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"Climate Change Adaptation and Development - What is at Stake?"

Good morning ladies and gentlemen,

Thank you very much for inviting me to talk about Climate Change Adaptation and Development – and what is at stake. I am pleased to have the opportunity to discuss this issue with you, in particular as your scientific community has made significant contributions to improving the understanding of the human dimensions of global environmental change.

Why adaptation to climate change?

- **Issue now jump-started**

It took the global community some time to fully recognize the relevance of adaptation to climate change, because environmental policy makers have long focused on climate change mitigation and regarded adaptation as a sign of resignation. However, the Stern Report in 2007 presented figures on the economic costs of climate change, and awareness about the issue of adaptation has subsequently grown tremendously. The report estimated the cost of adaptation to be tens of billion US\$, and furthermore argued that delaying mitigation action would be much more costly in terms of damages in the future than immediate mitigation now.

While it is clear that we need more ambitious efforts to reduce greenhouse gas emissions, adaptation must be addressed with equal importance. This sentiment is also reflected in the international negotiations for a Post-2012 climate regime under the UNFCCC.

- **High vulnerability of developing countries**

Vulnerability to climate change is highest in developing countries.

- Looking at regions, the IPCC fourth assessment report highlights important developing regions as being especially affected:
 - Africa, and in particular Sub-Saharan Africa, because of current low adaptive capacity. An increase of 5 to 8% of arid and semi-arid land by 2080 is projected. Water stress may affect additional hundreds of million of people.
 - Asian mega-deltas are also emphasized due to very large populations at risk from sea level rise, storm surge and river flooding.
 - Small islands are clearly exposed to sea-level rise;
- Looking at most vulnerable sectors we find again sectors of key importance to development, like water resources, agriculture, human health and infrastructure.

- And it is the poorest groups that are most exposed to climate change, e.g. urban squatters in flood-prone areas or poor farmers dependent on marginal rain-fed land.
- In a survey of six countries, the OECD argued that global warming may negatively affect between 12 % (Tanzania) and 65 % (Nepal) of all official development assistance (ODA) in a given partner country. The World Bank estimated that 25 % of its projects are exposed to serious climate risks.

- **Role of adaptation for international cooperation**

Given these vulnerabilities, adaptation has received high recognition within development cooperation. You have titled this session: “Social Equity, Cohesion & Sustainable Adaptation”, which has a fairness and an effectiveness dimension. Stressing these encompasses the need for the developed world to live up to their responsibilities, while simultaneously working together with partners in developing countries to deliver effective support for adaptation, and to ensure sustainable development achievements in times of climate change.

This recognition manifests itself in the increasing demand for and efforts made by development cooperation to address the climate change challenge. I would like to highlight the following:

- German development efforts on climate change have clearly increased in recent years with expenditures of 1 billion Euro in 2008 by the Ministry for Economic Co-operation and Development (BMZ) and the Ministry of Environment, of which roughly one third is for adaptation.
- The World Bank is currently the biggest financier of adaptation.
- At the policy level, OECD has just released a guidance on integrating adaptation into development cooperation.

Our view on adaptation and development

- **Capacity development is key**

It is obvious that there has to be large-scale transfer of financial resources to support poor countries in their adaptation to climate change. Yet in my view it is not the lack of financial resources that is the core problem but rather the lack of capacity.

In order to effectively address climate risks, technological capacities and personal expertise in many fields are necessary: e.g. risk management, natural resource and water management, climate modeling. But that alone will not solve the problem: lasting results can be reached only if the activities and strategies in these various areas are efficiently coordinated and managed. For over thirty years, GTZ's key tasks have included developing its partners' potential and capacities in this respect and moderating processes of learning and change.

Concretely, in adaptation to climate change this means

- to build capacity to better understand regional and local climate impacts and assessing the vulnerabilities of societies,
- to build capacity for setting priorities for action and thereby ensuring efficient and effective implementation,
- to build capacity for coordinating knowledge and action among stakeholders, which are many in the field of adaptation.

- **Knowledge**

Let me stress at this forum, that we recognize that adaptation is an issue where the link between practical development work and science is of particular importance. Adaptation means to change behaviour, - strategies, programs, investments or individual behaviour - based on our knowledge about climate change risks.

Scientific findings about what we can expect from climate change, which uncertainties exist, how to translate such findings into easy-to-use information, as well as improve knowledge about response options are of key importance. For these reasons, we as GTZ work actively together with the scientific community, for example the Potsdam Institute for Climate Impact Research.

What is GTZ doing?

