Agro-Biodiversity in a Changing Climate by the Belize Guardian, 27 June, 2013

A public lecture on “The conservation of agro-biodiversity as a response to climate change” was held last Friday at the George Price Centre for Peace and Development in Belmopan City. The one-day event saw the participation of eminent scientists from the Caribbean and came thanks to cooperation between the Caribbean Agriculture Research and Development Institute (CARDI) and the Technical Center for Agricultural and Rural Cooperation (CTA).

For more information see page 10

AGRICULTURE IN THE NEWS is a monthly newsletter which provides a compilation of selected news articles on issues affecting agriculture in the Caribbean region. Articles from Newspapers, Online News Service Agencies, Newsletters and Press Releases are featured.

For copies of documents cited, visit the web address or source of the information provided.
Our Vision

To be the centre of excellence in the Caribbean for the provision and application of research and development in agriculture and rural enhancement.

Our Mission

To contribute to the sustainable economic well being of Caribbean people by the generation and transfer of appropriate technology through research and development within the agricultural value chain.

www.cardi.org
Cereals and Grains

US Department of Agriculture probes Oregon Monsanto GM wheat mystery by the Guardian UK, 22 June, 2013
http://www.guardian.co.uk/environment/2013/jun/22/agriculture-oregonmonsanto-gmwheat

Full Article

Company cries foul over appearance of genetically modified wheat but scientist who found it doubts claim of sabotage

It is a mystery that could cost the American farmer billions: how rogue genetically modified wheat plants turned up on a farmer's field in Oregon.

The scientist who first discovered the renegade grain – by dipping a plastic strip into a tube of pulped plant, in order to check its genetics – believes the GM wheat could have entered America's food supply undetected years ago, and could still be in circulation.

"There's a lot of potential for how it could have got into the supply," said Carol Mallory-Smith, a professor of weed sciences at Oregon State University. "It could have already been processed. It could have gone for animal feed somewhere or it could have gone for something else. It could have gone for storage."

The Department of Agriculture, which is conducting a secretive investigation into the renegade GM wheat outbreak, maintains the GM wheat remained confined to a single 125-acre field on a single farm in eastern Oregon. Officials said there was no evidence the contaminated wheat was in the marketplace.

Monsanto, which manufactured the altered gene and conducted field trials of the GM wheat several years ago, strongly suggested in a conference call with reporters on Friday that the company was the victim of sabotage of anti-GM campaigners. Robb Fraley, Monsanto's chief technology officer, said: It's fair to say there are folks who don't like biotechnology and who would use this as an opportunity to make problems.

The real story is unlikely to emerge – if at all – until the publication of the final report by 18 Department of Agriculture investigators who are now scouring grain elevators, farmers' fields and university research stations in eastern Oregon, hunting for a few grains of suspicious wheat.

The stakes are high for America's wheat exports, with Japan and South Korea cancelling shipments; for Monsanto, which faces lawsuits from farmers for falling wheat prices and a consumer backlash against GM products; and for the US government, which must shore up confidence in the safety and integrity of the food supply.

The crisis for wheat farmers began in late April, with a phone call from a crop consultant seeking the advice of researchers at Oregon State University in Corvallis. The consultant had sprayed Roundup, a weed killer also manufactured by Monsanto, on some fallow land. Ordinarily, glyphosate, the active ingredient in Roundup, would be expected to clean out the entire 125-acre field. This time, however, some plants survived.
The consultant, fearing he had come across a "superweed", got in touch with the university and sent some plants in for testing. A clump of plants, carefully wrapped in plastic to keep them green, arrived by Fed-Ex on 30 April. Scientists separated 24 samples and tested them for the presence of Monsanto's Roundup Ready gene, CP4, which was developed to be resistant to glyphosate, the active ingredient in Roundup weed killer.

"They all came up positive," she said. So did a second battery of tests by another lab at the university and independent testing on a different set of wheat plants collected by researchers from the Department of Agriculture. The scientists were still slightly disbelieving, however. The only chance for contamination by the GM wheat, it was thought, was from field trials Monsanto conducted in the late 1990s until 2005.

The wheat was grown in more than 100 test plots in 16 states over several years, but the company wound down the last of the trials in 2005, because it saw little market potential. Unlike the other big crops – corn, soybeans, cotton and canola – American farmers have never raised GM wheat on a commercial basis. The US exports much of its wheat to Asia and Europe, who do not want GM products. The Oregon field trials stopped in 2001.

"Our customers have zero-tolerance for GM wheat," said Wally Powell, president of the Oregon Wheat Growers League.

Monsanto is currently testing a next generation of GM wheat in North Dakota and Hawaii. The company insists the seeds from those earlier trials were shipped back to its labs in Missouri or destroyed in the field and driven deep into the earth with a backhoe.

"Most of the seed was destroyed in the field," said Jeff Koscelny, who heads Monsanto's wheat sales team. "It never left the site, and it was buried. To us, it's not logical there were any seeds out there." While Monsanto's chief technology officer suggested eco-activists were to blame, Mallory-Smith said deliberate contamination was the least likely scenario: The sabotage conspiracy theory is even harder for me to explain or think as logical because it would mean that someone had that seed and was holding that seed for 10 or 12 years and happened to put it on the right field to have it found, and identified. I don't think that makes a lot of sense.

She was also sceptical of Monsanto's claims to have gathered up or destroyed every last seed from its earlier GM wheat trials. In recent years, as American farmers rely increasingly on GM crops, there have been a spate of such escapes, including rice, corn, soybean, and tomato. Oregon is still trying to contain a 2006 escape of GM bentgrass, used on golf courses, which has migrated 13 miles from where it was originally planted.

"Once we put a trait or a gene into the environment we can not expect that we are going to be able to retract or bring back that gene and find every last gene that we put out there," said Mallory-Smith. Tracing the course of an escape so long after Monsanto's field trials will be even more difficult, she said. "It's like finding a needle in a hay stack," she said.

