Hans Günter Brauch
Free University of Berlin, adjunct Professor (PD Dr. phil. habil.)
United Nations University, Environment and Human Security, senior fellow (UNU-EHS)
Peace Research and European Security Studies (AFES-PRESS), chairman

"Global Change and Desertification: Scenarios and Social and Ecological Impact",

Keynote speech at the meeting of the
Spanish Environment Ministry and the Fundacion Biodiversidad on:

Global Change and Desertification

Fuerteventura, Spain, 12 July 2007, Campus de la Excelencia

The talk will address three key questions:

- How does Global Environmental Change (GEC) and human action affect desertification?
- What are the implications of GEC and especially of climate change and desertification for the Western Mediterranean and Spain until 2020, 2050 and 2100?
- Which proactive mitigation, adaptation, and coping strategies for the Western Mediterranean, Spain and the Canary Islands are conceivable for:
  - *facing* social and political effects of migration and conflicts ;
  - *coping* with climate change and desertification with adaptation and mitigation policies and measures and sustainable soil, water and agricultural management; and
  - *using* potential of renewable energy for the Canary Islands,

The talk is structured in ten points and focuses primarily on the challenges posed by GEC, especially by climate change and desertification for the Western Mediterranean and North and West Africa that directly affect Spain. The linkages between the causes or pressures of GEC, its effects, impacts, societal outcomes and policy responses are discussed with the author's PEISOR model. On climate change it reviews the results of the fourth IPCC Assessments Report and its impacts. It discusses influences on desertification in Africa. Possible impacts of both challenges (climate change and desertification) may increase migration from Africa to Europe, as well as internal crises and conflicts over access and use of water, land and food. These tensions may escalate to transnational violent skirmishes and in the worst cases to wars. An indirect effect of both processes is a decline in yield for major agricultural crops in Southern Europe, North and West Africa that will have negative impacts on food security in the respective countries, increases cereal import needs due to drought.

Proactive strategies offer the most promising results in coping with the impacts of mitigation and adaptation linked to people's empowerment and resilience. A complex combination of global, regional, national and local coping measures is needed. In his concluding policy proposals the author builds on previous proposals in Almería. Due to its geography and history, and its experience with desertification, immigration and its potential for renewable energy sources Spain may develop the TechnoGarden scenario with renewables. This is illustrated in a vision of Fuerteventura for the Canary Islands and Spain.

To combat desertification requires a combination of both *traditional knowledge* by indigenous people and *modern scientific and technological knowledge* in analysing the complex causes, effects, impacts, societal outcomes and policy responses by governments, societies and the business sector. Both can act as a multiplier for preventing and combating desertification. Creating job prospects in drylands may reduce the pressure for distress migration.