

“Improving the policy framework for developing Climate Change resilient agriculture systems in the Caribbean: The role of Plant Genetic Resources”

Consultancy Report on the e-discussion (draft interim)

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Introduction

In consultation with stakeholders, CTA determined in its Strategic Plan that Climate Change, alongside food and nutrition security is a priority area for the Caribbean and the Pacific. The Centre's Mapping Study of Key ACP Regional Agricultural and Rural Developing Policy Processes has identified "Mainstreaming Climate Change in Agriculture Policy Design, Dialogue and Development Programme" as a major policy domain in the Caribbean, for which CARDI has received a mandate from CARICOM Heads. In the Caribbean, the Regional Framework for Achieving Development Resilient to Climate Change was approved by the CARICOM Heads of Government in the *Liliendaal Declaration* on Climate Change, at their meeting in July 2009. The *Liliendaal Declaration* on Climate Change defines the national and international position of the CARICOM Member States on Climate Change. That Declaration is closely linked with the Liliendaal Declaration on Agriculture and the Regional Food and Nutrition Security Policy which have their roots in the Regional Strategy to Alleviate Key Binding Constraints to Agriculture (The Jagdeo Initiative) which is the flagship long term framework of agricultural development in the Caribbean.

CARDI has been appointed as co-chair of the regional institutions involved in Agricultural Research for Development with responsibilities that include the development of climate smart agriculture. In this regard, CARDI and other regional partners including the Caribbean Community Climate Change Centre (5Cs) are working together in a process that will lead to the implementation of the '*Regional Framework for Achieving Development Resilience to Climate Change*. An Implementation Plan (IP) for the Framework has recently been completed and was approved by the CARICOM Heads of Government at their inter-sessional meeting in March 2012. It specifically indicates the following roles for CARDI:

- Development of common regional or sub-regional policy platforms and preparing and advocating regional policy initiatives in regional and global forums
- Strengthening of national capacities through training, programme support, technical assistance, and resource mobilization
- Undertaking comparative analyses of issues on a regional and sub-regional basis

With these roles in mind, CARDI has been working with a range of organizations, including CTA. In 2010, during the Caribbean Week of Agriculture, CTA supported a Workshop on Climate change and agriculture in the Caribbean, and in 2011, a further project on Enhancing water resources management. The policy recommendations derived from the CTA-CARDI 2011 workshop have been developed into policy briefs and were presented to CARICOM's Technical Management Advisory Committee (TMAC) on Risk Management in May 2012. The briefs will next be presented to COTED and the Heads of Government for ratification and official endorsement.

This captioned project will build on those successes through informing policy and supporting capacity building as well as treating with existing gaps. It will assist in

developing policies that adequately address the need to conserve, share and sustainably utilise plant genetic resources, so that farmers have access to climate-ready planting material that will be sufficiently resilient and productive under future climate threats. It is timely and necessary because without adequate policy mechanisms to sustain this work, much of the embedded scientific gains from the above activities will dissipate with time. The project will link to global networks through, among others, inputs from the Pacific (including through close cooperation of SPC and under the Intra-ACP Policy Programme), Africa and Biodiversity International and other international organisations. The outcomes of the projects will feed into global debates on climate smart agriculture as a follow-up of Rio+20/CoP/ARDD initiatives.

Proposed Activities

The Consultant was engaged to execute the following

- a) Develop e-questions on workshop themes
- b) Prepare database of participants and other key actors
- c) Initiate an e-forum to elicit answers to questions
- d) Collate answers and provide feedback
- e) Submit a draft report in advance of the workshop
- f) Present report to the workshop

Activities (a, b and c) conducted

Following a September 5th planning meeting, an initial invitation (Appendix I) was extended to the list of potential participants (Appendix II), provided by CARDI, for the proposed e-discussion starting September 10th, 2012. It said *inter alia* that

“We are continuing, with the support of the Technical Centre for Agricultural and Rural Co-operation (CTA), to inform policy and support capacity building using the Caribbean Week of Agriculture as a hub. This year’s activity will build on previous successes in defining Climate Change induced agricultural impacts, including the predicted rainfall variability. In 2012 we will treat with existing gaps by developing policies that adequately address the need to conserve, share and sustainably utilise plant genetic resources. A credible climate-resilient agri-food system in the region must be built on solid plant genetic resources.