One morning in late June, farmers from wheat-growing areas in Oregon, Idaho and Washington state drove their pick-up trucks to the station, to learn about the latest advances in farm technology – including toy-sized drones – and to catch up on the latest on the GM wheat escape. Some of the farmers were relatively relaxed – those whose land sits relatively high up and don't expect to harvest their crop until August.
Wheat prices reached historic highs before the GM discovery. If there is no further evidence of contamination, they figure they can ride out the crisis, store their wheat, and wait until Japan and South Korea place orders again. But there is also an undercurrent of suspicion and anger at the unidentified farmer who reported finding GM wheat on his land – consequently putting all of their crops in jeopardy.

"It's a mystery to me how they even found that GM wheat," said Herb Marsh, 80, who has been farming in eastern Oregon his entire life. "It's hard for me to swallow that he would go, and actually get it tested.

"It's just a big mystery," he said.

**Banana**

**FAO trains Caribbean people to deal with banana disease** by Fresh Plaza News, 18 June, 2013

**Full Article**

Technicians from different Caribbean Nations will receive training in a workshop that experts from the Food and Agriculture Organization (FAO) will be developing here from the 17 to the 22 of June to deal with the black sigatoka that threatens the banana.

Black sigatoka, caused by the fungus *Mycosphaerella fijiensis* Morelet, is considered the most destructive disease to banana crops, and decreases their performance by more than 50 percent.

This fungus attacks the leaves and the plant's capacity to produce fruits of good size and weight, by causing the fruit to ripe prematurely, thus reducing their marketability.

It appeared in the Caribbean in 1991 and gradually spread throughout the region causing a substantial decrease in banana exports.

In this workshop, a group of technicians from Dominica, St. Lucia, Granada, Guyana and St. Vincent and the Grenadines will receive information about the effective use of fungicides to control and eradicate the disease.

They will also be trained to assess the fungus' sensitivity to specific ingredients of their territories and to develop more effective treatment plans.

According to Caribbean News Now, this meeting culminates a year of activities from the part of the FAO in response to requests for assistance from the affected countries.

In 2012 this international organization used an expert from Cuba to assess the different efforts of management within each nation of the area and identify the places where there were improvements in the treatment of black sigatoka.
Coconut

Kerala coconut to get Caribbean sheen by News India Express, 26 June, 2013
http://newindianexpress.com/cities/kochi/Kerala-coconut-to-get-caribbean-sheen/2013/06/26/article1653247.ece

Full Article

A palm-fringed coastline is perhaps the lone thread of commonality between Kerala and the Caribbean nation of Trinidad and Tobago (T&T), other than perhaps the love for rum. Kerala’s own coconuts are now set to add another chapter to the centuries-long ties between India and T&T.

In a matter of days, the Coconut Development Board (CDB) will submit a road map for a new collaboration with the Caribbean island thereby opening a new trade path, which is expected to inject new life into coconut farming in both the countries. This follows a team from CDB led by Deputy Director Ramani Gopalakrishnan visiting T&T earlier this month. “Our report mainly focus on the potential sectors where both the countries can look into. They have already put forth a request for providing six lakh coconut seed nuts. We will put forth the request before Union Ministry of Agriculture to allow the coconut companies in major coconut farming states to give sanction for exporting the seeds,” Ramani told ‘Express’.

The deal includes the transfer of latest technology, export of coconut seed nuts and other coconut products from India to the Windies. CDB will submit the road map along with the feasibility report to the Ministry of Food Production, Land and Marine Affairs, T&T, by the end of this month. Following the report, a team from T&T including progressive farmers and selected officials from the ministry will visit India by the August 2013. The team is expected to visit the Demonstration cum Seed Production Plant in Mandia, Karnataka, where they will be provided training.

The team is also expected to visit the farms and coconut plants in Andhra Pradesh, Tamil Nadu and Kerala.

Biotechnology

Genetic Engineering: The Global Food and Agricultural Crisis by Colin Todhunter
Global Research, 6 July, 2013

Full Article

In 2012, Professor Seralini of the University of Caen in France led a team that carried out research into the health impacts on rats fed GMOs (genetically modified organisms) (1). The two-year long study concluded that rats fed GMOs experienced serious health problems compared to those fed non GM food. Now comes a new major peer-reviewed study that has appeared in another respected journal. This study throws into question the claim often forwarded by the biotech sector that GMO technology increases production and is beneficial to agriculture.
Researchers at the University of Canterbury in the UK have found that the GM strategy used in North American staple crop production is limiting yields and increasing pesticide use compared to non-GM farming in Western Europe. Led by Professor Jack Heinemann, the study’s findings have been published in the June edition of the International Journal of Agricultural Sustainability (2). The research analysed data on agricultural productivity in North America and Western Europe over the last 50 years.

Heinemann states his team found that the combination of non-GM seed and management practices used by Western Europe is increasing corn yields faster than the use of the GM-led package chosen by the US. The research showed rapeseed (canola) yields increasing faster in Europe without GM than in the GM-led package chosen by Canada. What is more, the study finds that it is decreasing chemical herbicide and achieving even larger declines in insecticide use without sacrificing yield gains, while chemical herbicide use in the US has increased with GM seed.

According to Heinemann, Europe has learned to grow more food per hectare and use fewer chemicals in the process. On the other hand, the US choices in biotechnology are causing it to fall behind Europe in productivity and sustainability.

The Heinemann team’s report notes that incentives in North America are leading to a reliance on GM seeds and management practices that are inferior to those being adopted under the incentive systems in Europe. This is also affecting non GM crops. US yield in non-GM wheat is falling further behind Europe, “demonstrating that American choices in biotechnology penalise both GM and non-GM crop types relative to Europe,” according to Professor Heinemann.

He goes on to state that the decrease in annual variation in yield suggests that Europe has a superior combination of seed and crop management technology and is better suited to withstand weather variations. This is important because annual variations cause price speculations that can drive hundreds of millions of people into food poverty.

The report also highlights some grave concerns about the impact of modern agriculture per se in terms of the general move towards depleted genetic diversity and the consequently potential catastrophic risk to staple food crops. Of the nearly 10,000 wheat varieties in use in China in 1949, only 1,000 remained in the 1970s. In the US, 95 percent of the cabbage, 91 percent of the field maize, 94 percent of the pea and 81 percent of the tomato varieties cultivated in the last century have been lost. GMOs and the control of seeds through patents have restricted farmer choice and prevented seed saving. This has exacerbated this problem.

