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Peer reviewed

Review by Luis Carrera De La Torre

President of Ecuador's Advisory Commission on Environmental Means and Secretary Pro Tempore of the Treaty of the Amazonian Cooperation, Av. 10 de Agosto No. 3560 y Mariana de Jesus, Edificio Metrocar, 4to. piso Quito, Ecuador.

Estrella, Eduardo, LA BIODIVERSIDAD EN EL ECUADOR: HISTORIA Y REALIDAD. Quito: Museo Nacional de Medicina del Ecuador, Organizacion de las Naciones Unidas para la Agricultura y la Alimentacion (FAO), Secretaria Pro Tempore del Tratado de Cooperacion Amazonica, 1993. 103 pp. ISBN: 9978-82-404-9.

Estrella, Eduardo. BIODIVERSITY IN ECUADOR: HISTORY AND REALITY Quito: National Museum of Medicine of Ecuador, United Nations Food and Agriculture Organization (FAO), Secretary Pro Tempore of the Treaty of Amazonian Cooperation, 1993. 103 pp. ISBN:9978-82-404-9.

The review was translated by Janet Groff Greever, Robert Hook and Carolyn Hook.

Nature was excessively lavish in Ecuador, Eduardo Estrella tells us in this documented study. Its residents have been blessed with a great privilege, and at the same time, with a tremendous responsibility. Because of its spatial characteristics, Ecuador has been and continues to be a privileged place to live.

We read that, once, the world's record number of amphibian species could be found in Santa Cecilia, Ecuador. World record numbers of species place Ecuador, in spite of its very small size, among the first rank of countries on the planet: fifth in birds, seventh in reptiles, third in amphibians, sixth in butterflies. According to recent analyses, Ecuador has twice the plant and animal species of the United States and Canada together, four times more than all of Europe, and the largest number of plant species per unit of area in the Americas. We are proud of this information, but we find that in Santa Cecilia there now remains almost nothing of this biological wealth because of the desolation caused by plundering. Stubborn and aggressive people in this country are rapidly destroying the forest, which is the habitat of this tremendous biodiversity. The result of the incredible depredation in this century is that only 6% of one of the richest tropical forests in the world remains. Quinine and rubber for world use originated in the Choco Forest on the coast of Ecuador, the last remnant of which is located in the province of Esmeraldas. Continuing present rate of deforestation will bring about the total disappearance of the Ecuadorian Amazon forest in twenty years.

Recently, four hundred and seventy-three fish species were recorded on a small part of the Napo River, in Ecuadorian Amazonia. In Europe, fewer than two hundred species are recorded. The increasing hydrocarbon contamination by mining and agro-industry in that same part of the Napo River could lead to a world record disappearance of fish species. World registers also tell us ninety-percent of the world's biodiversity is found in the tropical and subtropical zones of developing countries. Eighty percent of the world's population relies on native knowledge of medicinal plants for health care. A large percentage of food -- for example, corn, potatoes, beans, cocoa, and tomatoes -- originated in the biodiversity of the tropical areas of South America. We are also advised by the Food and Agricultural Organization that twelve plant species and five animal species supply more than three-quarters of human nourishment. Further, only four plant species (of which two, corn and potatoes, originated in our lands) and three animal species provide more than half the world's food. At the same time, we are reminded that in tropical forests, at least two thousand edible species have

been recognized. Of the 2,000 fish species in Amazonia, a large number are considered edible; 280 species are consumed now as the principal foods of the region. Nevertheless, it seems that we are frantically destroying these forests, eliminating a large number of species before we have the opportunity of becoming better acquainted with them. It is estimated that species are now dying out at a rate of one hundred a day. In one week, more species are destroyed than were lost in the last three hundred years.

At this point, it becomes evident that there is a conflict between development and conservation. Development, which is a process considered good for humans, only merits this name when it is sustaining; and that, in its turn, only succeeds when population (social), production (economic), and the environment are kept in equilibrium. That is to say, development succeeds only when each action taken is necessary, obligatory and simultaneously socially just, economically profitable and environmentally sustainable.

Biodiversity is not, then, only a rarefied subject for learned people, for scientific and irrelevant books, or for super-endowed beings. It is a subject for the planetary survival of everyone. Ignore the long-winded statement that biodiversity is the irreplaceable inheritance of a humanity that needed 3500 million years to be created and to evolve; biodiversity is necessary for our existence, as our only hope of life for the present and for the many generations to come.

Estrella's documented study recalls that, upon the arrival of the Europeans five centuries ago, a large part of the 250 to 300 species pre-Columbian peoples were cultivating were in the Andean regions. Of the two thousand medicinal plants which are thought to have been used by indigenous Amazonian people, about 1,000 continue to be of daily use in Ecuador. Recently, in Peru, 1,044 medicinal plants were listed as currently in use.

We are told that the new economic, political and religious model that the Spaniards established upon their arrival modified the use of Ecuadorian space and initiated the deterioration of some ecosystems and a consequent loss of biodiversity. The introduction of mono-culture, livestock, and the indiscriminate felling of forests were environment-degrading practices which we now apply with a perseverance worthy of better causes. We inherited these practices, and not those of the ecological and vertical equilibrium found in the agricultural production of the pre-Hispanic peoples.

When environmental problems became evident, we have foolishly believed that they were our inheritance, whether for good or for ill. We embraced genetic manipulation by the powerful, the colonizers. In the 18th century this led to the extraction of products like quinine and rubber and its transfer to colonies in Asia and Africa. This manipulation for political and economic reasons worked to the detriment of landowners and the original users of the land and changed us from producers to dependents. We have bred environmental Quixotes like Eugenio Espejo and Don José García de León. Espejo, who encountered ardent conflicts over the cutting of quinine trees, dictated standards for reasonable ecological practices. He created rules for respecting nature like that of "for each tree cut, another planted in its place." As the President of the Audiencia of Quito in the 18th century, Don José García de León issued regulations for the exploitation of timber in regions near the city of Guayaquil, establishing procedural steps for approval and sanctions for those who wanted to cut a tree, even on their own property (anticipating principles now recognized in the 20th century). Thus, he provided a measure of protection for mangroves and oak.

With the aid of contributions like this documented study by Eduardo Estrella, it is necessary to try to re-digest or reinterpret history and follow in the footsteps of Espejo and former visionaries, who each in his own way was concerned with harmonizing social, economic and environmental elements. They dreamed and worked for it with more understanding than many present-day speakers in the multitude of international and national meetings, many of whom give us the feeling they use a smoke screen in order to disguise the lack of specific action where action ought to be taken. We must reinterpret history with enthusiasm, because, in spite of everything, it is up to us to conserve our environment. We can do such a great good for ourselves and our children, and we can do no less than to remind ourselves daily to be grateful for the privilege of being able to protect these vital resources.