



Climate-Smart Agriculture: Towards Sustainable landscapes and Food Systems Mobilizing science for transitions

Agriculture is a sector particularly vulnerable to climate change, which impacts the livelihoods of the world's poorest people, and places increased strain on global food systems. Expectations are that meeting the demand for food will change tremendously within the next 40 years. Being also a greenhouse gas emitter, agriculture is the only sector which has as many adaptation challenges as it has to mitigate climate change. Climate-Smart Agriculture (CSA) invites researchers, practitioners and policy makers to explore solutions combining three pillars, *food security*, *climate change adaptation* and *mitigation*, so as to develop sustainable landscapes and food systems. This is essential since humanity is facing unprecedented uncertainty and risks.

More than 600 researchers and 150 stakeholders and policy makers from 75 countries and 5 continents convened at the 3rd Global Science Conference on CSA in Montpellier, France, 16-18 March 2015. Obviously, CSA has become the framework for synergies leading to innovative and comprehensive actions with higher efficiency at local, regional and global levels.

Agriculture in the future must also address the challenges of sustainable food systems and landscapes:

- Synergies and tradeoffs between food security, climate change adaptation and mitigation support the implementation of global sustainable development objectives. .
- Agriculture is a pivotal sector for international negotiations on sustainable development and climate change; it will highlight food security as key component.
- Adaptation of the most vulnerable farmers and landscapes to climate change is a worldwide priority.
- Action for building agricultural resilience, along with ecological intensification and ecosystem services, will diminish the risk of food insecurity and improve livelihoods.

Researchers and practitioners must engage to build evidence and design the trajectories for multiple transformative transitions of climate-smart agriculture

- To move rapidly from assessment and planning towards implementation of options and monitoring of outcomes, the scientific community calls for consistent metrics, and is committed to ambitious sets of actions designed with stakeholders including civil society to support :
 - The assessment of adaptation, mitigation of greenhouse gas emissions and resilience.

- The design of options supporting the synergies between the three pillars of CSA and relevant to economic, social and environmental contexts.
- The production of early warning systems.
- Taking forward research in agro-ecology is an issue in all countries, focusing on soil use and conservation, carbon sequestration, water resources, biodiversity, minimizing wastes and losses in food systems, greenhouse gas footprint, human nutrition and health.
- The next research agenda should address a more complex set of objectives and newly identified knowledge gaps, including the gaps between disciplines.

The future relies upon policy, institutional and financing decisions

- The support of CSA innovation platforms, which gather policy makers, development agencies, civil society and the private sector with researchers and research institutions, will increase local effectiveness
- The gap between climate change and agricultural policies needs to be bridged, in particular in UNFCCC negotiations, as well as linking agriculture and climate change financing instruments.
- A special focus on the contribution of family farming is highlighted, as it accounts for societal changes and interactions (gender, age, class, ethnicity).
- The key role of National Agricultural Research and Innovations Systems from low-income countries to generate the knowledge and partnerships for CSA solutions needs to be emphasized.
- An active and organized contribution from the research community to the Global Alliance of Climate-Smart Agriculture (GACSA) is essential.

The conclusions of the present Statement will be channeled to the UNFCCC negotiators meeting in Paris in December 2015 for the COP 21. The present recommendations are to be discussed and enriched within the different arenas and meetings in preparation for the COP21 negotiations.

The strengthening of CSA scientific community must be pursued and better engaged in interfacing with policy makers, promoting scientific diplomacy. The capacity of research communities to develop relevant global research programs and joint initiatives to address questions that will be key in 20 years' time should be supported and stimulated through international cooperation platforms.