Heinemann concludes that we need a diversity of practices for growing and making food that GM does not support. We also need systems that are useful, not just profit-making biotechnologies, and which provide a resilient supply to feed the world well.

Despite the evidence, governments capitulate

Given the mounting evidence that questions the efficacy and safety of GMOs (3,4,5,6,7), it raises the issue why certain governments are siding with the biotech sector to allow GMOs to be made available on commercial markets. It is simply not the case that country after country is accepting GMOs on the basis of scientific evidence, as scientists-cum-lobbyists for the GM sector often state (8). If scientific evidence were to be determining factor, few if any countries would have sanctioned GMOs.

Part of the answer lies in the fact that the powerful US biotech sector continues to forward its agenda that GMOs are a frontier technology that will save humanity from famine and hunger. This is despite
evidence that most of the world’s hunger is the product of profiteering industrial chemical agriculture and the global structuring of food production and distribution under the banner of ‘free trade’ and ‘structural adjustment’ (9,10), or as many of us know it brow beating and structural dependency.

Yet, the mantra of GM as the saviour of humanity persists courtesy of the GM sector’s puppet politicians and regulatory bodies (11). The US is pushing for lop-sided bilateral trade agreements with other countries not only to generally tie economies into US economic hegemony in an attempt to boost its ailing economy and flagging currency, but more specifically to get nations to ‘accept’ GMOs. Through behind-closed-door deals (12,13) coercion (14) or the hijack of regulatory bodies (15), there has been some success, and many think it could be just a matter of time before other countries, not least India, capitulate to allow GM food crops onto the commercial market.

In fact, regardless of any legal statute, it may be and probably is already happening in India, not least via contamination (16). However, if contamination by means of illegal planting and open field ‘testing’ fails to get GMOs on to the commercial market via the back door, the GM sector is attempting to cover all angles. Immediately after a moratorium on BT Brinjal was announced in 2010, a Biotechnology Regulatory Authority of India (BRAI) Bill suddenly emerged. The BRAI Bill could not be passed in 2010 and 2011 because of objections, but it has surfaced again as a 2013 Bill. Environmentalist Vandana Shiva argues that it not so much constitutes a Biotechnology Regulation Act, but a Biotechnology Deregulation Act, designed to dismantle the existing bio-safety regulation and give the green-light to the GM sector to press ahead with its agenda in the country.

By highlighting the GM sector interests behind the proposed legislation, Shiva says that the goal is to give the sector’s corporations immunity by freeing them of courts and democratic control under India’s federal structure. For those who follow such developments in India, it doesn’t take a great deal of imagination to appreciate that the future of Indian agriculture is in the wrong hands. Certain key scientists and top politicians have already been ideologically (or otherwise) ‘bought and paid for’ by proponents of the ‘Green Revolution’ and more recently the GM sector (7).

On a global level, with reports of wheat (17), rice (18) and maize (19) having been widely contaminated with GMOs, there seems to be a conscious ploy to contaminate so much of the world’s crops so that eventually GMOs take over regardless and render the pro/anti GM debate almost academic (20).

It seems that secretive trade deals, the hijack of official bodies designed to ensure the ‘public interest’ and bullying or intimidation are not enough. Contamination strategies are but one more way of achieving through closed and non-transparent methods what could not be possible by transparent and democratic means – simply because hundreds of millions of people do not want GMOs.

A generation down the line (or much sooner), will we looking at the health and environmental consequences of GMOs in the same way we now regard the impacts of the original ‘Green Revolution’?

“There are very good reasons why we have never introduced a Green Revolution into Africa, namely because there is broad consensus that the Green Revolution in India has been a failure, with Indian farmers in debt, bound to paying high costs for seed and pesticides, committing suicide at much higher rates, and resulting in a depleted water table and a poisoned environment, and by extension, higher rates of cancer.” Paula Crossfield, food policy writer/activist (21).

We don’t have to take Paula Crossfield’s word for it, though. Punjab was the ‘Green Revolution’s’ original poster boy, but is fast becoming transformed from a food bowl to a cancer epicenter and now
reels under an agrarian crisis marked by discontent, debt, water shortages, contaminated water, diseased soils and pest infested cops (22,23,24).

In the meantime, big ‘ag’ in collusion with big pharma will continue to control our food and define our healthcare by pushing their highly profitable ‘miracle solutions’ for the health and environmental problems which they conspired to create in the first place. It is all part of the wider corporate-elite agenda to colonise and control every facet of human existence.

Nutrition / Food Production


Full Article

A team from the Food and Agriculture Organization (FAO) will be on island from June 23 to 29 to assist in the completion of the Food Based Dietary Guidelines (FBDG).

The guidelines, which will be launched on July 24, will be the official tool on diet and health for the population of Antigua and Barbuda. The initiative is part of the government’s effort to improve the diet and health of the population.

The FAO has been providing technical guidance and advice in the form of training in the process of developing food based dietary guidelines and capacity building in nutrition education and dissemination.

The mission of the FAO team is specifically to undertake the finalisation of the guidelines and development of the education and dissemination plan.

As part of the activities, two training workshops will be conducted in Barbuda on 25 and 26 June and the other in Antigua on 27 June.

These workshops will be aimed at teachers, healthcare workers, nutritionists and health education and promotion officers.

These personnel will assist the population with knowing and interpreting the FBDG messages and graphics for Antigua and Barbuda.

12 Latin American Caribbean countries honored by UN for fighting Hunger by Zachary Dyer
17 June, 2013

Full Article

At a ceremony in Rome on Sunday, United Nations Food and Agriculture Organization (FAO) Director General José Graziano da Silva recognized 12 Latin American and Caribbean countries,
including Nicaragua, Honduras, Panama, and Venezuela, among others, that halved their proportion of people facing hunger.

The award honored countries for meeting the Millennium Development Goal to halve the proportion of undernourished people by 2015 and the more ambitious World Food Summit goal of halving the absolute number of undernourished people by the same year. FAO collects data from each member country and international agencies and then analyzes food availability and distribution to determine the number of people who cannot meet the caloric levels for a "healthy life," according to the group's methodology.

