



Major new initiative on climate change and agriculture launched

Crops and pastures cover 6 billion ha (nearly 50%) of the earth's land surface. Forests cover about 30%. Crop and livestock production forms the basis of all societies; it is the largest sectoral employer of people on the planet and underpins human food systems, crucial for ensuring peoples' livelihood and health. It is important for global security, as hunger and poverty increase the risk of social and political unrest. Crop and livestock production is also responsible for about 15% of greenhouse gas emissions. These productive activities have an enormous influence on global water balances, as about 65% of global water consumption is linked to food production and therefore the global carbon balance. Increasing temperature in aquatic habitats has a profound impact on the production of aquatic organisms which form an important food source for humans. Forestry is an important source of fibre and fuel and plays a significant role in regulating local and regional weather patterns and the flux of carbon between the land surface and the atmosphere. Deforestation and forest degradation are responsible for about 20% of greenhouse gas emissions.

Climate change poses a significant threat to the food security and livelihoods of hundreds of millions of people who depend on small-scale production from crops, livestock, fisheries and forests. The Earth system interacts with agricultural production in complex ways – both influencing output and being in turn influenced by production methods. Small-scale producers are going to need to adapt to progressive climate change and increased frequency of extreme weather events. The skills of small-scale producers also need to be harnessed so that their production systems can contribute to climate change mitigation. In seeking options for adaptation and mitigation, there are often complex trade-offs among environmental goals, livelihood goals and food security goals. In addition to primary agricultural production, climate change will affect the ecology of beneficial and pest organisms altering their abundance and distribution in space and time. The health of animals and humans will also be threatened.

A new 10-year research program has been launched, the Challenge Program on Climate Change, Agriculture and Food Security (CCAFS, www.ccafs.cgiar.org). It will explore new ways of helping vulnerable rural communities adjust to global changes. Researchers will generate new knowledge and tools that explain changes in climate and new models to forecast what the changes might be. These explanations and forecasts will lead to a better awareness of the implications of actions that could be taken to adapt to climate change or mitigate climate change. New knowledge and predictive models will help policy-makers and farmers to understand the inevitable trade-offs. Modelling and scenarios will help them to weigh up compromises and make decisions based on the best available data.

CCAFS is an initiative of the CGIAR Alliance Centres and the Earth System Science Partnership (ESSP, www.essp.org). The Consultative Group on International Agricultural Research (CGIAR, www.cgiar.org), established in 1971, is a strategic partnership of 64 Members who support 15 international agricultural research centres. Today, more than 8,000 CGIAR scientists and staff work in over 100 countries. Given the daunting challenges posed by climate change, the Centres have come together to throw their weight behind this integrated initiative. The ESSP was established in 2001 to promote the integrated study of the Earth System, the changes that are occurring to the System and the implications of these changes for global and regional sustainability. The collaboration between CGIAR and ESSP, and their respective partners, will unite the world's best talent in agricultural science, development research, climate science and Earth system science.

Initially CCAFS will focus on three regions, the Indo-Gangetic Plains, and Western and Eastern Africa. The three regions were chosen to represent areas that are becoming both drier and wetter, and because they will generate results that can be applied in other regions worldwide. The focus on just three regions also means that CCAFS will bring all resources at its disposal to bear on what are very complex problems and will not be overstretched in the early years.

The Secretariat for CCAFS will be hosted by the Department of Agriculture and Ecology at the University of Copenhagen. Smooth and efficient management of the research funds has been made possible through generous funding by DANIDA and the support provided by the University. With Copenhagen featuring prominently on the world stage in terms of the climate change negotiations, CCAFS will be able to tap into diverse Danish expertise.

CCAFS will host “Agriculture and Rural Development Day” at UNFCCC COP-15, together with a large consortium of partners, namely the Alliance of the CGIAR Centers, ESSP, the Food and Agriculture Organization (FAO), the Global Donor Platform for Rural Development (Platform), the Global Forum on Agricultural Research (GFAR), the International Fund for Agricultural Development (IFAD), the International Federation of Agricultural Producers (IFAP), the International Food Policy Research Institute (IFPRI) and the University of Copenhagen (KU). In May 2010, CCAFS will host a Launch Conference for the program, to engage with stakeholders, to build scenarios for the three study regions, and develop the research activities in greater detail.

Professor Bruce Campbell has been appointed as the Director of CCAFS. Bruce has been championing more inter-disciplinary approaches to natural resource management for more than a decade. His research focus has been on the synergies and trade-offs between environmental management and human well-being; so he is well-placed to contribute to this topic in relation to small-holder agriculture and climate change. He has worked in Africa, Asia, Latin America and Australia. He comes to CCAFS from the Center for International Forestry Research (CIFOR) in Indonesia, where he was the Director of the Forests and Livelihoods Program.

For further information on CCAFS you can contact the Director at ccafs@life.ku.dk