These options do not only originate from the research that CARDI and partners have been conducting over the last 3 years on plant genetic resources in the context of climate change. Additionally, they are also derived from practical, successful approaches that are

currently in operation and which can provide useful information to guide the policy process.

During the month of September an e-discussion will be conducted wherein everyone with a stake or interest in securing a firm 'seed' base, as part of a Climate-ready Caribbean agriculture, can make meaningful contributions”.

The central theme “Development of climate smart agriculture policies that focus on the conservation, sharing and utilization of key agro-biodiversity resources” provided the template to fashion the tenor of the e-discussion. By way of consensus with the Project Principals there was agreement on the three questions (threads) that would form the basis of the weekly interaction

The question posed to start each thread was supplemented by “thread builder” questions that assisted in guiding or broadening the discussion

Thread 1
(Week 1: September 10-15)

Question:

Why should the Caribbean catalog and conserve its plant genetic resources as part of the strategy to develop a Climate-resilient agriculture?

Thread builders:

In your opinion, does plant genetic resource conservation include genetically modified material?

Do you know of any storage “banks” of indigenous, locally adapted or specifically bred planting material?

Based on the Climate Change predictions, what genetic traits should be at the top of the list for the most important crops?

Thread 2
(Week 2: September 17- 22)

Question

How widely, on moral, strategic, financial, scientific and legislative grounds, should we share our plant genetic material amongst ourselves and with the international community?

Thread builders:

What are the possible dangers associated with the free movement of plant genetic resources?

How much do you know about the international guidelines for the protection of new plant varieties?

Have you or your colleagues ever encountered bio-prospectors in the Caribbean?

Thread 3
(Week 3: September 24 -29)

Question

Are we using the existing plant biodiversity within our control for maximum mitigation against Climate Change?

Thread builders:

What is your government's policy with regard to gene transfer and genetically modified organisms?

How much control do we really have over local plant genetic resources?

What policy mechanisms will be appropriate to integrate efforts across government ministries?

Activity (d) conducted

The e-discussion officially began on September 10 and was extended to October 4. Four additional days were allocated to the exercise to ensure all participants had an opportunity to respond to the questions posed. The extra days were meant to compensate for the three days lost when the list server "dgroups.org" transitioned their site during September 15 - 17.

Of the 97 persons invited, 28 accepted and were involved to the end on October 4th 2012. There were no withdrawals from the discussion. A copy of the Liliendaal Declaration was placed in the list-serve library for easy reference.

Thread 1 - Why should the Caribbean catalog and conserve its plant genetic resources as part of the strategy to develop a Climate-resilient agriculture? Was launched on September 10th. The participants at the time were teased with an excerpt from the Executive Summary of the Second Global Plan Of Action For Plant Genetic Resources For Food And Agriculture. The summary highlighted the importance of crop genetic diversity and carried an appendage that asked if those sentiments are shared by the Region's policymakers?

In response to one of the thread builders, a participant declared, "All management systems of Genetic Resources must deal with the realities. GMOs are here to stay and must be dealt with appropriately with all the built-in checks and balances." This view was not challenged by any of the subsequent postings. In another contribution it was noted that the cataloging of genetic resources was crucial to their management and eventual utility. Mention was made of GMOs, landraces and indigenous species in the context of the genetic traits necessary for Climate-resilience. It was also noted that not all Policymakers in the region were sufficiently enlightened, hence the importance of sound briefing material from scientists and researchers.

There was a contribution that highlighted "rapid and significant adaptations are necessary, if our crops are to be adequately climate resilient." It went on to widen the pool of actors that will be involved in climate resilient agriculture to include entrepreneurs and intellectual property professionals. Against a backdrop of bioprospecting in the Region it was stated "in an era of 'ownership' of food plants we owe it to ourselves to at least know what we have.... and get a greater sense of its value." This view resonated strongly with a respondent from St Vincent and the Grenadines as evidenced by his closing statement "Now its time for us to implement those things which we know are necessary"

One participant reminded the e-discussion of the historical and ecological significance of selecting and storing seed material. He followed up on the original post by providing a digital version of an article on "Securing Seed Supply" from LEISA Magazine.