Critics of Venezuelan President Nicolás Maduro, however, blasted the organization for honoring the country when it struggles with food insecurity and some of Latin America’s worst inflation, rising nearly 30 percent each year. Opposition news organization Globovisión reported that activists from the Voluntad Popular political party demonstrated outside the U.N.’s FAO offices, disputing the quality of the food young people receive and the government’s claim that only 30 percent of the country’s food is imported, according to ABC News/Univisión. Opposition leader Julio Borges put the amount of imported food as high as 70 percent.

FAO acknowledged 38 countries in all for their achievements in fighting hunger. From Latin America and the Caribbean, Brazil, Chile, Cuba, Guyana, Nicaragua, Peru, Venezuela, Dominican Republic, Honduras, Panama, St. Vincent and the Grenadines, and Uruguay were recognized for their efforts, and leaders in the region are already looking to the next step. The Latin America and Caribbean without Hunger Initiative has set a target of eliminating hunger in the region by 2025.

“Reducing child malnutrition by half means we still have the other half to go,” said Panamanian President Ricardo Martinelli during the meeting.

**Jamaica backs FAO call for a hunger-free world** by the Jamaica Observer, 21 June, 2013


**Full Article**

JAMAICA has supported a call, led by the United Nations Food and Agriculture Organisation (FAO), for the eradication of hunger and malnourishment in the world.

Speaking at the 38th Session of the FAO's Conference at its headquarters in Rome, Italy on Tuesday, Minister of Agriculture and Fisheries Roger Clarke said "Jamaica underscores our commitment to totally eradicating hunger by 2025, and welcomes the focus and initiatives of the FAO in pursuing our shared goal of a hunger-free world."

The minister said Jamaica embraced the concept of zero tolerance for world hunger and he recalled the drive, supported by FAO Director General Graziano da Silva, in his then capacity as head of the regional office for Latin America and the Caribbean, for a "Hunger-Free Latin America and the Caribbean Initiative".

Said Clarke: "Countries like Jamaica that are net food importing countries cannot afford to place food security on the back burner; we now have to re-orient our production systems to address food import substitution."
It was the intention of Jamaica, he said, to enact a Food Security Law to ensure the domestic production of a minimum threshold of a selected basket of foods for which there is production capability and national comparative advantage to meet domestic food, nutrition and health goals. This law, he said, would be supported by appropriate production and trade policies to increase production and productivity of the domestic agriculture and agro-processing sectors and protect local industries from unfair external competition.

The minister also supported the view of the FAO that raising nutrition levels involved enhanced production, marketing and consumption of local vegetables and staple crops such as locally grown yams, sweet potatoes and cassava.

"In light of the economic challenges, a high debt burden and consequent arrangements with the International Monetary Fund we anticipate that the more vulnerable in our society will be faced with food security issues. Where there is challenge, however, there is opportunity and so Jamaica believes that our high and unsustainable food import bill provides a significant opportunity for import substitution," Clarke told the conference.

The 38th Session of the FAO Conference is seeking to review and update strategies to address world hunger and nutrition issues.

Nearly 870 million people worldwide live with chronic hunger, while at least two billion suffer from other forms of malnutrition.


**Full Article**

Global food production isn’t increasing fast enough to support the world’s rapidly growing population, according to new research from the Institute on the Environment (IonE) at the University of Minnesota.

Crop yields are actually falling rather notably in many of the warmer/poorer regions of the world as a result of rising temperatures and increasing natural disasters. Such agricultural declines are predicted to continue into the foreseeable future as a result of climate change. And something else to note — this new research (along with most) doesn’t take into account the rapidly approaching problem of running out of inorganic fertilizers… A very significant problem…

With regards to the new research — previous work has estimated that global agricultural production would need to increase by around 60-110% by 2050 in order to keep up with mid-range population growth estimates. But according to the new research, as of right now yields of the world’s four most important crops — maize, rice, wheat and soybean — are only increasing about 0.9-1.6% a year. “At these rates, production of these crops would likely increase 38-67% by 2050, rather than the estimated requirement of 60-110%. The top three countries that produce rice and wheat were found to have very low rates of increase in crop yields.”
“Particularly troubling are places where population and food production trajectories are at substantial odds,” Ray says, “for example, in Guatemala, where the corn-dependent population is growing at the same time corn productivity is declining.”

“The analysis maps global regions where yield improvements are on track to double production by 2050 and areas where investments must be targeted to increase yields. The authors explain that boosting crop yields is considered a preferred solution to meet demands, rather than clearing more land for agriculture. They note that additional strategies, such as reducing food waste and changing to plant-based diets, can also help reduce the large estimates for increased global demand for food.”

“Clearly, the world faces a looming agricultural crisis, with yield increases insufficient to keep up with projected demands,” says IonE director Jon Foley, a co-author on the study. “The good news is, opportunities exist to increase production through more efficient use of current arable lands and increased yield growth rates by spreading best management practices. If we are to boost production in these key crops to meet projected needs, we have no time to waste.”

The new research was just published in the open access journal PLOS ONE.

Climate Change

Agro-Biodiversity in a Changing Climate by the Belize Guardian, 27 June, 2013

Full Article

A public lecture on “The conservation of agro-biodiversity as a response to climate change” was held last Friday at the George Price Centre for Peace and Development in Belmopan City. The one-day event saw the participation of eminent scientists from the Caribbean and came thanks to cooperation between the Caribbean Agriculture Research and Development Institute (CARDI) and the Technical Center for Agricultural and Rural Cooperation (CTA).

According to Anil Sinha, the Belize representative for CARDI, the national consultation was also being held in the entire Caribbean region in an attempt to come up with national, regional and international strategies to conserve agro biodiversity; especially in response to climate change.

By agro-biodiversity, we mean the variety and variability of animals, plants and micro-organisms that are used directly or indirectly in agriculture and food production including crops, livestock, forestry and fisheries. It also includes the diversity of non-harvested species that support crop production (soil micro-organisms, predators, pollinators), and those in the wider environment that support agro-ecosystems (agricultural, pastoral, forest and aquatic).

