



SUSTAINABILITY IN AGRICULTURE, FORESTRY AND TOURISM

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Introduction. According to the Organization for Economic Cooperation and Development (OECD), the costs of environmental protection have increased to an estimated 2% of the GDP in countries that have comparatively demanding standards. For most of the OECD countries, the costs could have been kept lower if more cost-efficient instruments were used for environmental management.¹

The concern for the environment and the future of the next generations, has led to the creation of numerous organizations and ecological programs that are seeking changes in current agricultural practices and forestry management, as well as the increasing development of tourism. The lack of knowledge and of adequate techniques among rural producers, as well as the need to obtain short-term economic benefits, encourages practices that cause soil erosion, desertification and other negative effects for the environment.² The increasing valuation of natural resources has unleashed the implementation of sustainable processes that allow mankind to continue using, in a more efficient way, natural resources in activities such as agriculture, forestry and tourism.

Sustainable Agriculture. In the past two decades a phenomenon has emerged that has questioned practices in conventional agriculture that have traditionally been caused environmental and socio-economic problems. Sustainable agriculture is not only solving environmental and social problems, it is also offering economically viable and innovative alternatives for producers, workers, consumers,

policy makers and the complete food system. Every day more people share the vision of integrating, through sustainable practices in agriculture, three objectives in a simultaneous way: obtaining economic profit, social benefits for the farmer's family and the community, as well as environmental conservation.³ To achieve these objectives, sustainable agriculture relies on a production system that seeks to support productivity and being useful to society for a long-term, fulfilling the requirements of adequately supplying food at reasonable prices and being sufficiently profitable to compete with conventional agriculture; additionally preserving the potential of natural resources. On the other hand, studies undertaken by the U.S. National Research Council, the Texas Department of Agriculture and the World Resources Institute contend that sustainable agriculture techniques produce fresher and purer food with greater concentration of minerals, with equal or greater crops than the conventional methods, less production costs and fiscal expenses to support incomes, less environmental costs, more long-term profitability and less soil erosion.⁴

There is convincing evidence that if all the indirect costs of conventional food production were factored into the price of food, organic food would cost the same, or, more likely, would be cheaper than conventional food. A study conducted in 2003 by economists from Iowa State University showed that the annual external costs of U.S. agriculture – including impacts such as erosion, water pollution, and damage to wildlife – fall between \$5 billion and \$16 billion.⁵

In order to improve the quality of products and ensure the welfare of the environment, *certification* processes have been created.

Through this process, a third party – different from the producer and from the buyer – ensures in writing, that a product, a process or a service, meets the specified improved quality and environmental requirements.⁶

Some of the measures adopted for certification of farms or for sustainable agriculture consist in the strict control of agrochemicals to protect human health, control in the water sources management in order to avoid contamination, erosion and fertility control of the land to avoid deforestation, plans for waste reduction through recycling policies, as well as capacity building and training programs that involve the farmers and communities in a given zone. *Favorita Fruit Company* is a leading Ecuadorian company in banana production, which markets an extensive range of products based on cultivation of banana using some of the abovementioned sustainable techniques. This company has built proper facilities for product storage, health care and sanitation facilities for the workers, as well as schools for the education of the children in the region. They have also planted hundreds of thousands of trees in Ecuador – one the most diverse countries in the world – to preserve its ecosystem. *Favorita Fruit Company* also developed training programs for the farmers of the Ecuadorian Pacific coast, since most of their products come from independent farmers of that area.⁷

Sustainable Forest Management. Forestry, just as in agriculture, has advanced towards the implementation of sustainable practices including payment for environmental services, to provide, in a long-term basis, goods and services originated from a forest ecosystem without the degradation of the quality of the site. These sustainable practices in forestry consist in the establishment of concession areas (i.e., carefully selected areas where only a percentage of trees are cut down and later is left alone for regeneration); the establishment of areas for a specific type of trees and flowers; the design of organized plans for the control and registration of logging, adapting committees and support groups for forestry police that patrol the zones and report any anomalies, education of the population in the best and most efficient ways of managing their activities in order to cause the least damage.

Shade grown commodities such as coffee and cocoa combine the benefits of sustainable

agriculture and forestry. The utilization of trees to offer shade consists of planting the suitable species of trees in the correct place, in the correct season, using an adapted planting pattern, in order to obtain the positive benefits shadow provides, such as the protection of the crops to the direct exhibition of the sun as providing natural barriers to for plagues instead of using chemical substances, the natural fertility of the soil to provide the necessary nutrients to the growth of the plants without the application of chemical fertilizers, the reduction of effects as the evapotranspiration and the erosion, and the conservation of the micro basins.

In this context, an example that demonstrates the benefits of sustainable forestry and agriculture is the Bosawas' Reserve located to the Northeast of Nicaragua in the border with Honduras, and declared world reserve of biosphere by UNESCO in 1997. The Bosawas Reserve is considered the biggest and most intact tropical humid forest under conservation in Central America. The Reserve includes a total extension of 20,000 square kilometers, of which 8,000 belong to the nucleus zone, habitat for the mayangna and miskita etnia, and 12,000 kilometers of support zone (buffer or development) inhabited mainly by mestizos. To avoid land use degradation and to preserve the habitat of the indigenous territories, the National Law of Bosawas created a Management Plan with the participation of numerous shareholders, seeking economic growth to reduce the poverty.⁸

The Management Plan consists of putting into practice sustainable production systems inside the reserve, which include the marketing of products promoted and strengthened by a system of quality and origin certification for the development of a regional brand *Made in Bosawas' Biosphere Reserve*, that complies with the ecological and social standards, which prohibit any type of burn, the use of certain type of pesticides, trafficking of certain species of flora and fauna, and encourage the use of curtains to break winds in the forests, use of sustainable agriculture and cattle raising, post-harvests storage of grains, provide support to the voluntary foresters and good managing of micro basins.

