



Ministry of
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The 10th Annual Meeting

2019 GFRAS
JAMAICA

Role of RAS in Climate Change
& Disaster Risk Management

September 30th- October 4th

Royalton, Negril

10th GFRAS Annual Meeting 2019

Role of RAS in Climate Change & Disaster Risk Management

30 September-4 October 2019 in Negril, Jamaica



digitalGREEN



1. Background and objectives of the 10th GFRAS Annual Meeting

The 10th GFRAS Annual Meeting, focused on the "Role of RAS in Climate Change & Disaster Risk Management" took place at the Royalton Negril, Jamaica between 30 September and 3 October, 2019 and was organized back-to-back with the first General Assembly of GFRAS on October 4th, and the Steering Committee meeting on October 5-7. The Annual Meeting was co-organized with the Caribbean Agricultural Extension Providers' Network (CAEPNet); Jamaica's Ministry of Industry, Commerce, Agriculture, and Fisheries (MICAF), and the Rural Agricultural Development Authority (RADA).

The GFRAS Annual Meeting is a key mechanism for GFRAS to foster learning and exchange and to discuss and strengthen the functioning of GFRAS, its regional networks and country fora. It offers a space to exchange around topics relevant to RAS and contributes to providing a voice for RAS in global policy dialogues.

The Role of RAS in Climate Change & Disaster Risk Management

Mitigation and adaptation are key notions when discussing the Role of RAS in Climate Change and Disaster Risk Management. While the global population is growing, food production needs to meet this increasing demand. Yet, this effort will mainly have to come from developing countries – countries that are highly vulnerable to the impacts of climate change and where food insecurity is already a daily issue for many populations. "[P]eople who are already vulnerable, including lower-income and other marginalized communities, have lower capacity to prepare for and cope with extreme weather and climate-related events and are expected to experience greater impacts. Prioritizing adaptation actions for the most vulnerable populations would contribute to a more equitable future within and across communities." (National Climate Assessment, 2018)

Climate change and extreme weather events are globally impacting communities. For example, since 1980 in the United States alone there have been 246 weather and climate disasters where total costs exceeded \$1.6 trillion (NOAA, 2019). Globally, FAO (2016) reports that between 2003 and 2013, the agricultural sector has been the biggest victim of disasters caused by natural hazards. Extreme weather events are defined as unusually longer weather patterns that have devastating impacts on communities. These events can be described as droughts, flood, extreme heat and/or cold, and tornados, drought accounting for 84 percent of damages on the agricultural sector (FAO 2016).

Predictions that both natural and manmade disasters will increase in severity and number (Graham et al., 2011; IPCC, 2013) indicate that extension and rural advisory service (RAS) providers have a critical role to play in disaster communication and preparedness (Boteler, 2007). Boteler (2007) expands on the impact by explaining that RAS often plays a critical role in a disaster by providing an already established communication system when other systems have temporarily shut down due to the disaster. This includes partnering (or serving) with the state, local disaster response team, and International Organizations to be taken in order to mitigate and adapt to potential hazards (FAO, 2019).

Meeting Objectives

Building on the experience of previous GFRAS meetings, the capacity assessments of GFRAS regional networks, and on the expertise, knowledge, and experiences of participants, the three objectives of the 2019 Annual Meeting were to:

- identify and define good practices, best-fit approaches and strategies to develop, strengthen, and maintain resilience in vulnerable communities to climate change and disasters;
- identify and define ways to build the capacities needed at different levels and by different stakeholders (policy, research, education, extension, farmers) to develop, strengthen, and maintain effective risk management in climate change and disasters through preparation, mitigation, and recovery; and to;
- identify and define the roles and capacities needed by GFRAS and its regional RAS networks to play an important and meaningful role in developing, strengthening and maintaining effective risk management to climate change and disasters.

2. Structure of the meeting, participants and presentations

The three following side events took place on 30 September 2019:

1. RADA: Integration of ADRM in Jamaica's Agricultural Sector
2. FAO: Farmer Field Schools for Climate Change Adaptation
3. NELK: CAEPNet & AFAAS – Taking the New Extensionist Learning Kit to New Heights

The side event organized by RADA took place in the morning, while side events from FAO and for the NELK were held in the afternoon.

