

Abby Lodge
30st September 2017

Chapter 2: *The Ecuadorian Context*

Ecuador is categorized as being similar to other Latin American and Caribbean (LAC) countries in terms of its socioeconomic status. Some examples include: in 2004 Ecuador's gross national income per capita was \$2,210, life expectancy that year was 74.5 years old, and the percentage of the population with access to improved water source was 94 percentage. According to the Human Development Index (HDI), Ecuador's 2012 value on this scale was 0.724 – ranking it toward the bottom of the “high” human development group. This placed Ecuador 89th out of 186 nations on the HDI. In terms of the distribution of income – Ecuador's GINI index score has been declining – was 49 in 2010 and 47 in 2012. Sixty eight percent of Ecuador's over 15 million people are urban dwellers.

One way that Ecuador differs from others, is that a high percentage of its export economy is dependent on petroleum (58% in 2011). Other leading exports are: banana, shrimp, cut flowers, cacao, coffee, wood and fish. The United States is Ecuador's main trading partner for both exports (37%) and imports (28%).

Texaco found oil in Ecuadorian Amazon in 1967. Since then, petroleum has played a key role in the state's decision-making because the national government's percentage of income from petroleum is often over 50 percent. Ecuador's petroleum exports have risen from 4,100 barrels a day in 1970 to over half a million barrels daily (503,600) in 2012. And as mentioned earlier, most of Ecuador's crude oil is exported to the United States. According to Ecuador's central bank, in 2012 crude petroleum was by far the largest export – even though Ecuador exports the most bananas of any nation in the world, petroleum derivatives alone totaled almost half of the banana export dollars.

A key consequence of oil exploitation was that the state grew tremendously. Changes resulted from the military's reforms, including: income rose, infrastructure was developed, investments in education and health were made, illiteracy declined, percentage of the population with access to safe water and electricity increased, and during this early period, new protected areas (national parks) were established. However, this resulted in unequal economic growth, making the rich bureaucrats richer.

There was also significant harm to the environment, which affected the culture and health of indigenous peoples. There were direct effects of: polluted air and land, fish killed, and negative health effects on indigenous people, roads were built by petroleum corporations – in conjunction with government incentives – and assisted migration to the Amazon. Furthermore, a result of colonization in the Amazon was deforestation, which increased extinction rates as habitat is destroyed in areas of high biodiversity.

The dumping of toxins, which created land contamination, illness, and loss of a way of life spurred a 1993 class action lawsuit against Texaco and Petroecuador has been responsible for a number of oil spills. Since President Correa's administration took office, more of the petroleum development is being carried out by the state than by foreign companies. Ecuador's 2008 Constitution prohibits extractive activities in protected areas, however, when extraction is deemed to be in the “national interest,” there are provisions to allow for it with congressional

approval. Ecuador is now forced to try to focus on some combination of biodiversity protection and/or natural resource extraction as strategies for future development.

Ecuador is the world's largest exporter of bananas but this comes with its own set of environmental consequences that are associated with three stages in banana production: the establishment of plantations, the maintenance and management of plantations, and packing (Abaza, et. al., 2004).

From 1990 to 2000, the production of bananas increased from 2,850,000 to 5,750,000 metric tons – however, this increase in production is due to an increase in the cultivated surface area and not because of an increase in productivity (Abaza, et. al., 2004). According to the National Banana Program (PNB), in 1992, the number of cultivated hectares increased by 6 percent to 178,500 hectares (689.2 square miles) (Abaza, et. al., 2004). Ecuador has the highest deforestation rate in South America and this increasing establishment of plantations is a contributor.

Ecuador's environmental problems can be classified as affecting both pure "nature," and human health. For example, there is not only destruction of mangroves due to shrimp farming on the coast but also in Ecuador's major cities (Guayaquil, Quito, Cuenca) there are "brown" environmental problems associated with water quality, sewage management, air pollution, industrial pollution, and municipal solid waste. There are also environmental health problems caused by pesticides used in the production of cut flowers. Tourism is another important foreign export earning for the country, although there are difficulties that stem from tourist development of the ecologically sensitive Galápagos Islands. Despite these negative environmental impacts surrounding Ecuador's chief exports – one positive fact is that the percentage of Ecuador's land protected nationally is very high: 25% – compared to 20% in Latin America and conservationists' goal of 10% worldwide.

In 1991, Ecuador ranked number five in the world in the amount of US-based funding received for biological diversity research and conservation projects from public and private donors – receiving \$4.5 million that year (of \$105 million spent in all nations). Ecuador also ranked among the top Latin American and Caribbean countries receiving funds in terms of total receipts and dollars per hectare. Ecuador is a prime example of a nation with high levels of foreign funding for the protection of its environment.