Thread 2 - How widely, on moral, strategic, financial, scientific and legislative grounds, should we share our plant genetic material amongst ourselves and with the international community? was launched on September 18th. The earliest responder was of the view that PGR can pose two threats. They can host dangerous pests & diseases or could potentially become "invasive species" with the concomitant danger to the environment. He went on to agree that the UPOV protocol provides plant varietal protection (PVP) through harmonization with other global arrangements such as the CBD, WTO, TRIPS and so on. Interestingly the same respondent's view on bioprospecting is presented verbatim "*I have never come in contact with bioprospectors simply because they have come into our part of the world disguised as collaborators in multilateral programmes. As researchers we have been the targets of requests for samples of germplasm mainly for research purposes from academic circles*".

The Group was reminded of the need to collaborate with colleagues in other parts of the world but with eyes open to the legal, ecological and economic realities. Researchers were encouraged to familiarize themselves with the Breeder Rights aspects of Intellectual Property. There was little response to the posting that highlighted the significant work done in mapping climate analogues (Spatial analogues identify areas whose climate today appears as a likely analogue to future projected climate for another location). Caribbean researchers may need to collaborate with colleagues in those regions while searching through their own local crop diversity. It was hoped that the value of all the early work to protect Caribbean biodiversity was not lost on the Region's Governments.

Another posting, urged researchers to familiarize themselves with the excellent work/ideas coming out of the Mona campus in particular. Dr Michael Taylor set attendees at the 2011 CWA straight with respect to the possible Climate Change impacts on rainfall driven agriculture. The Region has the capacity to release "adapted" plants with xerophytic and halophytic features that will revolutionize crop growth in the Caribbean and in analogous zones. The post went on to mention these opportunities, spurred by a healthy "shove of necessity" provide truly exciting and potentially very rewarding pursuits to attract bright young people to the agricultural sector. The "new" Faculty of Food and Agriculture was seen in a vanguard role.

An immediate response out of Grenada listed the difficulties encountered with regard to protecting innovations and inventions. Ownership of new plant varieties in the absence of adequate legislation and an empowered, well-informed research community is proving difficult. The community-wide benefits could be lost if initial protection for the researcher is not forthcoming.

Another participant provided the Group with an informative article dealing with “benefit sharing” of plant genetic material. The e-discussion had an opportunity to examine the inherent difficulties in claiming, managing and benefiting from improved genetic material. The original custodians of the genetic material cannot claim ownership according to the international treaties. Benefit sharing in the form of intellectual property rights is only possible if genetic material is improved to cultivar level through breeding and selection. The article concludes by suggesting that the only realistic option for benefit sharing in Third World countries is to go into agreements with international organizations.

The e-discussion was provided with explanatory details with regard to the difficulties associated with the fair exchange of plant genetic material. The post stated FAO estimates that 75 percent of crop diversity was lost between 1900 and 2000. A recent study predicted that as much as 22 percent of the wild relatives of important food crops such as potato, peanut and beans could disappear by 2050 because of climate change. The trigger and genesis of the Convention on Biological Diversity (CBD) treaty were explained in the text provided.

The International Treaty on Plant Genetic Resources for Food and Agriculture was also highlighted in the context of the enormous contribution that the local and indigenous communities and farmers of all regions of the world, particularly those in the centers of origin of crop diversity, have made and will continue to make for the conservation and development of plant genetic resources which constitute the basis of food and agriculture production throughout the world. The governments’ responsibility for implementing Farmers’ Rights was stated in a detailed manner with specific relevance to the e-discussion. The following quote encapsulates the main point “No country is self-sufficient in plant genetic resources; all depend on genetic diversity in crops from other countries and regions. International cooperation and open exchange of genetic resources are therefore essential for food security.”