The reality of climate change at the Global level continues to be disputed, although a massive amount of data has been generated on the subject, which all point to a movement of global weather patterns that have become both unstable and unpredictable. The main speaker at last week’s event, Dr. Allan Williams, a graduate of Cornell University and a specialist in land administration and agriculture systems and who in 2006 formulated the European Union’s support strategy for Belize. He believes that a changing climate will also bring a shift in the geographic distribution of pathogens.
“...That will be a serious challenge because we are going to see the appearance of new invasive species; we will see new invasive species; that we don’t even know what it is that they do within our agro ecosystem.”

In Belize, the data on climate change has come from several research centers in the country. From information obtained from CARDI, which maintains a center in Central Farm, mean temperature rise over the last sixty years is about one degree Celsius. Dr. Ulric Trotz, Deputy Director and Science Advisor of the Belmopan based Caribbean Community Climate Change Center who was also a participant at Friday’s panel, believes that these patterns bid ominously for Belize’s staple of food crops such as corn and beans.

“In Belize some research is being done on the impact on rising temperature, projected two degree rise in centigrade...with increased temperature with or without rainfall, we will get a significant reduction in the yields of those crops of about 90% to 20% reduction.”

But the experts convened at the George Price Center in Belmopan last week all agree that there is hope in the conservation of agro biodiversity despite climate change. That silver of hope relies on Belizean farmers like David Requena, forty five years of age, who maintains a one hundred acre and multi crop farm in the Yalbac Area, grafting fruit trees and coconuts as well as maintaining a healthy variety of ‘Tuki’, ‘Cocoyol’ and Arrow Root. Farmers like David Requena are key to conserving the unique genetics of a variety of seeds on their farm, insitu conservation.

Another option to conserve agro biodiversity is through exitu conservation methods such as by amassing as many seed types as possible and having them enclosed in deep freeze. But this can’t work all the time says Doctor Ulric Trotz, because within three years, when that seed is again exposed to the climate outside, the climate has already changed.

“I think this is bad news to the ‘Monsantos’ because essentially what we are proposing is that we return to the farm, adaptation of genetic resources to environmental change is necessary and a process that requires exposure to the environment, instead of being stored, deep frozen in a gene bank.”

Soil and Water Management

**Farmers urged to prepare for heavy rainfall** by the Barbados Advocate, 6 July 2013

**Full Article**

With the first three months of the rainy season expected to have average to above average rainfall, those within the agricultural community are being urged to take necessary precautions.

According to the Ministry of Agriculture, Food, Fisheries and Water Resource Management’s Outlook publication this means that for June, July and August the cumulative rainfall is likely to fall between 346 and 427mm. The June average alone is 103.0 mm.

It also highlighted that above-average sea-surface temperatures will also help to enhance precipitation over the Eastern Caribbean. This has implications for the 2013 Atlantic Hurricane Season, which officially started on June 1 and ends November 30. According to Professor William Gray of Colorado
State University, 18 named storms are expected over the Atlantic, nine of these are likely to become hurricanes and four may reach the status of Category 3 or higher (winds greater than 110 mph).

The Ministry therefore made several recommendations for farmers, including for them to plant crops or raised beds to reduce the possibility of water logging.

“If your field is prone to water settling, dig drains to move the water to lower lying areas away from your crops. Remember that plants are more prone to diseases during this period due to higher humidity levels. You may need to apply preventative sprays on crops (e.g. squash) that are very susceptible to disease problems. Maintain ground cover to reduce the splashing of mud and water onto leafy crops. Mulches (organic or artificial) will also reduce the compaction and erosion of your soils,” the Ministry advised. (JMB)

**CAMI Project Promotes Agro Meteorology** by GIS Dominica, 2 July 2013.  

**Full Article**

The Ministry of Agriculture met with farmers, extension officers and other resource people involved in Agriculture at a farmers’ forum to discuss the impact of a regional project which uses weather and climate information to enhance farming in the region.

The farmers’ forum, held at the Office of Disaster Management (ODM) in Jimmit sought feedback on work done under the Caribbean Agro Meteorological Initiative (CAMI) project which was introduced to farmers two years ago.

The objective of the CAMI project was to increase and sustain agricultural productivity at the farm level in the Caribbean region.

As part of the project, farmers have been receiving periodic agro met bulletins from the local met office designed to assist them in making decisions about farm practices as it relates to weather conditions.

One Meteorological Officer at the local Met Office, Annie Joseph, explained that, “At the Met Office, on a monthly basis, in collaboration with the Ministry of Agriculture, we compile a meteorological bulletin which is placed on our website. [They are] also distributed to different farmers, extension officers, and organizations around the island.”

According to her, the bulletin is packed with information on different weather parameters such as rainfall, temperatures, relative humidity, winds, dry spells, and rainfall days.

“First [we] look at a review of what happened during the previous month and then what is expected for the coming month based on the climate data,” Joseph informed GIS news.

Tuesday’s forum discussed in detail the effectiveness of the weather and climate information given to farmers.
“As part of the bulletin we work together with the met office and the CIMH (Caribbean Institute for Met and Hydrology) where they give a three month forecast of what the weather will most likely be,” said Adisa Trotter, Agriculture Officer.

He further explained, “For example, earlier this year we had a drought condition in February and March where we were able to advise farmers of the different techniques they could employ on their farms, like the use of compost material, to enhance the soil moisture. During the drought conditions we saw a lot of plants were wilting, therefore when farmers utilize the information based on the forecast it could enhance practices on their farms.”

The Division of Agriculture is reporting positive feedback from farmers about the use of the Agro Met bulletins.

Trotter pointed out that there have been two farmer forums held in the past – one in the town of Portsmouth and the other in La Plaine.

“From the discussions that we’ve had with farmers, they all see the usefulness of utilizing that kind of weather information on their farms,” he said.

He recalled a farmer who had said that, “He planted a whole range of vegetable crops and he didn’t know the drought conditions were coming. He experienced a total loss because of the drought.” Trotter explained that, “Had he [the man] known the drought was coming he wouldn’t have gone out and planted all these crops, or he would have employed techniques such as irrigation to enhance his farming operations.”

These are the situations which the project aims to amend. The Caribbean Agro Meteorological Initiative came to an end in 2012. Several Caribbean countries participated in that project.