RADA exposed the integration of agriculture disaster risk management in Jamaica and laid down the various collaboration in response to a disaster, adaptation to it and the measures to mitigate such events. This was presented within the context of the rural development role of agricultural extension services and offered a perspective on many subject: water utilization, plant health and adaptation, but also on the private sector perspective. Participants to this side event were impressed by the professionalism of RADA when it comes to disaster risk management.

CAEPNet and AFAAS took this opportunity to introduce the NELK to participants and shared the experiences of AFAAS in the massive NELK Trainings, both on-line and on-site, and could draw from experiences of those involved in the process. Staying within the theme of the event, they presented the module 13 of the NELK: risk mitigation and adaptation in extension.

Finally, FAO discussed the role of the Farmer Field School (FFS) approach to improve farmers' capacity to prepare and respond to increased climate variability and extreme weather events. The session demonstrated how FFS can promote Climate Smart Agriculture, relate to disaster risk management and how it can, as early warning system, serve to prevent and mitigate disasters.

The 10th GFRAS Annual Meeting officially opened on the Tuesday 1 October 2019 with a formal ceremony and a cultural exhibition organized by RADA. The agenda of the meeting then respected the following structure:

- Tuesday 1 October: Keynote speeches; two Parallel Sessions; Shift & Share.
- Wednesday 2 October: Introduction to Jamaican RAS before heading to Field Trips
- Thursday 3 October: Reflection on Field Trip visits; Policy Dialogue on Disaster Risk management and climate change issues in RAS; Regional network meetings; Reflective session; GAM resolutions.

Throughout the meeting, a variety of approaches towards exchanges and learnings were used, including plenary sessions, group work, panel discussions, shift and share sessions, parallel workshops and poster exhibitions.

Statistics on Participants

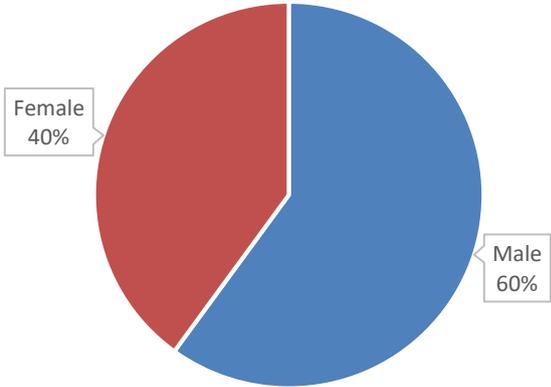


Fig. 1: Gender representation

This year’s edition of the GFRAS Annual Meeting welcomed 55 participants coming from 27 countries, representing the GFRAS regional networks and sub-regional networks. 24% of participants were younger than 40 years old and 40% of total participants were women. A variety of sectors, with the public sector and multi-stakeholder organization being the major ones, were also represented as shown by figure 2.

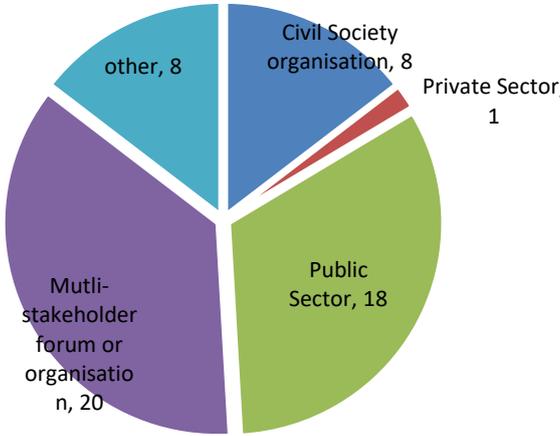


Fig. 2: Represented sectors at the 9th GFRAS Annual Meeting

Although participation was lower than in previous years, people were able to conduct and participate in productive discussions and sessions. 56 Local Jamaican participants also actively participated in the event.

Since a couple of years, a stronger presence of the private sector is requested. This was again the case this year. Recognizing the need to increase its relevance and visibility, GFRAS is committed to enhance efforts to increase private sector participation already starting in 2020, in the GAM to be held in Jurmala, Latvia.

The Triad

To break the ice between the participants and invite them to be as active as possible, the three moderators adopted an approach called the Triad. Participants shared their name, profession, and background and were asked to define, based on their experience, a value proposition for RAS.