Thread 3 - Are we using the existing plant biodiversity within our control for maximum mitigation against Climate Change? Was launched on September 24th. The following post was in response to the thread builder question -What is your government’s policy with regard to gene transfer and genetically modified organisms? A detailed listing of the legislative provisions of the Government of Trinidad and Tobago with respect to the status and importance of Biosafety was presented.

This comprehensive treatise on the legislative front was followed by a “mystery post,” addressed to the e-discussion administrator. The person addressed the administrator by

his first name, implied that "he or she" worked as a senior officer in an Agriculture Ministry in one of the larger Caribbean territories and was totally fed up of Government inertia with regard to agriculture generally and crop biodiversity protection in particular. The post was passed on to the Group because the person's passing shot was that "even the so-called members of your group chat did not take (sic) any real suggestions on how to force Government to take this thing more seriously." At the level of the Group it was hoped that the sentiment expressed was not indicative of the broken spirits of the more senior (those with decades of experience) participants in the e-discussion.

In response to Question 3, a Jamaican respondent provided information on previous Government-level guidelines with particular reference to genetically modified papaya. He also offered current links. Additionally he provided links to entities with an interest in, or a mandate to, provide mitigation options using plant genetic resources.

The GMO/non GMO debate continued in the postings with one respondent submitting more information on the Schmeiser-Monsanto case, involving a Canadian farmer and the Monsanto company. That posting led to a submission on the alleged neutrality of technology in general and biotechnology in particular. It included philosophical and other underpinnings including this quote *"Many technologies determine their own use, their own effects, and even the kind of people who control them. We have not yet learned to think of technology as having ideology built into its very form 'the uses made of technology are largely determined by the structure of the technology itself'. The medium itself 'contains an ideological bias'. 'Technology is a means not an end', 'the choice of means always carries consequences' which are not identical with the original purposes involved. Tools are concrete commitments to certain ways of doing things, and therefore certain ways of dividing power. It is a mistake to think that the 'good' and 'bad' effects of technology can be sorted out and dealt with."*

Many members of the Group were introduced to Bioversity International (BI) with a suggestion that they could apprise BI of their areas of interest and research. BI wanted to collect information on "Who is doing what with agricultural biodiversity". The intention was to identify needs and to try out new ways of sharing information using modern technology. It was felt that within the mechanism of an international grouping individual researchers could forge new relationships.

An article on farmer-led alliances was included in the e-discussion to reiterate the widened actor profile necessary for climate resilient agriculture in the Caribbean. Participatory plant breeding has matured into a dynamic and cost-effective science that provides a pragmatic match between desired crop traits and local climates, soils and socio-economies. Many people believe that farmer-led crop breeding programmes can deal with the pace and uncertainty of climate change.

The article and the sentiments expressed therein were echoed by another list-serve member who provided a localized case study. He detailed the role of farmer's organizations in the conservation and sustainable promotion of agricultural biodiversity in the midst of Climate Change. The example was that of the Trinidad and Tobago

Agribusiness Association (TTABA). Specifically with regard to climate change adaptation, TTABA has facilitated through the Sweet Potato, Pommecythere, Pumpkin, Papaya, Cassava, Hot Pepper, Coconut and Protected Agriculture Industry Development Committees a number of projects at its (TTABA's) Research Station and in farmer's fields. Significant details were provided, sufficient for any participant wishing to consider the approach in their country. He also opined that a special initiative should be established to capture seed materials lost from family farms on over 30,000 hectares of State lands that have now been abandoned.

A number of key perspectives, some useful information and detailed examples were provided during the 40 contributions as summarized above. A significant portion of the involvement was passive for reasons advanced herein.

