment in climate data and observing systems: (a) to reverse the decline and enhance coverage of climate observation infrastructure; (b) to rescue and digitize existing paper archives; and (c) to integrate sparse observations with historic and near-real-time remote sensing data.

Finally, given the essential role of climate information in anticipating and managing drought impacts and in sustainable development more broadly, we recommend policy that treats climate and related data as a public good and a resource for development.