1. What makes RAS innovative, attractive, and unique?

Among various answers, five distinctive categories appeared when participants were asked to define a value proposition for RAS. Empowerment, economic growth, communication, collaboration and poverty alleviation. Some also view RAS as the bridge between science and practice, which is extremely necessary but also needs further improvement.

EMPOWERMENT:

For many, RAS is the capacity to bring change in people. Empowering farmers with evidence and know-how to increase benefits and reduce losses in spite of shocks and hazards is an important extension service. RAS agents support knowledge application by rural communities to help them with new challenges, e.g. enabling farmers to make better decisions for their own individual/household/community context using local relevant/specific information and offer guidance.

ECONOMIC GROWTH:

Solving issues in food production falls under the responsibilities of RAS agents, who put an emphasis on job creation, technology generation, information generation and sharing. They can also provide business-targeted interventions to get value for money and it remains important for the success of all developmental agriculture as a mean of transforming the economy.

COMMUNICATION:

Another important value of RAS lies in communication. Within a two-way communication framework, RAS professionals are ideally positioned to hear the challenges faced by farmers and

rural people, and communicate these problems to professionals able to solve them. While RAS agents can bridge farmers and scientists to resolve complex issues, they can also connect farmers with all the useful resource available. In that sense, they may bring new knowledge and skills, or even robust solutions to farmers.

COLLABORATION:

Built on some of the notions above, collaboration is one important strategy within RAS. Knowledge generation depends on sharing-learning from and within various networks. These interactions are vital for RAS agents, enabling them to adapt new ideas for and with farmers faced with new challenges.

POVERTY ALLEVIATION:

Finally, some argue that the value of effective and functioning RAS is poverty alleviation and food security achieved through sustainable improvements in agricultural productivity and strengthened farmer's organizations. Through all the values and activities mentioned above, RAS agents aim at understanding and building innovation, demand-driven solutions to improve the life and livelihood of the rural and often more vulnerable communities.

2. Opening Ceremony and keynote speeches:

Carl Larsen, the new GFRAS Executive Secretary, welcomed the participants and Jamaican officials, before giving the floor first to Peter Thompson, CEO RADA, Hon. Floyd Green, Minister of Industry, Commerce, Agriculture and Fisheries (MICAF) and Mr. Nigel Myrie, Chairman National Board of RADA. All of them stressed the importance of mitigating climate change impacts and improve responses to disasters, while underlining how various extension officers and GFRAS offer solutions in the face of new global challenges.

Their address was followed by a musical performance by Mannings High School, performing a medley of cultural songs also on the topic of preparedness and risk response, offering a perspective of the role of youth and the responsibility all parties have.

a. Keynote speeches:

This session was organized to give both a local and a more regional perspective of the challenges of Disaster Risk Management and Climate change in the agricultural sector. Mr. Devon George and Prof. Michael Taylor were therefore invited to address the participants on the theme of the meeting.

First, Mr. Devon George offered his experiences as he became a full time farmer 15 years ago after retiring from the teaching profession. Reactions to his decision were of surprise: Why leaving a job with security to go into agriculture and farming?

He served as a member of the Grenada Union of Teachers for more than 15 years and was part of the union negotiating team advocating for betterment of teachers in Grenada. He studied education at the T.A. Marryshow Community College in Grenada and the University of the West Indies. Mr. George attended a number of agriculture trainings both locally and regionally, such as protected

agriculture in Mexico. He represents the voices of farmers in national forums and currently sits on the Steering Committee of the Grenada Country Forum.

With his production of vegetables, he supplies national markets and several supermarkets, as well as different catering and fast-food chains. Although he is relatively successful with his farm, he observed a lack of information and services before and after a disaster, making his work, and that of many farmers, more difficult when facing disasters.

Prof. Michael Taylor followed and offered his perspective as a climate scientist. Framed within the context of the Caribbean region, his presentation aimed at highlighting the challenge of climate change within the agricultural sector. He identified four manifestations of this global phenomenon in the Caribbean:

- 1) Increase in temperature: 21 more hot days per year have been counted in the Caribbean region, since 1950, resulting in longer and earlier summers;
- 2) Variability of rainfall: Pattern of rainfall has become very variable, leaving some places drier while other are getting wetter;
- 3) More extremes weather and events: corollary to the variability of rainfall, weather patterns are also getting more extreme;
- 4) ... and a rise of sea level.