Reflection

Ecuador is the fourth smallest nation in Latin America at about 283,520 square kilometers – about the same size as Colorado in the US. There are four distinct bioregions: the Galápagos Islands, the Coast, the Andes and the Amazon.

Charles Darwin's visits to the Galápagos Islands, which were the basis of his 1876 book *The Origins of Species*, presaged the importance of the islands, and the country in terms of biodiversity. A challenge that this bioregion faces is that, despite benefitting the economy, ecotourism would further endanger native plants and animals – which would become extinct without careful management of the areas that tourists are attracted to the most ("Ecuador," 2017). Darwin's famous "Galapagos mouse, the Fernandina Galapagos mouse, Charles Island tortoise, and the Duncan Island tortoise have become extinct" ("Ecuador," 2017).

The Coast contains the largest city and main port, Guayaquil. A unique challenge that the Coast faces is the loss of mangrove forests. Mangroves are shrubs and small trees that grow

along the shoreline in saline or brackish water in tropical areas and they are important because they are home to a large variety of fish, crab, shrimp, and mollusk species (Rath, 2017). Mangroves are also important because they provide the coastline protection from waves and storms (Rath, 2017). However, in Ecuador mangroves are being destroyed for commercial fishing, from water pollution, and timber extraction. “By the 1990s, Ecuador had lost over 30% of the original mangrove area, which covered over 117,000 hectares” (“Ecuador,” 2017).

The Andes bioregion contains the capital city of Quito and the second highest capital in Latin America, which sits among the active volcanoes. A challenge that is not only unique to this region, but also to other regions containing large cities is a “brown” problem. “Ecuador's cities produce about 1.2 million tons of solid waste per year” and clean drinking water is needed for the urban dwellers, however, water pollution is an addition problem due to “domestic, industrial, and agricultural contaminants” (“Ecuador,” 2017).

And finally, the Amazon is a bioregion with an area rich with petroleum and indigenous tribes. “As of 1994, it was estimated that, at current deforestation rates, ... the Amazon forests will be gone within 40 years” (“Ecuador,” 2017). Agricultural practices and oil development have been blamed for the rapid deforestation in Ecuador – which has the highest rate of deforestation in South America and is the major challenge that the Amazon bioregion has to face.

Ecuador is a great place to study environmental issues because of all of the uniqueness – biologically and geographically – jam packed into a small country. Ecuador is similar enough to other LAC countries in terms of its socioeconomic status that it is a good representation for South America, yet it is unique in its concentration of natural resources and 2008 Constitution where in rights are given to nature. Records of transnational funding for Ecuador’s environment allow for easy studying of the environmental movement in the country.

Ecuador is one of the most “biodiverse” and “megadiverse” nations in the world due to its high number of plant and animal species and high number of endemic species (native to the area). Ecuador is home to over 20,000 plants – a fifth of which are endemic – 10% of the world’s plant species and 17% of the world’s bird species. All of this biodiversity exists in a very small area – only 0.2% of the earth’s land area.

Norman Myers identified 18 biodiversity hotspots in a 1988 article in *The Environmentalist* as areas containing: “exceptional concentrations of species with exceptional levels of endemism...” and “[areas that] face exceptional degrees of threat.” Sources of “threats” include demographic and economic pressures. Then in 2004, Russell Mittermeier, “did not change the criteria but by redefining several hotspots boundaries, and by adding new ones that were suspected hotspots for which sufficient data either did not exist or were not easily accessible, brought the total to 34 biodiversity hotspots” (Marchese, 2015). Russell Mittermeier also estimated that between 50 and 80 percent of the world’s total biological diversity could be found in a small number (6 to 12) of tropical countries. This uneven distribution of biological diversity between Global North and the Global South has been called one of the “great ironies of conservation.” Most recently, in 2011 a 35th hotspot was added – the Forests of East Australia (Marchese, 2015). Despite some criticism, a conservation strategy such as classifying biodiversity hotspots, has become important and “considered to be one of the best approaches for maintaining a large proportion of the world’s biological diversity” (Marchese, 2015).

Bibliography:

- Abaza, H., Bisset, R., & Sadler, B. (2004). THE BANANA SECTOR IN ECUADOR - UNEP. Retrieved September 12, 2017, from http://unep.ch/etu/publications/Synth_Ecuador.PDF
- Ecuador - Environment. (2017). Retrieved September 12, 2017, from <http://www.nationsencyclopedia.com/Americas/Ecuador-ENVIRONMENT.html>
- Marchese, C. (2015). Biodiversity hotspots: A shortcut for a more complicated concept. *Global Ecology and Conservation*, 3, 297-309. Retrieved September 12, 2017, from <http://www.sciencedirect.com/science/article/pii/S235198941400095X>
- Rath, A. B. (2017). Mangrove importance. Retrieved September 12, 2017, from http://wwf.panda.org/about_our_earth/blue_planet/coasts/mangroves/mangrove_importance/