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This submission is in response to the invitation in the draft conclusions proposed by the Chair (FCCC/SBSTA/2013/L.20, paragraph 2, dated 13th June 2013) for:

Views from Parties and relevant organizations 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 in all countries, particularly in developing countries, taking into account the diversity of the agricultural systems and the differences in scale as well as possible adaptation co-benefits.

(Submitted by CropLife International on behalf of Farming First)

Introduction

Farmers around the world face the significant challenge to adapt to climate change impacts. These impacts will continue to grow in the coming years, placing increased pressure on the productivity of our agriculture systems and raising food security concerns. Increased investment in research, development and scientific capacity is one of the most important ways to help farmers maintain, enhance and evolve their production systems sustainably so they may meet the adaptation and food security challenge. Significant and sustained investment in research and scientific knowledge is essential, and one of the best ways to ensure resilient agriculture systems and strong rural economies in the future.

Current State of Scientific Knowledge

Important and effective research capacity focused on global climate change, agriculture and food security has been mobilized in recent years and should be built upon through the UNFCCC processes. Of particular note is the Climate Change, Agriculture and Food Security (CCAFS), a research program of the CGIAR Consortium of International Agricultural Research Centers[1]. This research program has mobilized the resources of research centres across the world to address thematic areas[2] that address the most important interactions, synergies and trade-offs between climate change and agriculture. It is organizational efforts like this, as well as broader research bodies like the World Climate Research Programme[3] that SBSTA should be seeking to support and build upon.

Expanding on global and regional climate change and agriculture research networks can result in an increased research capacity at the national and local levels, particularly in developing countries.

Supporting the Research Value Chain to expand Scientific Knowledge.

The agriculture research value chain can be characterized into 4 distinct phases:

- Primary Research – Directed at fundamental understanding (e.g. how things work, why they are the way they are)
- Applied Research – Determines if bits of fundamental knowledge from primary research can be put into practice

[1] http://www.ccafs.cgiar.org/about#.Uh9Y3n-f4sc
[2] long term adaption, low emission agriculture, climate risk management, linking knowledge with action, future scenarios, gender and equity, data and tools, policy analysis
[3] http://wcrp-climate.org/

- Innovation – The leap that brings applied research within reach of the end user
- Application/extension – The point at which the research result impacts the farmers on the ground

To truly build the scientific knowledge needed in agriculture and ensure that knowledge is transferred to the farmers and landowners that need it, these four elements of the research value chain must be supported.

Strengthening scientific knowledge

It is clear that significant effort has been made by parties, SBSTA and international research groups to renew their focus on scientific knowledge in agriculture, there is still a serious need to strengthen our scientific capacity.

- **Resources –** The need for adaption will continue to grow and the challenge to agriculture requires a strong and concerted effort by countries and the international community to invest in the research value chain. There must be efforts by SBSTA and individual parties to make agriculture a priority, both through funding but also through improved domestic policies that focus efforts on agriculture research.

- **Extension** – The transfer of tools and knowledge to farmers is essential. Developing new tools, processes and knowledge can often be ineffective unless the linkages are made between the scientists and researchers and the farmers in the field. These connections must be made at two points in research value chain: during the applied research/innovation stages when interesting ideas are selected as having potential for use by farmers; and, during the application phase when farmers are given the tools for their farm. These phases require specific expertise and improved communication with farmers and farm groups. Developing people with these skills in the agriculture schools and bringing farmers' voices into international research networks is essential and needs to be enhanced.

- **Human scientific capacity** – The primary research now that will lead to the practical agricultural and agronomy tools in the future rely on the development of scientists and researchers throughout the world, especially in developing countries. Particular focus must be placed on building the agriculture colleges, universities and programs that will educate our young people so they are ready to develop the primary scientific knowledge that will help face the climate change and agriculture challenge.

Improving agriculture research and scientific knowledge requires increased resources and investment in the education and capacity of our scientific leaders and extension officers of the future.

Identical submissions made by:
World Farmers Organisation
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