CARDI and SBI¹ have considerable experience, individually and in joint projects, with respect to canvassing the views of regional professionals and other stakeholders. Be it baseline surveys, Skype conferences, survey questionnaires, face-to-face interviews or e-discussions there are antecedents that position the bar as far as interactivity is concerned. A 33 percent response rate to "remote" or "single medium" invitations is the norm. This particular e-discussion saw a 29 percent response rate. Historically reasons for non-participation included *inter alia*

- An e-discussion has the potential to fill my inbox
- I am not directly involved in the subject area
- I am tired of online discussions
- I will monitor the discussion but I do not have the time to contribute
- I will get the details at the workshop

The actual conduct of this e-discussion reflected some of the inherent intricacies associated with the documented determinants Atmosphere, Responses, Efficiency, Interactivity and Communication. The atmosphere was egalitarian, invitees were however told that the expected outcome would be improvement in policy; many may have considered policy as being out of their purview. The schedule for the forum was particularly tight and required timely feedback or responses. List-server issues hampered efficiency over a three-day period.

The threads will be summarized for a Powerpoint presentation during the Workshop.

¹ Science-Based Initiatives a regional consulting firm

Appendix I Letter of Invitation

The Caribbean region recognizes the challenges posed by climate variability and change. Current data suggest that the Region is predicted to be hotter, drier, prone to extremes of floods and drought, more frequent cyclonic storms and saltwater intrusion. Left unabated, these factors will limit the Region's ability to provide any level of nutrition security.

CARDI has been appointed as co-chair of the regional institutions involved in Agricultural Research for Development with responsibilities that include the promotion of climate smart agriculture. In this regard, CARDI and the Caribbean Community Climate Change Centre (5Cs) are working together in a process that will lead to the implementation of the *'Regional Framework for Achieving Development Resilience to Climate Change'* as enunciated by the Heads of Government in the 2009 *Liliendaal Declaration* on Climate Change.

We are continuing, with the support of Technical Centre for Agricultural and Rural Co-operation (CTA), to inform policy and support capacity building using the Caribbean Week of Agriculture as a hub. This year's activity will build on previous successes in defining Climate Change induced agricultural impacts, including the predicted rainfall variability. In 2012 we will treat with existing gaps by developing policies that adequately address the need to conserve, share and sustainably utilise plant genetic resources. A credible climate-resilient agri-food system in the region must be built on solid plant genetic resources.

These options do not only originate from the research that CARDI and partners have been conducting over the last 3 years on plant genetic resources in the context of climate change. Additionally, they are also derived from practical, successful approaches that are currently in operation and which can provide useful information to guide the policy process.

During the month of September an e-discussion will be conducted wherein everyone with a stake or interest in securing a firm "seed" base, as part of a Climate-ready Caribbean agriculture, can make meaningful contributions. This brief note details the what, why, how, who, when, and eventual use of the e-discussion "Improving the policy framework for developing climate change resilient agriculture systems in the Caribbean: The role of Plant Genetic Resources." The synthesized report will be presented to policymakers during the CWA.

What: An e-discussion or an electronic mailing list is a service that is performed by a computer program called a list server that maintains (1) a list of names and e-mail addresses, (2) an e-mail address for the list, and accepts (3) messages at that address.

Additionally (4) when it receives a message from one of the list subscribers, it forwards the message to all the other subscribers and (5) maintains an e-mail address for the administrator of the list, so that people on or off the list can ask questions

Why: To enable everyone with a stake or interest in the use of plant genetic resources to bolster Climate-resilient agriculture to contribute to the formulating of operational and policy guidelines.

How: The list server will be managed by an administrator Steve Maximay² who will be responsible for extracting, synthesizing, collating and reporting on the responses to the questions posed to the subscribers

Who: this list will not be moderated and anyone with an interest/stake/concern about the topic will be welcome to join

When: The e-discussion will be conducted in the month of September 2012

Eventual use: The wide-ranging ideas/perspectives/solutions will be presented to regional policymakers to provide the latest scientific information and thinking on the utility of plant genetic resources as a component of a Climate-resilient agri-food sector.

You are cordially invited to be a part of the **Solution** by taking an active part in the e-discussion.

Signed by the ED

² Mr. Maximay, a Seed Pathologist, was part of the original team convened in 1997 that developed the initial regional responses to climate change adaptation and has hosted similar e-consultations

Appendix II Invitees

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Appendix III

Statistics Summary

Members 28

Countries and territories	6
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Contributions 40

By country

Country	Members	Contributions
India	1	
Jamaica	4	1
Other	12	22
Trinidad and Tobago	11	17