Guest Editorial: Rehabilitating Our Forests

The forests of Trinidad and Tobago form part of the tropical rainforest belt that straddles the equator. A significant part of these forests have been degraded by quarrying and oil and gas exploration. Companies operating in the oil and gas sector bear a special responsibility for the rehabilitation of these forests because of their carbon sinking potential. The companies, all big players in the international oil and gas sector, can contribute substantially to slowing down global warming by engaging in reforestation activities right here in Trinidad and Tobago.

Why Trinidad and Tobago for energy-based company reforestation? The short answer is that the companies are here! They are fully established in this country, lured by the very substantial hydrocarbon reserves, government stability, intelligent managerial and labour resources, a good investment climate and, of course, the potential for handsome profits in oil and gas exploration, production and marketing.

Again, why Trinidad and Tobago, a small oil and gas producer when compared with the likes of Iraq, Iran, Kuwait, Saudi Arabia, Nigeria and Venezuela? Another short but rather startling answer! Because at 16.8 thousand metric tons of CO_2 per 1000 population in 2000, this country was in the top ten of CO_2 emitters in the world, ranking 7th after the likes of Qatar, United Arab Emirates, Kuwait, Bahrain, U.S.A. and Luxembourg.

And why a small island developing state like Trinidad and Tobago with its limited land mass? The answer is not short, because it has to do not so much with size, but with the country's location between the Tropics of Cancer and Capricorn and the complex relationship between tropical forest biodiversity and carbon sequestration.

Everyone knows that there is a tendency for the numbers of species of organisms to increase as one travels either from the north or the south towards the equator. The richest forests in North America, those of the southern Appalachians or the Gulf Coast support at most 50 to 60 species, whereas any respectable tropical forest contains that many in a single hectare. But not everyone dares to offer a precise scientific explanation for this phenomenon. Suffice it to be said that, nurtured for eons in a spacious and physically benign environment, tropical life has evolved an exuberant variety of species.

But how is this biodiversity related to carbon sequestration? Theoretical brainstorming led to a speculation that better regulation of planetary CO_2 could be achieved by species-rich tropical rainforest as opposed to its more homogeneous temperate counterpart. Could biodiversity increase an ecosystem's ability to absorb CO_2? A positive answer to this question came in 2001 as a result of research at the U.S. Department of Energy Brookhaven National Laboratory. According to plant physiologist David Ellsworth, "The key implication of the research is that, in response to elevated levels of CO_2 and N, ecosystems with high biodiversity will take up and sequester more carbon and nitrogen than do ecosystems with reduced biodiversity."

And then in June 2007, after 40 years of study, the U.S. Center for Atmospheric Research determined that forests in the northern latitudes were less effective than tropical forests in reducing global warming.

The implications for these findings are enormous. The tropical forests can be considered to be a special planetary organ designed to regulate CO_2 levels in the atmosphere. In conservation terms, it means that protecting the tropical rainforest worldwide will safeguard their capacity to capture a larger fraction of additional carbon entering our environment. In terms of attacking global warming through the creation of carbon offset plantations, it points to a concentration of this effort in the tropics, in places like Trinidad and Tobago.

Forest rehabilitation projects are already being undertaken by energy-based companies in this country, such as NGC, Alutrint, BGTT and BHP Billiton. But these projects have been driven by conditionalities contained in Certificates of Environmental Clearance (CECs) from the Environmental Management Authority (EMA). But the companies can go beyond the call of duty in their reforestation activities and invest in carbon offset forests here. All the conditions for success exist, primarily, the availability of funding from oil and gas rents and the demonstrated willingness of the Ministry with responsibility for the environment to enter into partnerships with the energy-based companies for reforestation projects.

This editorial ends with a call to all energy-based companies in Trinidad and Tobago to enter into a joint project to rehabilitate degraded forest lands through reforestation in a well-defined area in Trinidad and Tobago. The Morne L'Enfer Forest Reserve is an excellent candidate for such rehabilitation. It has suffered and continues to suffer from oil and gas exploration. Crude oil has polluted some of the major streams in the reserve and die-back of trees has occurred. This reserve which covers an area of 3,837 ha has been seriously depleted of timber. Due to overexploitation, the reserve was closed in 1998 to all timber sales for a period of at least ten years to allow the forest to regenerate itself. An opportunity now exists to bolster this natural regeneration with enrichment planting in a unique carbon offset reforestation project.

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