**Agricultural Development**

**Minister Baptistes Negotiates $8M Grant.** Government of Antigua and Barbuda press release, 25 June, 2013


**Full Article**

Minister of Agriculture Hon. Hilson Baptiste has challenged his technicians to produce a sound proposal, in quick time, so that Antigua and Barbuda can capitalise on the promise of $8 million to shore up the agricultural sector.

The pledge came out of meetings in the margins of the recent China-Latin America and the Caribbean Agricultural Ministers Forum in Beijing, China.
Minister Baptiste said his pitch for assistance, namely for heavy-duty equipment, greenhouses, construction and repair of feeder roads, soil-testing technology and training and implementation equipment, from a $50 million fund, was well received.

“The Chinese premier, Mr. Li Keqiang, is looking forward to deepening the agricultural co-operation to continue to promote a win-win outcome for the region and contribute to global food security,” Minister Baptiste said.

He charged Director of Agriculture Mr. Jedidiah Maxime and the technicians to work quickly, since other countries will be in the hunt for assistance.

“Climate change is here, and I want action now. All the studies have been, so it’s now time for us to present the proposals, so we can access the funds and reap the benefits,” the minister stated.

Mr. Maxime said he is pleased with the outcome of the minister’s trip, and he gave assurances that the task at hand will be effectively completed.

“The groundwork is already done, so it will be easy to prepare the proposal. If the Government of China is willing, we will provide the necessary information to access this help for the farmers,” Mr. Maxime said.
The agriculture ministers’ meeting was held on June 8-9, 2013 under the theme “Mutually beneficial cooperation and win-win development.”

**Plants Underway for Caribbean Agriculture Week in October** by Starbroek News, 24 June, 2013

**Full Article**

The Caribbean Community (Caricom) Secretariat has announced that preparations are advancing for the Caribbean Week of Agriculture (CWA), featuring fisheries and forestry which will be held in Georgetown, Guyana in October.

A release from the Caricom Secretariat said that CWA 2013, the twelfth edition of the Region’s premier agricultural event, will be hosted by the Government of Guyana from October 4-12, 2013, under the theme ‘Linking the Caribbean for Regional Food and Nutrition Security and Rural Development.’

Caribbean Week of Agriculture (CWA), conceptualised by IICA, places agriculture and rural life on the ‘front burner’ of regional integration activities. It aims to enable the key decision-makers in the public and private sectors to better acknowledge the importance of agriculture and rural life to the economic, social and environmental stability of the region. It is also geared to provide major stakeholders in agriculture and related sectors with an opportunity to dialogue and forge a common vision for the repositioning of agriculture and the enhancement of rural life.

The release said that organisers are working towards a dynamic event that incorporates workshop sessions and other fora on agriculture in all its dimensions, field trips and competitions that highlight the use of Caribbean foods in a manner that promotes healthy living. As is customary, a special meeting of the Council for Trade and Economic Development (Coted) on agriculture will be held during the CWA.
While the CWA will be formally opened on Wednesday October 9, the activities will begin on Friday October 4 with two two-day workshops running concurrently, one on Media Science and the other on ICT and Agriculture Value Chains Validation. An inter-faith service is planned for Sunday October 6 at the Guyana International Conference Centre (GICC) where the CWA activities will take place. An Exposition and Trade Show will be held from October 7-12 and will include several food competitions.

The release said that the preparations for the CWA are being led by a broad-based steering committee that comprises representatives from the government of Guyana, the Caricom Secretariat, the Caribbean Agricultural Research and Development Institute (Cardi), the Inter-American Institute for Cooperation on Agriculture (IICA), the Food and Agriculture Organisation (FAO), and the Technical Centre for Agricultural and Rural Cooperation (CTA).

Webpages at the Caricom Secretariat (www.caricom.org) and the Ministry of Agriculture (www.agriculture.gov.gy) have been established to provide information on the CWA 2013, as well as to receive feedback from the general public, the release added.

**Five Year Agri Plan Discussed** by Caribarena Antigua, 28 June, 2013


**Full Article**

Antigua St. John's - The seventh meeting of the Comprehensive Disaster Management Coordination and Harmonization Council and Technical Advisory Committee was held to further work on a five year plan to advance the regional agriculture sector.

The group met over a two-day period from June 24 to 26 at the Parliament building conference room. The technical advisory committee has been working under the leadership of Hilson Baptiste, the minister took over chairmanship in 2010. He then went on to commend the other committee members for their hard work as the group is far ahead of the others in the region.

The Agriculture Minister said he is pleased with the outcome of the meeting, as they were able to make progress on the key arrears of the plan for Disaster Risk Management, Praedial Larceny, and Climate Change.

Documents were prepared to present to heads of government and to the other colleagues at Caribbean Week of Agriculture 2013 in Guyana.

Speaking on behalf of the Caribbean Farmers Network, Chief Coordinator Jettrow Greene said Antigua continues to grow leaps and bounds in respect of Agriculture and must be commended.

Under the leadership of the Minister Hilson Baptiste, Technical Management Advisory Committee (TMAC) is the most functional committee in CARICOM.

Greene also challenged farmers in Antigua and Barbuda to explore the export market since that could enhance the countries state of economy and reduce wastage. I think agriculture has come a long way under the leadership of Minister Baptiste and should be commended. Antigua is a tourism based
country and I think you have done a better job than some of the other countries in the region that’s agriculture based.

The meeting was attended by key players in the region from Food and Agriculture Organization of the United States (FAO), Caribbean Disaster Emergency Management Agency (CDEMA), Inter-American for Cooperation on Agriculture (IICA), Caribbean Community Climate Change Center (CCCCC), Caribbean Agriculture Research and Development Institute (CARDI), CARICOM and Organization of Eastern Caribbean States (OECS).

The group will continue to work together to help bring the agricultural plan together across the region.

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**T&T hosts talks on regional agriculture** by the Trinidad and Tobago Guardian, 29 June, 2013


**Full Article**

Today is the second and final day of a meeting of one of the technical management advisory committees (TMAC) set up by Caricom to look at co-ordination of agricultural research and development in the region. This TMAC was set up to define ways to address one of the ten key binding constraints, as identified in the Jagdeo Initiative, namely “Inadequate Research and Development.” It is led by the Ministry of Agriculture, St Lucia and convened by the Caribbean Agricultural Research and Development Institute (CARDI).

