

The Impact of Invasive Species on Jamaican Industries

An invasive is defined as any species that has been introduced to an environment where it is not native, and has since become a threat through rapidly spreading and increasing in numbers, often to the detriment of native species. Globally, invasive species have become a serious problem with the annual cost of impacts and control efforts equaling five percent of the world's economy.

Invasive species can cause heavy economic losses for countries, especially in instances where the native species being displaced is a commercially important one. They may also cause economic disruptions by becoming pests to commercial crops thereby reducing production output as well as affect stages of important processes that will have implications for finished products in some industries.

Two Jamaican industries affected by invasive species include:

- Power Generation
- Agriculture

Power Generation

The Asian Green Mussel (*Perna viridis*), is a large bivalve, that is smooth and elongated (Add Picture). It originated in the Asia-Pacific and Indo-Pacific regions and is believed to have been transported to Jamaica as a result of shipping activities through ballast water. It was first discovered in Jamaica in February 1998 during the collection of mangrove roots from Kingston Harbour. Since then, it has dominated the Harbour and has been found at most of Jamaica's shipping ports.

The green mussel colonises hard surfaces which project below the water and can be found on mangrove roots, pipes and pylons. Its rapid spread in these areas have caused serious problems for the power plants which use seawater as a coolant, as they clog the intake pipes and can block the flow of water resulting in damage to the pumps. This in turn affects the plants power generation capacity and efficiency as more down-time is needed for maintenance and repair of the system. Examples of the power plants affected by the presence of the Green Mussel are the Jamaica Public Service (JPS) plants at Rockfort and Old Harbour Bay.

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Agriculture

In May 2007 the Red Palm Mite (*Raoiella indica*), was confirmed as being present in Jamaica. It is a tiny mite which is commonly found in Asia and is capable of rampantly destroying coconut and palm trees. It was first noticed and confirmed in the Caribbean in 2004 and has since spread over the eastern and central Caribbean islands.

The red palm mite establishes colonies on the under sides of leaves, usually along the main vein. They feed on the leaves, rendering them a brownish colour, eventually causing them to die and fall from the trees.

After a decade of fallout in the coconut sector (1995-2005) with much of the losses attributed to the deadly lethal yellowing disease, the introduction of the mite has compounded this problem by destroying the efforts to revive the industry. It is believed that the replanting programme during which 100,000 seedlings were distributed between 2002 and 2007 in Jamaica had very little success because of mite infestation.

The impact of invasive species on biodiversity has become more pronounced with the increase in global trade, and hence pathways for the movement of species between countries. Most invasive species go relatively unnoticed unless they directly impact human existence in a negative way, such as significantly affect goods, services and industries. It is at this stage that attention is drawn to their impacts and the necessary measures implemented to control or reverse the impacts. Reversal is however rarely possible as invasive species have a high reproduction rate, that is they are able to increase in numbers and spread rapidly in a short space of time.

Therefore, the best way to control invasive species is to prevent their introduction into the island. It is hoped that increased environmental awareness about their impacts on our biodiversity and industries will promote the implementation of more precautionary measures to prevent such introductions.

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