I have made the point that development cooperation has a good track record of achieving positive results in improving climate change preparedness through capacity development in partner countries. About 10% of GTZ's portfolio in 2008 was relevant to climate change adaptation. We advise on planning and implementing tailored adaptation solutions; promoting existing solutions where possible – e.g. integrated water resources mgt. - and developing and piloting new solutions where needed – e.g. insurance products or adaptation information systems. We provide advice on these issues via local technical support as well as within international policy dialogues.

Let me illustrate what impacts have achieved with very concrete examples from our work in GTZ.

- **Adaptation in the water sector**
 - In the **Jordan** Valley, farmers have reason for new hope. Despite a greater frequency of dry winters, which results in less water allocated for irrigating their fields in summer, farmers can still grow vegetables and ensure a steady income for their families. Instead of relying wholly on rainwater, farmers are guaranteed a set amount of treated wastewater from the capital of Amman. Secure access to safe water becomes more and more important in times of

climate change, since Jordan is expected to experience a 10% decline in annual precipitation in 2030 compared to the 1990s. Access to the treated wastewater was made possible due to advisory services provided by GTZ. Farmers learned how to use this water without endangering their health or that of the consumers, as well as how to take advantage of existing nutrients in the water, thereby reducing fertilizer use, which has had the added benefit of lowering fertilizer expenses by 60%. The result has been that 350 farmers in 2007 were able to continue their farming businesses and more farmers will be offered technical assistance. Since 2005, treated wastewater has been used in the Jordan Valley to irrigate 11.000 hectares of land, while at the same time saving clean, drinking water for use in Amman.

This is one example where easy-to-use technologies significantly contribute to improving welfare and adaptive capacity.

To put this in perspective: Among our projects in the water sector, more than 30 projects significantly contribute to building adaptive capacity through such things as improving efficiency of water provision and use, integrated water resource management and trans-boundary water management.

- **Other sectors**

Other sectors with close relation to adaptation are agriculture, natural resource management and disaster risk management:

- An example from **Fiji and the Pacific Islands**: Nowhere else are impacts of climate change being felt more directly. Potential impacts of climate change on Pacific islands may reach up to 6 billion in the coming years. Development of these islands is dependent on natural resources, and land is scarce - leading to conflicts over its access and use. Climate change impacts like floods, storms and salt-water intrusion further increase pressure on limited land resources. Effective land-use planning is therefore of utmost importance for agriculture, infrastructure, and settlements. For effective planning, up to date climate data and projections will now be used and existing plans will be updated based on this information supported through technical advice from GTZ. Risks to the welfare and health of local populations, to agricultural yields, or to enterprises will thus be reduced.

- **Policy advice: Adaptation strategies**

To support the appropriate framework conditions and strategic orientation, GTZ advises partners in Asia, Africa and Latin America on adaptation strategies and policies and their implementation. One example:

- In **Tunisia**, climate change has already made a strong impact: After a period of extreme drought between 1999 and 2001, which raised social conflicts, especially regarding water availability and which contributed to the Tunisian economy shrinking by 20%, the Tunisian Government decided to develop an adaptation strategy for the agricultural and water sector. GTZ has supported this process with the first Tunisian climate model and analysis of expected impacts on these sectors. Areas of concern include: in 2050 the olive harvest may be reduced by half and 20% of grain production areas may be lost. Based on the analysis, priorities for action were identified involving all relevant stakeholders leading to a national cross-sectoral adaptation strategy. The strategy marks a shift from short-term crisis management to long-term orientation and risk-management. Implementation is supported for example through the development of local-action plans for adaptation. A concrete step at the national level is that the strategy now guides a screening of the legal framework for agriculture, water and infrastructure. - An effective way to minimize climate risks.

- **Mainstreaming**

Finally, the sustainability of many programmes has come under threat due to climate change – but we may also convert these risks into opportunities. If well-designed, many programmes can assist partner

countries to increase their adaptive capacity. On behalf of the German Ministry for Economic Cooperation and Development, GTZ is currently developing the climate check, a practical tool for integrating adaptation into project design and implementation. This will be applied systematically in all projects.

Conclusion

It has been our experience that adaptation is a central development concern for developing countries, precisely because the development achievements to-date are at risk.

To close with, allow me to draw one more link to security, a theme which GTZ is highlighting in 2009. I think, we have not yet fully understood the possible implications of climate change on human security, water security and food security. Climate change is associated with more extreme events and variability, while stability and security – not necessarily of physical assets, but of access to resources - are important factors of development. Developing security is thus another key concern of adaptation in order to secure development.