Hubert Emmanuel, permanent secretary at St Lucia’s Ministry of Agriculture, is chairing the sessions at the Hyatt Regency, Port-of-Spain. The Jagdeo Initiative is a strategy for removing constraints to the development of agriculture in the Caribbean. It builds upon past regional efforts to develop a common agricultural policy (CAP) and identifies ten key binding constraints faced by the sector, with resulting necessary actions.

The anticipated outcome of this meeting is agreement on the way forward for a regional strategy for research and development; a strategy for linkages with Latin America; and identification of essentials to address climate change.

Officials at this meeting include representatives of Caricom, the Ministry of Food Production, the University of the West Indies, the University of Guyana, the University of T&T, the Food and Agriculture Organisation of the United Nations (FAO) and the Inter-American Institute for Co-operation on Agriculture (IICA).

**Haiti - Agriculture: IDB gives $15 MM to boost agricultural productivity** by Haitilibre, 19 June, 2013


**Full Article**

The Inter-American Development Bank (IDB) announced a $15 million grant, which will support policy, legal and institutional reforms to benefit Haiti’s agricultural sector, top boost agricultural
productivity and rural incomes. Farming plays a fundamental role in the Haitian economy, accounting for around half of the country’s jobs and almost one quarter of national income.

The new grant is the second in a series of programmatic operations that provide the Haitian government budget support as some of its key agencies address constraints affecting agriculture. These fast-disbursing grants complement other larger, multi-year agriculture investment projects financed by the IDB and other donors in Haiti.

Specifically, the Ministry of Agriculture, Natural Resources and Rural Development (MARNDR) and the Inter-Ministerial Land Use Committee (CIAT) are taking steps to modernize animal and plant health services, increase farmers’ access to agricultural innovations, expand access to irrigation, reduce crop damage caused by floods, and improve land management services.

As one of Haiti’s leading donors, the IDB is currently financing investment projects in the agriculture sector totaling more than $200 million, including crop intensification, irrigation, rural value chains, farming technology transfers, land tenure clarification and watershed management.

Haiti - Agriculture: $87,5MM for agricultural development in the North by Haitilibre, 21 June, 2013

Full Article

Thursday at the Administrative Complex of Cap-Haitien, the President Michel Martelly, accompanied by Thomas Jacques, Minister of Agriculture, Natural Resources and Rural Development, in collaboration with the U.S. Embassy, launched in the presence of Government officials, parliamentarians from the region and the United States Ambassador, Pamela White, the project "AVANSE".

This 5-year project of "Feed the Future" program aims to increase agricultural productivity, improving the stability of watershed above the selected plains, the strengthening of agricultural markets and capacity building are the main areas on which focuses the teams organized for the execution of this project, funded to the tune of 87.5 million U.S. dollars. Five crops are targeted: corn, rice, cocoa, banane-plantain/banane-figue and beans.

At the end of the project, farm incomes for 43,500 beneficiaries whose 7,000 for cocoa will be doubled. In addition, rehabilitate and construct 120 km of rural roads, improve 23,000 hectares with biophysical conditions, planting 2.4 million trees and invest on the side of private sector 3.5 million U.S. dollars are the other key aspects of this project.

"I urge the Ministry of Agriculture, Natural Resources and Rural Development, its departmental directorates of the Great North, the local authorities and, not least, the farmers in the region, international partners, such as USAID and its implementing agency, DAI, to make this project a flagship model of cooperation in agriculture," declared the Head of State.

"This project is part of the outline of the roadmap of the Ministry of Agriculture," declared the Minister Jacques Thomas who welcomed the initiative and promised to support all agricultural enterprises.
For her part, Ambassador Pamela White, reaffirmed the commitment of the U.S. Government to continue to work together with the Ministry of Agriculture to strengthen the agricultural sector. "An nou avanse ansanm!", she launched.

Moreover, in Grison Garde (Plaine-du-Nord), the President Martelly, the Minister Jacques Thomas and Ambassador Pamela White, to launch the first activities of the project "AVANSE" proceeded to lay the first stone of the rehabilitation of the irrigation system in this area and of the stretch of road 6 km from Carrefour Robillard in Grison Garde.

**Linking farmers to moving markets** by the FAO, 3 July, 2013


**Full Article**

FAO report says policy-makers need to recognize the vast diversity of ‘smallholder farmers’, while linking them to constantly evolving markets, to be able to feed more people.

3 July 2013, Rome - In a new report, FAO is calling for more nuanced policy-making to boost smallholder farm output, requiring better knowledge of individual farm households and the constraints they face, to be able to target investments and policy support where they are needed to ensure that they can sell surpluses from their harvests.

"Smallholder farmers need to be better integrated into markets in order to reduce hunger and poverty," said David Hallam, Director of FAO's Trade and Markets Division.

"Only with greater market integration and more inclusive value chains will they adopt the new technologies required to achieve productivity growth.

No one-size-fits-all solution

"Policy interventions that aim at encouraging greater levels of smallholder production for sale in markets need to take better account of the heterogeneity of smallholder households.

Encouraging semi-subsistence producers to participate more in local markets and supporting more commercialized producers to better access sophisticated value chains raise different issues with respect to both their ability and willingness to increase production for sale. There is therefore no ‘one size fits all’ solution to encourage greater market participation," Hallam said.

First and foremost, Hallam underlined, is the need for better links to buyers. Farmers will not expend more time, money and energy in producing more, if any surplus they produce will likely go to waste because there is no storage, no transport or, possibly, no market within a reasonable distance, he explained. The risk that any money spent to produce more will be lost is too great a risk for poor farmers to run.

In addition, smallholder farmers are usually the ones investing their own money, with little access to credit or insurance should something arise, such as unfavourable weather conditions.
"Just as smallholders are a heterogeneous group, the markets in which they participate are also diverse in terms of their size, geographic location, connectivity to other markets, power relations between market players, and institutional setting," the report states.

This combination of complex factors means that approaches to smallholder farmers' participation in markets have to be suitably nuanced.