Professor Taylor underlined the importance of recognizing the emergence of a new and harsher climate era. He pointed that these four manifestations are not independent from one another, but instead represent a multi-hazard impact faced by many regions and populations. The solution, he argued, must come from the recognition of the challenges the agricultural sector experiences. Those challenges can be better described as characteristics of the current climate. It is unreliable, unfamiliar, unrelenting and unprecedented.

Over the last ten years, two multi-year long droughts occurred, in 2009-10 and between 2014 and 2016, and spread region wide. Such events are unfamiliar for the farmers and the agricultural sector. Professor Taylor explained that models of agriculture in the Caribbean are premised on familiarity. Agents in the region used to act within a known framework with predictable patterns. In the absence of that, and being now challenged to consistently deliver, their usual responses become unreliable, as a practice might deliver one time and fail the next time.

Because of this unfamiliarity, climate becomes unreliable. "There are no ordinary years anymore", stresses Professor Taylor before warning that "agriculture, if the challenge of unreliability is not recognized, spends its time to recover from the last disaster". Agriculture is thus challenged to develop and cannot deliver to its full potential.

As temperatures keep rising, extreme events will become even more intense, and the climate will very often be described as "unprecedented", until the next unprecedented event.

The current challenge of the agriculture sector is to meet the Sustainable Development Goals. To achieve this, the solutions must match the challenges. In other words, it is imperative to recognize the manifestations and characteristics mentioned above. Agriculture must adapt to this changing environment and adopt adequate living patterns for the new and different climate era.

In his view, this new climate demands of the agriculture sector:

1. New plans that overcome the variability of the climate, plans that are not based on familiarity anymore. Those plans must also include notions of mitigation and adaptation, so that those become known to all.
2. New processes: innovations are needed, but while “new” ways of doing things are required, it is also important not to throw away indigenous knowledge!¹
3. New partnerships: Linked with the topic of last year’s GAM in Korea, Professor Taylor highlighted that any solution is only possible and sustainable with the participation of multiple actors. The impacts of climate change are felt across multiple supporting sectors: water, energy, infrastructure, and finance, so actions need to be mutually complementary in order to last;
4. New priorities: There is an urgency for action since climate does not wait on preparedness in order to strike. At the very least, it is essential to prioritize education. The worst impact will always be felt by the most vulnerable, and it includes rural and poor people. New policies need to be biased to the most vulnerable.

In this new scenario, the role of RAS is that of organized advocacy, leadership, and education, as well as coordination, communication, and capacity building. New models for delivery in spite of the new climate area need to constantly be developed.

3. Parallel Sessions and Shift & Share:

The afternoon of October 1st started by hosting the Parallel Sessions facilitated by Kimberly Davis and Cheryl Skjolaas from the Extension Disaster Education Network (EDEN)². EDEN’s mission is to reduce the impact of disasters through research-based education and the presence of the two experts mentioned above was useful in educating/informing participants about disaster risk management and the role that can be played by RAS agents in overcoming those challenges.

Participants were divided into two different parallel sessions: Building resilience in Communities; and Supporting RAS providers in contributing to extension in climate change and disaster risk management³.

Each session included two parts: the facilitators first set up the stage and introduced the participants to the subject of Disaster Risk Management and climate change, before giving the floor to the presenters. The facilitators took their institution, EDEN, to explain how to enhance disaster programming.

What is a disaster?

Disaster, as EDEN defines, is “a calamitous event, especially one occurring suddenly and causing great loss of life, damage, or hardship”. Due to these characteristics, the impacts of a disaster are

¹ This echoes an argument made by Coumba Sow, agroeconomist at FAO, that development intervention should include scientific knowledge and traditional and indigenous knowledge. https://www.lemonde.fr/afrique/article/2019/12/01/en-afrique-les-paysans-qui-pratiquent-l-agroecologie-resistent-mieux-au-changement-climatique_6021261_3212.html#xtor=AL-32280270

² <https://eden.lsu.edu/>

³ A third parallel session, entitled Preparation, mitigation and recovering from climate change impacts and disasters, was originally planned, but was cancelled due to health issues faced by the third facilitator from EDEN. Content and notions of this parallel session were therefore integrated into the two remaining sessions.

often felt for a long time, and recovery can take many years. Impacts of a disaster can affect multiple layers of a society (individual, community).

