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Dominican Republic

Agricultural Situation

Tropical Storm Damages to Agricultural Production

2008

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Report Highlights:
Hurricane season created damages to agriculture, particularly to plantain and bananas. An overview of the effects of two tropical storms and an evaluation and the recovery process six months later. Overall damages caused by the flooding on these crops are presented and discussed.

Includes PSD Changes: No
Includes Trade Matrix: No
Annual Report
Santo Domingo [DR1]
[DR]

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Agricultural Sector overview

The Dominican Republic the larger of two countries sharing the island of Hispaniola, is endowed with diverse topography. Several mountain ranges and fertile valleys traverse the northern two thirds of the island from east to west. The southwestern corner of the country is partially a desert, while the eastern portion is flat and overgrown with subtropical vegetation. Abundant rainfall across most of the country allows year-round agricultural production with a limited amount of irrigation.

Principal crops – sugar cane, rice, coffee, cocoa, cassava, plantain & bananas, and some fruits, such as citrus, avocados and pineapples are produced in large farms and they are also scattered throughout the country in small lots.

Agriculture has diminished importance in the Dominican economy in recent years because of the rapid growth of free trade zones, the industrial service sector and tourism. GDP estimates from the Ministry of Agriculture for 2007 show agriculture and livestock participation of only nine percent. The breakdown shows livestock, forestry and fishery at 4.5 %, non traditional agricultural products at 2.8 %, traditional crops (sugar, cocoa, coffee and tobacco) at one percent and rice with 0.7 %.

On the agricultural, fish & forestry products trade, data for 2007 shows US$ 838 million in U.S exports to the DR while the U.S.A. imported US$ 327 million from the DR. The larger volumes of exports were bulk commodities such as: corn, soybean meal, yellow grease, wheat, tobacco, vegetable oils, and forest products. DR exports to the U.S. are led by: sugar & sweeteners, cocoa beans, fresh and processed fruit and vegetables, beer and tree nuts. Almost sixty percent of the cocoa exports move to the EU, as well as most of the bananas (210,000 MT). Sugar, avocados are doing well in the U.S. market, along with other fruit and vegetables, fresh and processed. Agricultural commodities for the domestic market are led by rice, plantains and bananas and tubers such as cassava, sweet potato, yams and pulses. The agricultural sector employs about 20% of the labor force or almost 2 million people. Although agricultural production supports basic food needs and generates hard currency through exports, it is subject to damages caused by natural factors such as weather changes. Among these are periodical excessive rains and droughts, but tropical storms and hurricanes have more devastating effects on agriculture. The geographic location of the Dominican Republic in the Caribbean is in the normal path of hurricanes originated in the African coast.

Hurricane season

Agricultural production in a tropical country is subject to seasonal hurricane season every year that begins in June 1, through November 30. Its effects can vary from no damages to devastating effects of winds and water over its path. In general these events cause tremendous damage to the social and economic infrastructure.

A decade ago, on September 1998, Hurricane Georges crashed into the Dominican Republic, touching off floodwaters that swallowed up hundreds, perhaps thousands, of flimsy homes along a river banks. The storm killed more than 370 people in the Caribbean - over half in the DR alone. Damages to farms, roads and buildings from the late September 1998 rampage of Hurricane Georges surpassed $1.2 billion in the Dominican Republic.

Aid came in the form of personnel and supplies from many nations and generally led by the United States. The government also sought help from the World Bank and other international agencies. Dominican agriculture and ecology suffered serious damages from the severe deforestation caused by the hurricane. Exports dramatically dropped by almost fifty percent the following year as a result of the damage to agriculture, some of the effects of the hurricane ten years ago have not been totally recovered. Infrastructure and housing also suffered considerably. Imports on the other hand roared to an all time high in order to compensate for the lack of food or materials and equipment needed for the recovery process.

General damages by two consecutive storms

Weaker winds from Hurricane Noel converted into tropical Storm on Nov 14, 2007 as it approached the Dominican Republic. Excessive rain caused flooding in 80% of the country. The floods caused severe damage to the water supply system and blocked access to many towns in the southern region of the country. At least 12 communities were inaccessible and more than 80,000 people displaced; over 80 dead and almost 50 missing as a result of the floods and landslides; and more than 20,000 dwellings damaged. According to different reports there were between 25,000 and 46,000 people in temporary shelters.

Approximately 40% of the water distribution system was damaged. Of the 122 aqueducts damaged, more than half were affected by the rain and the rest by electric malfunction. The water monitoring system, the sanitary conditions and trash collection were experiencing deficiencies throughout the country. The lack of coordination between water and sanitation institutions made almost impossible for actors involved in the response activities. Floodwaters damaged tracts of agricultural land and destroyed crops in the most affected areas. For several weeks the flooded areas under agricultural production began showing permanent damage to many crops under water. Livestock was no exception, cattle and goats population also suffered.

Almost a month later (12-10-2008), a new tropical storm Olga made landfall just south of Punta Cana, in the eastern part of the Dominican Republic. The storm bisected the island of Hispaniola, emerging from Haiti in a weaker state. Much of the island which already had saturated soil from previous rain was reported flooded from the heavy rainfall into swollen rivers. As a result of the storm more than a dozen people died, nearly 30,000 people displaced and nearly 7,000 homes affected in the Dominican Republic. More than 70 communities in the Dominican Republic were isolated due to damages to roads and bridges.

The most affected municipalities both in terms of casualties, flooding and damages were in the central regions of Santiago, La Vega, Bonao, Nagua, Arenoso y Villa Riva (Bajo Yuna), some in Monte Plata and El Seibo as a consequence of swollen rivers, mainly the two main rivers: Yaque del Norte and Yaque del Sur. Flooding affected heavily the municipalities of Mao y Montecristi where they produce bananas, plantain and cassava.