Closing the yield gap

"Small-scale agriculture is the main source of food in the developing world, producing up to 80 percent of the food consumed in many developing countries, notably in sub-Saharan Africa and Asia," the report states. "Smallholders and small family farms are therefore central to an inclusive development process and their contribution is crucial to food security," it adds.

Yet, in sub-Saharan Africa, the yield gap between farmers' yields and potential yields is estimated at 76 percent, meaning farmers produce less than one quarter of what they could. In Central America and the Caribbean, the yield gap is 65 percent, meaning smallholders produce less than a third of their potential yield. In developing countries, the yield gap is often higher than 50 percent.

High food prices

High food prices are seen by many policy-makers as an opportunity for smallholders to produce more and earn more income. But experience shows that, often, smallholders have failed to respond as expected.

"High levels of price, production risks and uncertainty, and limited access to tools to manage them deter investment in more productive new technologies that would enable smallholders to produce surpluses for sale in markets. Inadequate infrastructure, high costs of storage and transportation, and non-competitive markets also militate against production of a marketable surplus," Hallam said.

"Given these constraints, it is not surprising that the supply response of many small producers to recent high food prices has been muted."

Beyond an enabling environment

According to the report, the public sector, together with international development partners, should have a strong role as moderator among different public, private and civil society actors, promoting what is in the best interests of the smallholder agricultural sector while encouraging development of markets.

Given the limitations of the public sector in many developing countries and reductions in foreign development aid, foreign direct investment (FDI) is also seen as a potential source of funding.

This sort of investment can take many forms -- not just controversial land acquisitions -- and should ensure sustainable and equitable use of land while strengthening food security for indigenous populations, FAO emphasizes.
Guyana Gets US$7.3m from CDF. CARICOM press release, 6 July 2013

Full Article

(CARICOM Secretariat, Turkeyen, Greater Georgetown, Guyana) Guyana and the CARICOM Development Fund (CDF) on Saturday, 6 July, 2013, signed a country assistance programme agreement that will inject US$7.32M into Guyana’s agriculture sector.

Guyana’s Finance Minister, Dr. Ashni Singh and Chief Executive Officer of the CDF, Ambassador Lorne McDonnough signed the agreement for a combination of a US$4.566M concessionary loan and a US$2.66M grant, at the Hilton Hotel. His Excellency Donald Ramotar, President of Guyana, the Hon. Carolyn Rodrigues-Birkett, Minister of Foreign Affairs, the Hon. Robeson Benn, Minister of Public Works, Transport and Hydraulics, and the Director-General of the Ministry of Foreign Affairs, Ambassador Elizabeth Harper, witnessed the signing.

Through the funding, more than 9,000 farming households are to gain easier access to farmlands to improve and sustain agriculture production year-round.

In brief remarks, President Ramotar said the funding made possible through the CDF would go a long way towards improving the infrastructural development in the agriculture sector which, in turn, would stimulate and develop production particularly in three regions of Guyana.

He pointed to Guyana’s capacity to feed the Caribbean and to contribute to the food security of the Region.

President Ramotar, who is also the Lead Head of Government for Agriculture in the Community’s Quasi Cabinet, called for the de-stigmatisation of agriculture, and the modernization of the sector to make it more attractive to young people. He said he was confident that with modern technology and new techniques, the Community could lift production, find markets, lure youths and lift the income of those involved in the sector.

In his comments prior to signing the agreement, Minister Singh said that President Ramotar’s presence at the event - held in the margins of the Thirty-Fourth Meeting of the Conference of Heads of Government – was testimony to Guyana’s commitment to CARICOM, to the CARICOM Single Market and Economy (CSME) a flagship programme of CARICOM, to regional institutions, and to the development and impact of projects in Guyana.

Agriculture, he stated, was perhaps the leading example of a sector that could manifest regional integration at its best.

Ambassador McDonnough said the approval of funds and signing ceremony with Guyana marked the fifth of eight Member States that are to benefit from the CDF under the first subscription cycle, and was tangible evidence of Community mechanisms at work. The CDF was established under Article 158 of the Revised Treaty of Chaguaramas “for the purpose of providing financial or technical assistance to disadvantaged countries, regions and sectors.” It is the centre-piece of a regime to address the disparities among the Member States of the Community which may result from the implementation of the CSME.
Funding, Ambassador McDonnough said, has been approved for Dominica which should sign its agreement next week. Consideration of a programme with Grenada is underway and should shortly be able to approve for signature.

The country assistance programme to Guyana, he said, supported access road construction by the Inter-American Development Bank (IDB) and the Caribbean Development Bank (CDB), and dovetails with other agriculture-related projects.

Upcoming Events

July 2013

International Conference on Tropical Roots and Tubers for Sustainable Livelihood under Changing Agro-climate
Date: 9 -12 July 2013
Location: Thiruvananthapuram, Kerala, India
Website: http://isrc.in/internationalconference2013/

21th Annual International Mango Festival
Date: 13 -14 July 2013
Location: Fairchild Tropical Botanic Garden in the Coral Gables, South Florida, USA
Website: http://www.fairchildgarden.org/Events/?date=2013-07&eventid=748

International Association of Agricultural Information Specialists (IAALD) World Congress 2013
Date: 21- 24 July 2013
Location: Cornell University, New York, USA
Website: http://iaald.library.cornell.edu/

September 2013

Science Forum 2013
Date: 23-25 September 2013
Location: Bonn, Germany.
Description: Will focus on “Nutrition and health outcomes: targets for agricultural research”
Website: http://www.scienceforum13.org/

First International Conference on Global Food Security
Date: 29 September - 2 October 2013
Location: Noordwijkerhout, The Netherlands
Website: http://globalfoodsecurityconference.com/index.html
October 2013
12th Caribbean Week of Agriculture (CWA)
Date: 4-12 October, 2013
Location: Guyana International Conference Centre, Guyana
Theme: Linking the Caribbean for Regional Food and Nutrition Security and Rural Development
Email: cwaguyana2013@gmail.com

November 2013
Entomology 2013: Entomological Society of America (ESA) 61st Annual Meeting
Date: 10-13 November 2013
Location: Austin, Texas, USA
Theme: Science Impacting a Connected World
Website: http://www.entsoc.org/entomology2013