

VIEWS OF BRAZIL ON THE CURRENT STATE OF SCIENTIFIC KNOWLEDGE ON  
HOW TO ENHANCE THE ADAPTATION OF AGRICULTURE TO CLIMATE  
CHANGE IMPACTS WHILE PROMOTING RURAL DEVELOPMENT,  
SUSTAINABLE DEVELOPMENT AND PRODUCTIVITY OF AGRICULTURAL  
SYSTEMS AND FOOD SECURITY

1. The Government of Brazil welcomes the opportunity to submit views on the current state of scientific knowledge on how to enhance the adaptation of agriculture to climate change impacts while promoting rural development, sustainable development and productivity of agricultural systems and food security, taking into account the diversity of the agricultural systems and the differences in scale as well as possible adaptation co-benefits, as per paragraph 2 of document FCCC/SBSTA/2013/L.20.

2. Brazil believes that the main aspect of the discussions related to agriculture under the UNFCCC, as expressed in the ultimate objective of the Convention, is to ensure that food production is not threatened (article 2). Therefore, along with the efforts undergoing in the Convention to hold the increase in global average temperature below 2 °C above preindustrial levels, it is important to define actions which will support the maintenance of food production capacity and its increase, taking into consideration population growth and increased access to food. Such actions should strengthen the capacity of different agricultural production systems to face the negative impacts of climate change, build up resilience, reduce vulnerability, ensuring therefore the production capacity of agriculture is maintained. Such actions shall 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.

3. Climatic conditions have a crucial influence on the production capacity of agriculture, affecting productivity, as well as the continuation of rural livelihoods and food security. Furthermore, the inability to adapt to climate change might lead to the degradation of production systems, loss of herbaceous cover, increase of erosion, all factors that increase GHG emissions intensity originated from agriculture.

4. Modeling of different possible climatic scenarios, and vulnerability assessments of agricultural systems, indicate that tropical and sub-tropical regions will suffer the most with the impacts of climate change. In those regions, the forecast of adverse climatic scenarios encounters a context where agriculture is the main support of the population. This scenario is further aggravated due to agriculture subsidies in developed countries that have a depressive effect on agricultural commodities prices, among others, reinforcing the greater vulnerability of developing countries to climate change.

5. Reducing vulnerability and building up the resilience of agricultural production systems define adaptation measures. Agricultural systems have shown through time a great adaptation capacity vis a vis social dynamics and economic changes. Climate change, however, bring new challenges, considering the complexity and uncertainty of this new context.

6. Adaptation measures are at the forefront of the efforts to guarantee food security and establish the environmental resilience of agro-ecosystems. The kernel of these measures implies the construction of sustainable agricultural production systems, founded on the conservation of production factors, mainly soil and water, but as well biodiversity and other ecosystems structural components. The increase of agriculture productivity along with

conservationist technologies is also demonstrated by studies that show greater incomes related to the adoption of sustainable practices. These, in turn, increase productivity and bring economic strength to environmentally resilient agro-ecosystems, with positive consequences to social and economic development and poverty eradication. These concepts are, among others, some of the building blocks of the Brazilian National Plan for Adaptation and Mitigation in Agriculture (the ABC Plan).

7. Brazil believes that the UNFCCC may promote, in collaboration with the work of FAO, the CGIAR Consortium, CBD and other relevant international organizations, as appropriate, adaptation measures directed to decrease the vulnerability of agroecosystems to the adverse effects of climate change. Such measures should aim at supporting capacity building and technology transfer initiatives, as well as developing an information sharing tool to facilitate scientific and technical cooperation, as well as access to available scientific and technological solution, through information exchange on the following issues:

- Studies on topics such as vulnerability, early warnings, and potential scenarios and impacts on agriculture (plant varieties, animals, pests and diseases, production factors) considering temperature variation, water availability and rain distribution, light intensity, gas concentration in the atmosphere, extreme events, among others.
- Research and development (R&D) on topics such as:
  - plant and animal diversity;
  - water management: harvesting, storage and use, irrigation technologies, studies on irrigation impacts;
  - conservation agriculture;
  - alternative sustainable production systems;
  - control of food waste and loss during production, harvest, transportation, storage, industrial plants and market; monitoring systems for food access, including food quality, the relation between poverty and hunger as well as the logistics of food access;
- Information services and climate networks
- Strategies to promote the adoption of sustainable and resilient agriculture at national level, including financial instruments;
- Evaluation of social, economic and environmental aspects related to climate change, including social perception of changes, participation, food access and consumption patterns.