

Workshop: assessment of risks and vulnerability of agricultural systems to different climate change scenarios, views of Uruguay

1. Uruguay has an agriculture-based economy and as such is highly vulnerable to climate change, this means that climate change and variability do not affect only the primary sector but the whole value chain, including industry and services. The assessment of risks and vulnerabilities is now in the center of our present concerns and actions, and it is a strategic transversal policy issue. The basic ideas we are using to base our work on risks and vulnerabilities assessment are the following:
 - a) Risks and vulnerabilities assessment is the basis for a sound adaptation and is the basis for identification of research priorities that support future adaptation policies and measures (e.g. more hydric stress tolerant varieties, more sustainable soil management practices, pest and diseases control strategies, innovative insurances, etc.).
 - b) We have started working with focus on vulnerability to current variability (including extreme events), as most farmers in Uruguay are not well adapted to it. Achieving it will also bring the benefit to be better prepared for more uncertain medium and long term climate change scenarios.
 - c) At the same time we need to update and downscale at national and local level the new series of IPCC scenarios available (AR5) in order to identify projected impacts of climate change on agricultural systems.
 - d) Assessment of risks and vulnerabilities has to be integrated, including natural resources, ecosystem services, water availability, pests and diseases, socio-economic aspects and technology gaps and financial needs.
 - e) We understand vulnerability as a function of exposure, sensitivity and adaptive capacity. Lack of adaptive capacity and /or increase in sensitivity can increase vulnerability to climate change. These two are the dimensions we can act on to reduce vulnerability.

Uruguay has undertaken recently its first risk and vulnerability assessment to climate change and variability, finished in 2013, with support of a TCP with FAO to update information on climatic exposure, sensitivity and adaptive capacity of main productions as beef, dairy, crops and fruit growing, in order to assist public policies design. Consultation with farmers was one of the key parts of the process to understand how they perceive climate change, what are they currently doing to cope with it, understand the barriers they face and identify their needs. The study was published in <http://www.fao.org/climatechange/84982/es>. Lessons learned: (1) as exposure, sensitivity and adaptive capacity change, vulnerability analysis need to be updated periodically, (2) there are information gaps that need to be filled, (3) the analysis permitted to identify more appropriate adaptation measures suited to local circumstances and productive systems.

For the implementation of index based insurances we have done a risk analysis of extreme events for horticulture (risk of excessive rainfall) and for drought in rangelands (based on the monitoring of a vegetation index, NDVI).

In addition, the Ministry of Agriculture is implementing a project financed by a grant of the Adaptation Fund (“Building resilience climate change and variability in vulnerable smallholders”). This project includes an assessment of vulnerabilities and identified options to build resilience in livestock smallholders.

2. Based on our needs, we think the Convention could facilitate the process of risk and vulnerability assessment through these main ways:
 - a) **Implement and deliver a stocktake** to assess the current availability of data, methods, tools, models and experiences to assess risks and vulnerability.
 - b) **Support Parties** to generate or improve their knowledge and capacities for the assessment of risks and vulnerability at national and local level, including the development of multilayer risk maps for different climatic events. This means assessing who is sensitive to climatic risks, where, how they are sensitive, what capacities exist/miss to adapt and cope, and in what ways public policies and climate information can help support better risk management and resilience building decisions.
 - c) Assist developing parties for **updating and downscaling climate scenarios at national and local level** considering the latest IPCC scenarios based on Representative Concentration Pathways.
 - d) Assist developing parties to **improve the data** needed to run models that predict impacts on key issues as crops yield, animal production, water availability, soil erosion, etc.
 - e) Support **regional multi-country studies and capacity building actions** may be very cost –effective. Coordination among neighboring countries seems a great opportunity.
 - f) Uruguay proposes the creation of a **knowledge management web platform**, under the UNFCCC Secretariat, for exchanging experiences, guidelines, support tools and models, connection to different data bases, and deploys lessons learned **on the assessment of risk and vulnerability**.
3. On **potential areas for synergies** among processes under the Convention, we consider that the assessment of risks and vulnerabilities is closely related to finance, technology transfer and capacity building. One concrete option is to take advantage of the Technology Needs Assessment (TNA) and CTCN process ongoing. Other UNFCCC adaptation linked processes could also be strongly focused on capacity building. We see a great opportunity to develop synergies and collaboration with national climate institutions and with

international specialized institutions and platforms as FAO, CGIAR, CIAT, WMO, IPCC, and others.