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Caribbean Biosafety and Biotechnology Situation

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Report Highlights:

Biotech regulation has been virtually non-existent in the Caribbean. However, this may change in the coming years. In June 2011, the United Nations Environment Programme/Global Environment Facility (UNEP/GEF) initiated a four-year, \$13 million Regional Project for Implementing National Biosafety Frameworks (NBFs) in the Caribbean, which will likely become the de facto means of regulating biotechnology within the twelve Caribbean Community (CARICOM) countries participating in the project. Currently, the region relies heavily on the United States as its main supplier of food and agricultural products, and this trend is expected to continue.

Section I. Executive Summary:

Several institutions within the CBATO's region of coverage [1] are conducting biotech research on crops such as sugarcane, cassava, papaya, rice, coconuts, cocoa, coffee, peppers, and spices and to a lesser extent on animals. This research has yielded a number of advances, including developing

transgenic papaya varieties resistant to devastating papaya viruses as well as the development of biochemical compounds suitable for use as bio-pesticides. However, actual commercial production of biotech products is still sometime off in the future. The Caribbean region is also not yet at the stage where biotech engineering (or cloning of animals) is being developed.

Post is not aware of any specific requirements related to the importation of biotech products in its region. Currently, the region relies heavily on the United States as its main supplier of food and agricultural products. Nearly, 95 percent of all corn, soybean, cotton and canola products are imported from the United States.

Although no country within the CBATO region has implemented any substantive biotech regulations as of yet, over the past several years most of the countries within CARICOM [2] have worked at developing their own draft NBF, a combination of policy, legal, administrative and technical instruments geared toward addressing safety for the environment and human health in relation to modern biotechnology. These countries are now seeking to finalize and implement their draft NBFs with the help of a UNEP/GEF four-year, \$13 million project. The project will assist the 12 CARICOM countries that are parties to the Cartagena Protocol on Biosafety (CPB) [3] to implement effective, operable, transparent and sustainable NBFs, deliver global benefits that are compliant with the CPB in the Caribbean sub-region countries, and protect against any potential risks from the introduction of living modified organisms (LMOs) into the environment. Consequently, suppliers may encounter greater regulation of biotech products as well as increased consumer awareness in the years ahead.

[1] The CBATO islands of coverage are: Anguilla, Antigua & Barbuda, Aruba, The Bahamas, Barbados, Bermuda, British Virgin Islands, Cayman Islands, Dominica, Guadeloupe, Martinique, Grenada, Montserrat, the former Netherlands Antilles (Curaçao, Bonaire, Sint Maarten, Saba & St. Eustatius), St. Kitts & Nevis, St. Lucia, Saint Martin, St. Barthélemy, St. Vincent & the Grenadines, Trinidad & Tobago, and Turks & Caicos Islands.

[2] CARICOM Member States are: Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Lucia, St. Kitts and Nevis, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago (CARICOM Associate Members are: Anguilla, Bermuda, British Virgin Islands, Cayman Islands, Turks and Caicos Islands)

[3] CARICOM Member States that are Parties to the CPB are: Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago.

Section II. Plant Biotechnology Trade and Production:

Overall, agricultural production throughout the CBATO region is minimal, and most countries within the region must import the majority of their agricultural products. With a total land area of 23,783 sq. km. (9,183 sq. miles), roughly the size of New Hampshire, only about seven percent of the land is arable and an even smaller percentage is actually utilized for farming. There is no known commercial production of biotech products in the region. Several institutions in the CBATO region have engaged in biotech research, mainly to do with crops produced locally

Currently, no country in the Caribbean region has an approved biosafety legal framework in place to oversee the production or release of LMOs, which may represent an impediment to taking research to the next level of field trials and later commercialization.

On a regional level, many research institutions throughout the Caribbean have recognized that the production of biotech products could lead to an increase in yields, and reduced use of water in agriculture. These institutions have targeted several local products (sugarcane, cotton, rice, coconuts, cocoa, coffee, peppers, and spices) that could be improved using biotechnology. Some of the institutions leading the way are: the University of the West Indies (UWI), the Caribbean Agriculture and Development Institution (CARDI), the Caribbean Industrial Research Institute (CARIRI) in Trinidad and Tobago, and the National Agriculture Research Institute (NARI) in Guyana.