Many impacts can be felt from these disasters including individual and family, which affect the overall community. Large economic impacts can be felt from infrastructure and housing impacts. Agriculture impacts can also hurt the overall economy, resulting in economic impacts, or affecting food security and the environment. Social and mental impacts can be seen in communities for years following disastrous events.

Similar to what Professor Taylor said earlier in the day, their assessment of climate change impacts is: extreme weather event that become more frequent, with a greater intensity.

Building Resilience in Communities:

This session identified different practices for RAS to build resilience for climate change and disaster in communities. Amira Mahmoud, Anthony Esabu, Caroline Staub, Mahesh Chander and Paul McNamara were asked to share their findings within fifteen-minute presentation, followed by a short Q&A. Participants had the chance, at the end of the four presentations, to discuss in groups about the inputs given. Reiterating one of the key messages of the morning's session, their presentations showed that farmers on the ground were adapting to the challenges faced by adopting adequate strategies: using improved varieties, aligning planting dates with rainfall. Empowerment of farmers and RAS agents was also discussed as an important practice in climate resilience, as well as preventing or mitigating disasters. Identified barriers to build resilience may vary among the regions. Lack of information on climate change and its effects were often cited, as well as the unavailability of local-specific data. An interesting tradeoff was mentioned between farmer trainers and extension agents. While the former are less exposed to innovations and new technologies than the latter, they were more trusted by local farmers, thus facilitating the learning process. Although this has already been recognized, the weak relation between researchers and extension agents was mentioned as a potential barrier, and this remains an area to be improved. Presentations from participants are available on the GFRAS website.

Exposing the effects of climate related shocks on food security, Paul McNamara used empirical evidence to present improvements in the functionality of stakeholder platforms following the Strengthening Agricultural and Nutrition Extension (SANE) project in Malawi.

Supporting RAS providers in contributing to extension in climate change and disaster risk management

Presentations from Deborah Duveskog on ACREI¹ in Eastern Africa and Graham Clarkson on the success of PICSA² showcased how participatory approaches can bring changes in adapting to these issues. Extension agents encourage farmers to make their own decisions by providing them the

¹ Agricultural Climate Resilience Enhancement Initiative

² PICSA is a participatory approach designed to analyze historical climate information and use participatory tools to develop and choose crop, livestock and livelihood options best suited to individual farmers' circumstances.

necessary tools to adapt to new challenges, by planting new crops, adopting new decision-making processes. Empowerment of local actors, clear and easily shared knowledge and tools, access to local and historical climate information, and a holistic approach are key in the success of these projects.

The connection between researcher and extension agent was again spotted as an area to be improved.

Saravanan Raj elaborated on the need to mainstream CSA into core government policy. Focusing on approaches in agricultural extension and advisory services, he showcased the example of Climate Smart Villages, where good integration of participation and inclusion into extension approaches occurred, resulting in improvement of farming communities who adopted CSA.



Throughout the presentations, participatory approaches were cited as the most adequate way for extension agents to inform, advice and prepare local actors on CC and DRM issues. Such approaches empower actors and enables them to make more informed decisions.

Shift & Share

Shift & Share was chosen as a quick and effective method to share innovations and ideas because it replaces large-group presentations with several concise descriptions made simultaneously to small groups. Five stations were set-up in the room and presenters were asked to expose in seven minutes their ideas on the role of RAS in CC and DRM in front of a group of participants. Presenters then hosted questions from the participants for another seven minutes.

Five people presented the following short presentations:

1. Agritech Startups: A Ray of Hope in Agriculture (Saravanan Raj)
2. Agroecology and Rural Advisory Services (Abram Bicksler)

3. Assessment of Beliefs about Extension and Innovation in Eight Different Countries using a validated Likert-Type Scale (Fernando Landini)
4. Improving Climate and Disaster Literacy amongst Stakeholders (Mahesh Chander)
5. Pastoralist Field Schools in Eastern Africa (Deborah Duveskog)



As small groups moved from one innovator’s station to another, their small size made it easy for people to connect with the innovator/presenter. It allowed them to quickly learn where and how new ideas are being used and how they might be adapted to their own situations.

