

## Warning: Climate change is a reality!

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*INTERNATIONALLY RECOGNIZED: Prof Rashid Hassan, Director of CEEPA*

Climate change is not an academic fallacy, but a real concern which is affecting the masses, especially the poorest of the poor who depend on agriculture for survival. That's the message from Prof Rashid Hassan, Director of the University's Centre for Environmental Economics and Policy for Africa (CEEPA) at the University of Pretoria.

"Climate change is a reality that is affecting real lives. It is imperative to note that this is not an issue that is going to disappear anytime soon. Information, education and resources need to be dispersed to the vulnerable laymen so that they can prepare themselves for its effects. It is the duty of individuals, governments and authorities to invest more into research that can help alleviate this and shed more light on this matter," says Prof Hassan who is also the co-author of *Climate Change and Agriculture in Africa* (2008) a new book just published by Earth Scan.

According to Prof Hassan, African economies and their survival strategies are highly dependant on agriculture. What is alarming is the realization that in most cases, this is carried out in already harsh climatic conditions (e.g. high temperature, marginal environments, and considerable water stress). Many people from rural civilizations as well as agricultural production in Africa rely mainly on rainfall for water supply and hence are very vulnerable to fluctuations in precipitation levels and distribution.

As means of further substantiating this concern of some of the negative effects that can arise from climate change, Prof Hassan recalls an Intergovernmental Panel on Climate Change (IPCC) report which states with *high confidence* that "agricultural production and food security (including access to food) in many African countries and regions are likely to be severely affected by climate change and climate variability" (IPCC, 2007a).

*Climate Change and Agriculture in Africa* presents a synthesis of the findings reported in a number of individual papers produced as a special series of the CEEPA Discussion Papers. It is an accumulative account of multi national research activities assembled from at least 11 countries. These countries included South Africa, Zambia and Zimbabwe in southern Africa. Countries from western Africa were Burkina Faso, Cameroon, Ghana, Niger and Senegal. Egypt was chosen from northern Africa whilst Ethiopia and Kenya from eastern Africa.

"The study countries covered all the key agroclimate zones and farming systems in Africa. This is the first analysis of climate impacts and adaptation in the African continent of such scale. It is also worth mentioning that it is the first in the world to combine cross country, spatially referenced survey and climatic data for conducting this type of analysis," elaborates Prof Hassan.

Results provided evidence that African agriculture and the welfare of its rural population are vulnerable to CC. The highest risk of future CC damages is associated with specialized crop and livestock farming (mono systems) particularly under dryland conditions in arid and semi-arid regions. This indicates how difficult it is to achieve an African green revolution under the current high reliance on dryland systems (more than 95% of the land) given predicted harsh future climates (warmer and dryer projections) for most of the dryland areas in Africa. It will require substantial public and private investments in expanding irrigation and development of crop varieties and animal breeds that are tolerant to heat, water and low fertility stresses, and in building roads and marketing infrastructures that will improve access to critical inputs (e.g. fertilizer) and output trade. This essentially requires mainstreaming climate sensitivity as an integral component of all agricultural and broader economic development planning and policy design.

Prof Hassan holds an MSc and PhD in Economics from USA and BSc and MSc in Agric Econ from Sudan. He has more than 120 refereed publications including 10 books (Edward Elgar, RFF, Cab Int., Island Press, Earth Scan) and numerous journal articles published in various international, regional and local journals.

Throughout his career, Prof Hassan has been the recipient of an assortment of awards, including the internationally acclaimed Zayed International Prize for the Environment. The significance of the award which recognizes scientific and/or technological achievement in the environment can perhaps be reinforced in the knowledge that it has also been awarded to international giant Kofi Anan, former Secretary-General of the United Nations in recognition of his decision to set up the Millennium Ecosystem Assessment (MEA).

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