Trade

Post is not aware of any specific requirements related to the importation of biotech products in its region [1]. Nine of the countries in the CBATO region are parties to the Cartagena Protocol on Biosafety [2], but none has implemented it to date.

Currently, the United States is the region's main supplier of food and agricultural products. Nearly, 95 percent of all corn, soybean, cotton and canola products are imported from the United States.

Within the Caribbean region, CARICOM is focused on establishing the Caribbean Single Market and Economy (CSME) to facilitate the free movement of CARICOM-origin products between Member States. It remains to be seen whether CARICOM will develop regional rules affecting trade in biotech products.

Section III. Plant Biotechnology Policy:

Currently, no country within the Caribbean region has implemented biotech regulations. Most of the countries within CARICOM appear poised to address their biotech requirements through a national biosafety framework. Trinidad and Tobago has developed a draft policy that directly addresses biotechnology. Trinidad and Tobago's national biotechnology plan intends to: create new

[1] Guadeloupe and Martinique, as departments of France, may be exceptions to this statement.

[2] Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago.

businesses based on biotechnology, develop an investment platform to spur biotechnology activity, and establish a regulatory and institutional framework that manages biotechnological development. The draft policy, developed some time ago, has yet to be presented to Trinidad and Tobago's Cabinet for approval. Other countries in the Caribbean have not indicated whether they will develop a biotech policy. Post believes that some of these countries may wait to see what emerges in neighboring countries before they decide whether to develop their own policy.

The Regional Project for Implementing NBFs

In June 2011, UNEP/GEF initiated a four-year, \$13 million Regional Project for Implementing NBFs in the Caribbean. The project will assist the 12 CARICOM countries that are parties to the CPB with implementation of their obligations. This project is a continuation of previous UNEP/GEF biosafety capacity building efforts in the region.

The overall goal of the UNEP/GEF project is to implement effective, operable, transparent and sustainable NBFs, and deliver global benefits that are compliant with the CPB in the Caribbean sub-region countries while also protecting against any potential risks from introduced living modified organisms (LMOs). The four project aims are to:

- establish institutional (policy/legal) frameworks for biosafety at both the national and regional levels that will allow Parties to the CPB utilize modern biotechnology in compliance with this Protocol;
- facilitate the establishment, enhancement and operation of institutional capacities as well as technical and technological resources among the participating Caribbean Member States for the detection, assessment and management of potential risks from modern biotechnology (in combination with invasive alien species (IAS) where appropriate) at the national and regional levels;
- develop and strengthen the human resource base and level of expertise in biosafety on a national and regional scale, in support of biosafety management and national biosafety systems in the Caribbean;
- improve and consolidate biosafety information management within the Caribbean project countries in a way that can promote transparency, raise public awareness and facilitate the biosafety decision making, and be up scaled to provide broader regional information services as needed, and if possible, establish links to information sources.

The regional portion of the project is expected to support the establishment of a region-wide mechanism for coordinating and supporting countries in biosafety management by providing them with training on biosafety risk assessment and the management of LMOs. According to various sources, the regional aspect could also create a Regional Biosafety Clearing House (BCH) to support and coordinate information exchange. The regional process is also expected to strengthen institutional capacities and provide technical guidance on biosafety issues in the region as well as assist with the implementation of NBFs.

Meanwhile, national activities of the project will support the establishment in the twelve countries of the necessary legal and institutional frameworks, public education programs, and training necessary for effective and sustained implementation of the CPB. Country-specific expected outcomes include establishing:

- functional NBFs in line with the CPB and the national and regional needs of each country;

- functional national systems able to detect LMOs and perform risk assessments;
- functional systems to monitor the environment and enforce regulations;
- national systems for biosafety information management while stimulating public awareness, biosafety education, and participation in the decision-making process.