4. Field trips

On Wednesday 3 October, participants had the opportunity to go on field trips. Four full-day visits were organized by RADA. A quick presentation was made in each bus to help understand the Jamaican Rural Advisory Services.

Crop Production and Agro Processing (report by Esabu Anthony)

“While on a tour in St Elizabeth, we visited the St Elizabeth Incubator, a Grace Kennedy Processing Facility, the Hounslow Research Station, and Rickie Jackson-Cluster Farming. What fascinated me about Mr. Jackson’s farm was that he gazette a large junk of land for growing trees and intercropping with some banana plantations. And this to me is a means of conserving the ecosystem and mitigating climate change. The trees will help to conserve the moisture, recycle plant nutrients and hence improve on soil fertility which is necessary for plant growth.”

Livestock and Agricultural Education

On this field trip, participants first stopped by the Manning's High School to see how they sensitize students to the challenges of climate change faced by farmers. Participants had the chance to discuss with teachers about a model of self-sustained rooftop greenhouse built by students. The field trip continued with a visit of the farming and technical School. The school farm included livestock and vegetables production, depending on water harvesting system. The production of the school farm is mainly used for the school restaurant. After lunch, a presentation from a veterinarian active in the Caribbean explained how they overcome animal diseases and make breed selection. In the afternoon, a former student of the technical school opened its field to the participant and showed them his hydroponic culture of Batavia salad. The tour ended with an interesting visit to a family-run dairy farm.

Agro Parks

The group visiting the Agro Parks had a long drive across the island which was the perfect opportunity to get a good impression of the different cropping systems, the topography, rural infrastructure and the general living conditions in Jamaica. During a visit to an extension office, the group had a good briefing on the agriculture sector of Jamaica with focus on the local conditions and the in growing public private partnerships in RAS. This was followed by a visit to an Agro Park where the state had cleared a large public land area, constructed the infrastructure such as roads and irrigation. Farmers could lease plots of land within the Agro Park for crop production and horticulture. The land was under the supervision of the national extension system in close collaboration with a large local fertilizer company.

After visiting the Agro Park the field trip went to an individual commercial farmer to study more intensively the soil conservation technique 'mulching' which was very intensively used in most of Jamaica, as it reduces the erosion challenges from heavy rain and evaporation challenges from the intensive sun while enriching soils nutrient balance. Farmers use guinea grass for mulching and the technique is used almost universally. The visited farmer was in horticulture growing shallot and watermelon with mulching and irrigation. There was quite lively debate with the farmer who invited all for fresh watermelon after the field walk. The tour ended at a sea sight restaurant where fishing boats were landing their catch, so it gave the participants a good cultural insight.

Famers' Groups

During this field trip, participants were able to visit farmers groups that are driven independently to produce at maximum level in a sustainable way and to view "Farming as a Business". Farmer field school methodology was discussed and testimonials from farmers were highlighted. Farmers showcased what they are doing as a group to be resilient to natural disaster. The Bright River, Lover Leap Lunch & Yardie Chase Farmer Groups were engaged, and participants also had a visit to the Westmoreland Parish Office.

All tours were organized with the participation of very knowledgeable RADA staff that helped the participants in understanding the local situations and the role of RAS in disaster management and climate change mitigation in rural Jamaica.

5. Market Place

During the whole event, a market place was set up for participants willing to expose various information on their activities. A list of the different presenters can be found on the [meeting website](#).

6. Conclusions and recommendations

Despite a lower attendance than previous years, the people present enjoyed their participation in the meeting. The ability to exchange, share ideas and experiences, learn from each other and also from local actors during the field trips contributed to the success of this event. According to the participants, the three objectives of identifying good practices, defining ways to build necessary capacities and outlining the roles and capacities needed by GFRAS and its regional networks were generally fulfilled.

Acknowledgements

The GFRAS Secretariat would like to warmly thank all involved organisations and individuals who made this event a success, including:

- The Rural Agricultural Development Authority (RADA)
- SDC and USAID
- The GFRAS Steering Committee
- The GFRAS Board and General Assembly
- The members of the Annual Meeting Organising Committee
- All volunteers and helpers from Jamaica
- Speakers, presenters, and moderators
- ... and of course all the participants who actively and eagerly shared, presented, discussed, and elaborated experiences, ideas, and recommendations.