The central damage was caused by the opening of the Tavera-Bao Dam floodgates (probably to prevent a dam break), with little warning those in the path of flooding. This released more than 5,000 cubic meters/second of water and caused a major enlargement of the Yaque del Norte and Yuna river basin, already swelled. Ministry of Agriculture reported that over 5,000 hectares were totally or partially devastated. This region suffered not only the water damage to the crops, but created erosion of fertile lands replaced with sand and gravel, making some of the lands useless for agricultural purposes. In addition, press reports indicated that there was major flooding in low areas of Cotui to Samana Bay in the northeast which drained quickly. Santiago, but to a greater extent in Mao, sand invasion destroyed or damaged about 20-30 percent of the banana production in the region. In addition, the irrigation system with 11 canals and 23 small dam suffered damages.

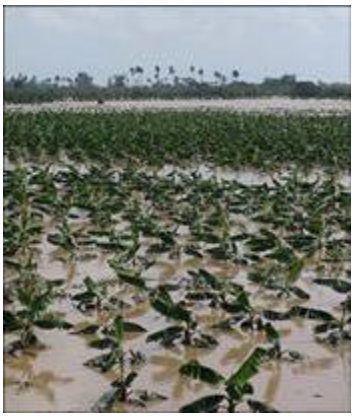
On the southern part of the country (south of the central mountain range), rivers such as San Juan, Rio Grandeo del Medio, Las cuevas, Baos fed the Yaque del Sur. In addition, the opening of the dam-gates in Sabana Llegua also increased water flow which caused major enlargement of the Yaque del Sur devastating crops all throughout the river basin with water and sand.

Effects on major agricultural production groups

Recent field visits and discussions with regional ministry of agriculture officials, farmers and other stakeholders revealed significant damage to the Dominican Republic's agricultural sector. The Ministry of Agriculture (MoA) estimates total loss to the agricultural sector of US$57 million. The main sectors affected are broken out as follows: bananas (US$38 million), plantain (US$18 million), cocoa (US$2 million), domestic crops (US$2 million), fruits (US$2.3 million), rice (US$1.5) and winter vegetables (US$0.4 million). Livestock reports small losses in cattle, swine goats and poultry (US$0.2 million) and greenhouses (US$0.2 million).

Damage to the Banana Industry

The North and North Western regions where the Dominican Republic's banana industry is concentrated (Santiago, Valverde and Monte Cristi provinces) and in where there is intense export efforts were heavily affected. Smaller plots of tubers scattered throughout the flooded areas also suffered flood damage. Total banana exports for 2007 exceeded 210,000 MT valued at US$70 million, and flooding effects are expected to reduce exports by 10-15 per cent in 2008.



After the storms, Yaque del Norte and Yaque del Sur rivers overflowed causing damages to bananas and plantain plantations. In North Central regions, 40% of the bananas plantations were damaged and almost half of these areas were heavily affected or destroyed. Out of the 13,000 hectares, 5,000 were affected and 2,400 were destroyed. This sector employs about 15,000 workers and their immediate families depend on the banana industry. According to industry sources, the storms resulted in a complete loss of income to thousands of people

that are employed directly in the banana industry, and others that work in supporting industries (transportation, processing, etc).

As shown in the above figures, this was a typical post-storm banana field. The image shows a gradual flooding from river overflow into the plantation. According to Agricultural officials, the closer to the river, the stronger currents bring sand and gravel to the plantation. This type of damage makes the recovery efforts more difficult.

Government efforts to support the banana industry in their recovery efforts included: road reconstruction, levy building (as you can see in the picture above), land restoration and preparation for new plantations, seed and fertilizer distribution and a US$12 million allocation to the Agricultural Bank for soft loans to the banana sector. The bank administrator signed a funding agreement with the Dominican Banana Producers Association (Adobanano), to recover from the damages by the Tropical storms Noel and Olga among the growers of the South and Northwest regions.

Output from partially damaged and the replanted fields are expected in the market within the next six to nine months and a return to pre-storm production levels within 10-12 months, providing that critical inputs such as fertilizers and agricultural chemicals continue to be available.

Damage to the Plantain industry

The N, NC (Santago, Valverde, Puerto Plata and Monte Cristi provinces) and S (Barahona province) where there is intense plantain production, the excessive rains and river overflow affected the crop. Smaller plots of tubers, such as cassava, sweet potato and yams scattered throughout the flooded areas were also affected. Both, Yaque del Norte and Yaque del Sur Rivers overflowed causing some damage to the plantain plantations near the rivers. Ministry of Agriculture regional officials indicate that the damages affected 20 per cent of the planted areas in Barahona and 15-20 percent in the N and NC regions affecting a total acreage of approximately 5,500 HA. This includes destruction of small plots and partial damage of others. The total estimated output for 2008 is not expected show a dramatic drop in production, although overall production will probably decrease about 10 per cent.

According the latest official data available for 2006, the Ministry of Agriculture reports a total of 1,925 million units, distributed throughout the country in an approximate 57,000 HA. The North (N), North Central (NC) and Southern (S) regions are responsible for 56 per cent of the total production in almost identical quantities. Industry suggests that production and acreage had increase five per cent in 2007 to 60,100 HA. As a result of the flooding, acreage in 2008 was reduced by ten percent. Now, as a result of the government investment, re-planting and land recuperation efforts, as well as a small increase in acreage during the first and second quarter of 2008, total yearly output is anticipated to show a slight reduction. As time passes and the public and private sectors continue with land recuperation and replanting, monthly production levels are expected to return to pre-flooding output by November 2008.