The project, which is scheduled to end by 2015, has largely focused on organizational matters to date, but is expected to kick into a higher gear by late 2012. Some countries have already begun some country-level activities, while regional activities are expected to begin by early 2013.

Section IV. Plant Biotechnology Marketing Issues:

There are no significant marketing issues that currently affect U.S. products. However, islands such as Dominica that export organically grown crops to niche markets in Europe, are reportedly concerned with various biodiversity issues. The main concern is that coexistence with any biotech material introduced into their small island environment could jeopardize their exports to Europe. This concern may be a factor in shaping the regulatory environment in some of the countries in the future and could have a marketing impact on some U.S. products.

Exporters of biotech commodities should also be aware that the UNEP/GEF project plans to undertake “awareness raising activities” at the national level to educate the public on biosafety, biotechnology, bio-security and invasive species. The project will also support stakeholder consultations as part of the national processes to enact biosafety regulations, and it is anticipated that most of the CARICOM countries in the region will use similar procedures.

Section V. Plant Biotechnology Capacity Building and Outreach:

With an increase in food security concerns and being an importer of more than 80 percent of its agricultural products, CARICOM countries are beginning to take preliminary steps to coordinate more closely to address biotech imports, local production, and biosafety regulations. On a regional level, there appears to be minimal coordination between research institutions and national organizations.

In an effort to address the region’s capacity building needs, the aforementioned UNEP/GEF project will seek to tackle the issue from both the institutional and human resource perspectives. In terms of establishing and upgrading the resource base and institutional capacity, the project aims to:

- complete overall capacity/needs assessment of key institutions (national and regional);
- design training programs and manuals, conduct training workshops, and provide short term attachment opportunities for scientists and technical personnel involved in detection and risk management of LMOs;
- develop validated standards and protocols for biosafety risk assessment and risk management, and if relevant, identification of LMO shipments; and strengthen the Bureau of Standards of each participating country to improve their capacity to provide monitoring services as far as standards for biosafety management, and to coordinate national (and eventually regional) accreditation scheme for biosafety laboratories;
- procure laboratory equipment, supplies and reagents required for establishing national reference laboratories and/or equipping them and making them operational for LMO testing.

In terms of human resource development the project aims to :

- develop of biosafety programs and manuals for personnel involved in: a) administrative system management; b) legislative, monitoring and enforcement system management; c) public education and participation system management; and d) LMO risk management (including risk communication) at the national and regional levels;
- ensure continuity in biosafety training with succession planning and continuous training to ensure the development of a cadre of trained personnel in which relevant expertise is always available at the national and regional levels;
- conduct training workshops for scientific and technical personnel involved in risk assessment or risk management of LMOs;
- facilitate short-term attachments for scientific and technical personnel involved in risk assessment or risk management of LMOs;
- train scientific and technical personnel in certificate programs in biosafety-related areas.

Recognizing the economic importance of biotechnology and considering it desirable for countries to uniformly manage the potential risks to trade, in 2002 the CARICOM Council for Trade and Economic Development (COTED) established the CARICOM Working Group on Genetically Modified Organisms (GMO's), which was subsequently modified to be the CARICOM Working Group on Biosafety and Biotechnology. This working group includes biotechnology experts from the region and has been tasked to organize biotech information, analyze technical data, and develop a regional biotechnology and biosafety policy and strategy. This regional policy and strategy is still in draft and may undergo further review and revision before being presented to COTED for final approval. Post is not aware of a deadline for this work.

Section VI. Animal Biotechnology:

The Caribbean region is not yet at the stage where biotech engineering (or cloning of animals) is being developed. Although there has been minimal biotech research in Barbados on Blackbelly sheep, the region is far from having the capability to engage on specific animal biotechnology projects. However, experts in the region believe that an expansion of animal breeding using conventional and new embryo techniques as well as DNA techniques to characterize regional species would be a positive development. The use of molecular techniques to identify genes for breeding purposes will be high on the research agendas of several countries in coming years.