

WORKSHOP BRIEF

Climate change and agriculture in the Caribbean: Protected Agriculture – An adaptation option

SUMMARY

The Caribbean Agricultural Research and Development Institute (CARDI) in collaboration with the [Technical Centre for Agricultural and Rural Cooperation ACP-EU \(CTA\)](#) hosted a Workshop on *Climate change and agriculture in the Caribbean: Protected Agriculture – An adaptation option*. This workshop was held over the period 17-19 October 2010 at the Grenada National Stadium as part of the Caribbean Week of Agriculture (CWA) in Grenada. The overall objective of the workshop was to develop the elements of a strategy to adapt to and mitigate climate change in Caribbean agriculture. Protected agriculture was highlighted in its role as an important adaptation option and a viable option to contribute to food and nutrition security. The workshop attracted over 30 participants comprising over seven disciplines (e.g. Agriculturalists, Environmental Economist, Environmental Policy Specialist, Physicist, Meteorologist, Entomologist, Soil Scientists, Producers Rural Development Specialists) from across the Caribbean. There were also representatives from CTA and IRTA.

The workshop consisted of four sessions. The first sought to provide the scientific evidence for climate change and the possible impacts of these changes on the economy, ecology as well as sustainable development of the Region. The main area of focus was the impact of climate change on the agricultural sector and adaptation and mitigation strategies that show potential to reduce the impact of climate change on agricultural productivity. Protected agriculture was highlighted as a technological option to assist in achieving food and nutrition security and to reduce exposure of crops to the potential hazard of climate change. Along with the presentations, working groups and plenary sessions assisted in developing the elements of a Regional strategy to adapt and mitigate climate change in Caribbean agriculture.

Presented herein are the conclusions and recommendations emanating from the workshop.

CONCLUSIONS

Science and Climate Change

- Dub Taylor truths (Dr Michael Taylor, Physicist University of the West Indies) – Encapsulated the conclusions of this session of the workshop - Climate Has Changed. Climate Will Change. Climate Demands Change

- Within the Caribbean this is evidenced by - extreme weather conditions that have occurred over the recent past such as extreme droughts, the intensity of hurricanes, increased precipitation leading to floods, coastal erosion, intrusion of salt water and loss of soil fertility
- Ivan 2004, Guyana Floods 2005, Drought 2009-2010, in Trinidad and Jamaica, Barbados. Nicolle in Jamaica September 2010.
- Caribbean run weather models are indicating that this trend will continue.
- These extreme events will significantly impact the economy, social wellbeing and the sustainable development of Caribbean community and therefore is not just a science problem and therefore require action.

Agriculture and Climate Change

- Agriculture development and hence food and nutrition security will be significantly impacted by climate change as critical components of the eco-system such as water, soil and pests will be affected
- Global agricultural production also contributes to climate change. However, the contribution and responsibilities of the various countries and types of agriculture are different
- The collection and storage of reliable meteorological and agricultural data are needed to allow:
 - (i) an understanding of impact of the changes on agricultural productivity and,
 - (ii) forecasting the changes so as to develop appropriate strategies
- Weak linkages among current institutions have resulted in fragmentation, uncoordinated efforts and the inability to integrate the results to achieve a more comprehensive response to the challenge of climate change.
- Science-based policies are critical for the implementation of climate change adaptation strategies which also take climate variability into consideration

Adaptation and Mitigation

- Various practices can be utilized in current farming operations to reduce the impact of climate change e.g. Water harvesting, crop mulching, erosion control, drought tolerant crops, protected agriculture.
- Inadequate research to develop adaptation technologies and practices will impact the Region's ability to attain food and nutrition security goals.
- There is limited empirical evidence of climate change on agriculture in Region, however with the current knowledge and information it is possible to initiate planning process and implement some of the options.

- Strategies/policies relating to climate change are being developed without sectoral linkages (land, water, marine, agriculture, meteorology)
- The conduct of impact assessments for mitigation and adaptation strategies is critical for monitoring and evaluating the strategies.
- Agricultural mitigation activities must be pursued as a means of enhancing agricultural productivity and the acquisition of carbon credits and resources to fund adaptation activities.

Protected Agriculture

- Protected agriculture is a viable option to ensure food and nutrition security and also an adaptation option for climate change (e.g. efficient use of inputs, reduction of pests, equipped with features to ensure disaster mitigation).
- In some cases unsuitable protected structures have been introduced into the Region and therefore technology adaptation is important for sustainable production (climate and ecology)
- Protected agriculture also has much implications for rural development and will attract youth to agriculture as it is technology driven.
- Capacity building of stakeholders along the value chain the production methodology is necessary to improve the returns on the investments.

RECOMMENDATION

Way forward

- Establish a multidisciplinary team (agro-meteorologist, agriculturalist, sociologists and policy specialists) to develop the regional climate change strategy in agriculture.
- Host consultations involving all stakeholders will be held to ensure that the document reflects the needs, challenges and also to ensure buy-in.
- Develop an integrated action plan which seeks to address the cross cutting issues from various sectors including agriculture, fisheries, land, tourism, energy
- Guyana should be used as a case study in developing the strategy and garnering funds to implement the strategy (resource mobilization).
- The region should prepare itself for the upcoming meeting in Cancun (November 2010) in order to contribute to putting agriculture on the negotiating agenda, take advantage of any resources that may become available from the Adaptation Fund, during the session proposed for agriculture.
- Use carbon sequestration practices for sustainable development and sources of financing