COMMENTS ON

"Forestry Policies of Cuba's Socialist Government: An Appraisal" by Sergio Díaz-Briquets

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Díaz-Briquets has done a very good paper, which is part of a series relating to natural resource and environmental issues. This paper deals with forestry, agroforestry and use of trees within agricultural practices. His perspective and scope covers well the historical participation of the forestry sector in Cuba.

These comments will highlight some additional positive and negative aspects that have not been covered. There is a trend in the data presented showing some improvement in forestry policies (i.e., diversification of species). It is extremely difficult to diversify forestry plantations—the data shows improvement in significant volume of plantings in other than the traditional Caribbean pine and eucalyptus. Another very important fact which is highlighted is a very large investment in training forestry engineers, scientists and technicians. On a comparative basis (e.g., per 1,000 hectares), Cuba, in Latin American terms, has a very important human capital endowment. This also may help to explain the fact that there has been a relatively successful protection of virgin/primary/untouched forests due to the advocacy of such a trained cadre.

Highlighting the serious issue of "virtually no reforestation" during the recent Special Period, let me state that this constitutes a serious case of disinvestment in the sector. This brings to mind that when one hears of current high growth of Gross Domestic Product (GDP), one has to start thinking that national accounts data measuring GDP do not cover the fact that the stock of trees is being cut without replacement. In a sense, while current forest income may be high, there is disinvestment by not reforesting at this time. As this will show losses in the future and trees take a long time to grow again, this is disinvestment of the worst possible kind.

Another particular example of disinvestment that is also identified is the very critical problem of land reclamation required by open pit nickel ore mining. This is a case of foreign disinvestment which is occurring—most likely Sherritt is simply not doing the same types of land reclamation activities which would be required by the environmental codes of Canada within their own country. This is a very serious concern which should be addressed by the appropriate parties at the appropriate time.

There are two elements which have not been mentioned in the paper: culling and newsprint paper demand. Culling (or judiciously removing weak trees and branches) in any commercial forestry provides anywhere from 10 to 20% of the present value of the economic benefits of forest plantations. Typically, benefits accrue to the nearby population who work in the area and usually covers the operational costs of forest plantations prior to final cutting of the trees. The other element, newsprint demand, will mushroom in a free Cuba and may justify future investments in commercial forestry.

One recommendation for future studies is that detailed ownership patterns by forest types be obtained since the issue of "who owns the forest" is paramount to quality aspects of forest management and investment. Another recommendation for future related studies is the issue of effectiveness of erosion control. Most of the early efforts of reforestation and forest management in Cuba were done and justified in order to improve erosion control. We need to have time series on river sedimentation and soil transport in order to do that. Some references are made to early laws relating to riverbank vegetation *(mata ciliar)* 100 meters to each side of a river. That is also of critical compliance in any current and future environmental management program.

Again, land ownership is critical to conservation efforts for one protects better that for which one feels "ownership." Both the "slash and burn" agriculture and the references made in the paper about recent efforts to resettle urban population and make them coffee farmers point out to the critical issue of legal framework of land tenancy and the actual belief systems of new farmers as to who really owns the land. In the Special Period, a farmer is less likely to feel certain about his ownership of land and it would take many years for broadly accepted legal principles of land possession *(uso capiao)* to provide certainty to land titles granted by a government that may change in the near term. In conclusion:

- gains achieved in forest cover have occurred at a very high economic cost and low efficiency;
- there has been a learning curve in sector activities, and this means there is a large untapped potential for future investment in the forestry sector, even though there has been significant disinvestment recently which will require special considerations;
- I and ownership is a very critical issue since in this sector there is a strong need for private sector participation coupled with very enlightened public sector regulation. In the political situation that we can foresee happening in Cuba, the issue of government regulation has to be very clearly understood because there have been abuses of centralized power and excessive government regulation and intervention. The forestry sector needs to be well regulated by the State, while at the same time you need strong private sector entrepreneurship;
- one final critical issue is the development of free and independent non-governmental organizations (NGOs) which will strive to protect environmental resources and articulate optimum regulation of the private sector participation in forestry activities.