

Agenda item 8: Issues related to agriculture

Views on the development of early warning systems and contingency plans in relation to extreme weather events and assessment of risk and vulnerability of agricultural systems to different climate change scenarios

Submission from Brazil

1. The Government of Brazil welcomes the opportunity to submit its views on issues related to agriculture: (a) Development of early warning systems and contingency plans in relation to extreme weather events and its effects such as desertification, drought, floods, landslides, storm surge, soil erosion, and saline water intrusion; and (b) Assessment of risk and vulnerability of agricultural systems to different climate change scenarios at regional, national and local levels, including but not limited to pests and diseases (document FCCC/SBSTA/2014/2, paragraph 86).

2. Consideration of this matter builds on previous work done by SBSTA, where previous discussions have highlighted the need for further scientific and technological knowledge on adaptation measures in the agriculture sector. SBSTA plays an important role in providing opportunities for sharing scientific knowledge on adaptation practices and approaches among Parties and exploring ways to apply current scientific and technological knowledge, as well as developing new knowledge, in agriculture adaptation.

3. Agriculture is a unique issue-area, determinant to food security and key to the economies of most countries, in particular developing countries. Agricultural activities provide a source for wealth generation and job creation, playing a crucial role in poverty eradication and sustainable development. At the same time, agriculture suffers the main brunt of the negative effects climate change impacts, with significant developmental impacts. Consequently, the main aspect of the discussions related to agriculture under the UNFCCC is to ensure that food production is not threatened, as expressed in the ultimate objective of the Convention (article 2). Along with efforts under the Convention to limit the increase in global average temperature below 2 °C above preindustrial levels, it is therefore important to define actions to support and increase food production capacity and agriculture productivity.

4. Policies and measures should strengthen the capacity of different agricultural production systems to face the negative impacts of climate change, build up resilience and reduce vulnerability and exposure to risk. At the same time, they should not constitute disguised distortions to agricultural trade and production, and shall fully comply with the multilateral trade rules embodied in the WTO, especially the Agreement on Agriculture.

5. Climate variability and the increase in frequency and severity of extreme weather events have adverse and disruptive impacts on production processes, posing a threat to livelihoods and to food security. Excessive disturbances in climate conditions – human activities, microclimatic imbalances, soil integrity – negatively impacts natural processes on which agriculture activities are dependent. Therefore, understanding climate variability as part of policy and decision-making in the agriculture sector is key to ensure that food production is not threatened.

6. The agriculture sector faces the challenge of developing strategies that allow the sector to sustain and increase productive capacity in the face of climate variability and extreme weather events. Efforts go beyond and are different in nature from the current instruments and services offered to producers for decision-making and management of climate risks. Priority should be given to readily-available and accessible information, allowing producers to decide on production processes and technologies in light of increased climate uncertainty. Developing

knowledge and bringing it to the producer requires increasing levels of financing, provision of appropriate technologies and building capacity at all levels.

7. **Early warning systems** should be integrated into different information and communication technology (ICT) platforms and processes, as part of the support system for producers to minimize risks and improve yields, tailored to local realities. EWS coupled with **contingency plans**, based on instruments that allow producers to fully recover in case of extreme weather events, adjusted to productive systems and climate characteristics of each region and including provisions of technical and financial support.

8. **Risk and vulnerability assessments** are critical to direct policies, priorities of action and reassess policy and financial instruments in the light of adverse effects of climate change on existing and planned productive systems, including social and economic impacts. These assessments play an important role in research and development of improved crop and animal varieties, breeds and species. They should include knowledge of how climate change impacts not only pest and disease, but also the impact of new temperature and precipitation patterns (including gradients and intensity) on plant metabolism (flowering, fructification, resistance to water and temperature stress, among others) and animal metabolism (including productive capacity and animal welfare).

9. The UNFCCC should promote, in collaboration with FAO, the CGIAR Consortium, and other relevant international organizations, as appropriate, measures to support adaptation of agroecosystems to the adverse effects of climate change, through:

(a) Providing a mechanism for sharing best practices, experience and information in a dynamic and effective manner, in the following areas:

- i. climate monitoring and early warning systems, including integrating ICTs to support producer decision making;
- ii. technical support systems that are flexible and able to respond to producers on short notice;
- iii. policy, finance and technological instruments that minimize climate risk or that allow for a rapid recovery of productive systems, minimizing impacts on productive capacity;
- iv. strategies to assess risk and vulnerabilities, as well as assessment of such assessments, on different aspects of plant and animal productive systems, including vulnerability or resilience of different technological options in the productive systems;
- v. assessment of potential economic impacts of risks and vulnerabilities.

(b) Exploring a strategy that allows for developing or sharing of climate monitoring and warning systems, as well as studies on risk and vulnerability, according to different national and/or regional characteristics.