Sustainability in Tourism. Sustainability practices carried out in agriculture and forestry in Bosawas as in many other places, also serve as attractions for the development of ecological

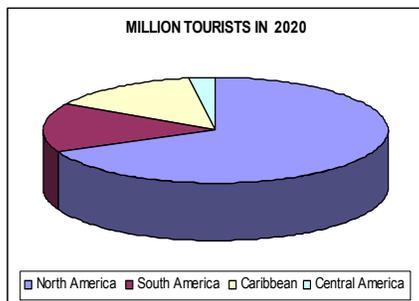
tourism. However, according to the World Tourism Organization (WTO), tourism represents more than 60% of the international air traffic, and thus a great percentage of the world's carbon dioxide emissions. Likewise, cruises in the Caribbean produce more than 70,000 tons of waste every year.

There are 109 countries with coral reefs. Reefs in 90 of them are being damaged by cruise ship anchors and sewage, by tourists breaking off chunks of coral and by commercial harvesting for sale to tourists.⁹

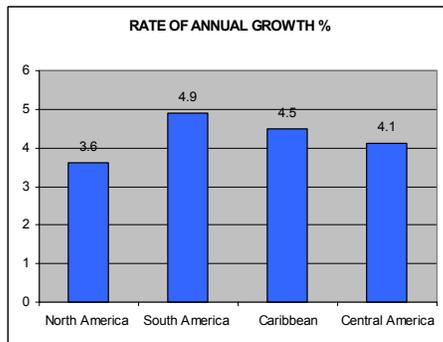
These figures are disturbing, since tourism is considered one of the fastest growing economic activities, and 11% of the world's GDP comes from activities related to tourism.¹⁰

PROJECTIONS OF GROWTH IN INTERNATIONAL TOURISTS ARRIVALS IN THE AMERICAS BY SUB-REGION 1995-2020 ACCORDING TO THE WTO:¹¹

Region	Million tourists in 2020	Annual Growth Rate %
North America	194	3.6
South America	43	4.9
Caribbean	40	4.5
Central America	7	4.1
Total Americas	284	3.8



Source: World Tourism Organization



Source: World Tourism Organization

Within this context, the application of sustainable practices in tourism is fundamental to

avoid environmental degradation. Sustainable tourism is defined as an industry that seeks to create low impact on the environment and the local culture, helping to generate income, employment and preserving the local ecosystems.¹² This type of tourism known as *responsible* is characterized for being informative; for involving the clients in the processes implemented to improve the overall experience through activities that reduce the pollution as recycling bins, reutilization of towels, energy saving and unnecessary lighting, better utilization of water, reduction of noises that affect wildlife, among others. To guarantee the implementation of these practices, controls should be established for monitoring, such as keeping periodic records of the facilities,

installing meters for water and energy, low consumption fixtures and controlling traffic of species of flora and fauna.

In order to facilitate this process, several Organizations have established *Good Practices for Sustainable Tourism*

systems that offer practical advice on how to implement activities to obtain a better result in the operations. The OAS developed the first sustainable tourism policy, guidelines and implementation strategy in the Western Hemisphere for the Bahamas that has served as a model for other good practices manuals.¹³

Another important approach in sustainable tourism consists of turning the tourist experience into an educational activity, where programs try to show the traditional activities of the places visited, building capacity of the residents of the region in order for them to share their daily activities, culture, food, and language, but overall, to guarantee that visitors acquire an experience that they could transmit to others ensuring not only the flow of new visitors, but also the concern and interest for the preservation of the environment.

An outstanding example in educational tourism is a program developed by Heritage Design and the United States Department of Agriculture Forest Service on the south coast of Jamaica. Using the existing train line, tours are conducted around the region, raising awareness among visitors regarding industries, business, and

sustainable practices in Jamaica. This project seeks to develop the southern coast of the island which possesses great economic potential that can be exploited in benefit to the local communities by practices of sustainable tourism.¹⁴

The hotel "Casa Verde" located in Puerto Viejo in the south of Costa Rica¹⁵ implements sustainable practices as part of a pilot project led by expert supervision that seeks to improve the conditions of the hotel. The measures that the hotel takes include the use of light bulbs that reduce the consumption of energy, the installation of bins for recyclables, labeling of the plants in the hotel gardens, reduction of the use of non-biodegradable products, among other. Tourists are encouraged to visit nature reserves and indigenous territories aiming at establishing a connection between the visitor and the local culture.

Sustainable practices, as a competitiveness tool, have had an apparent success; nevertheless, there are still many questions to answer.

Questions for Workshop Participants.

- What would be the market response to expansion of sustainable practices in these sectors?
- What are the real costs and benefits of sustainable practices?
- What kind of information transfer and regional approaches to sustainable practices could be identified and supported at the hemispheric level?

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