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Will G. Mundhenke
University of North Georgia

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Unstable Roots: The Precarious Bond between Latin America and The Environment

Since the origins of the colonial period in Latin America, the population that inhabited the large land masses of Mexico, Central America, and South America have subjected the environment to their will, with a wide-spread disregard for the condition of the environment that they so willingly plundered and continue to utilize to this day. This paper covers the topic of deforestation and coastal destruction throughout Latin America, and the politics surrounding the environment.

I address the issue of environmental degradation, and the question of why deforestation and the destruction of Latin American coasts are so prevalent in a globalized age where the environment is largely acknowledged as important to maintain. I highlight some of the political struggles and repercussions in Latin America's fight for the elusive concept of sustainable development, which is defined as a generation using the environment to meet its own development needs without consuming so much as to compromise future generations (Franko, 2007). In an attempt to identify the probability of sustainable development and a reduction of environmental degradation, this paper analyzes the cultural struggle between social and economic values in relation to the environment. The overall question this paper hopes to answer is why environmental degradation has occurred throughout Latin America, and what factors that contribute to the prevention of sustainable development or potentially environmental regeneration.

This paper approaches the issue of environmental politics through an analysis of the colonial foundations of Latin America and the tension that arises with economic necessity, all while acknowledging the value of natural resources in Latin America. It surveys the relationship between social and economic forces such as poverty, booming populations, life on the outskirts and frontiers of society, and weak institutions throughout the region. By the end of the paper, the causes of environmental degradation should be clear, as well as the pressure and influence that the international community has created in the region. Additionally, the paper will address the difficulties in achieving sustainable development and environmental regeneration. This analysis spans across Latin American borders instead of focusing on one specific country or area given that it surveys environments such as forests, tropical forests, and coasts, which have no borders. For example, the contiguous coasts that span multiple sovereign nations share similar ecosystems and natural resources, which should be analyzed as a unit instead of individually.

The Environment's Importance

There is much cause to study the environment and its current condition in Latin America. For example, Latin America contains 24% of the forest resources on the entire planet (Reyes and Sawyer, 2011). Forests cover approximately 47% of land from Mexico to the southern tip of Chile (Franko, 2007). These forests serve a vital function to society as a whole. The concerns over global warming are reaching an all-time high, and the carbon dioxide levels rise every year, so the only logical conclusion is to conserve the one thing that naturally reduces carbon dioxide levels, forests. Specifically, the Amazon rainforest covers eight sovereign states and houses a great diversity of climates, geological formations, flora, and fauna (Franko, 2007). The importance of the Amazon cannot be overstated as it houses approximately 750,000 insect species, 40,000 species of vertebrates, and 250,000 species of plants, of which more than 2,000 are used for medicinal purposes; The Amazon River contributes one-sixth of the freshwater on Earth (Franko, 2007). Unfortunately, even without the intervention of individuals and governments, the environment suffers at the hands of natural disasters that deplete its resources such as prevalent droughts and wildfires. Between the years of 1974 and 2003, more than 898 natural disasters have contributed to the depletion of the environment, primarily in the poorer countries of Central America and Bolivia (Reyes & Sawyer, 2011). Evidence suggests that destroying the forest may be the first step in a domino effect that will lead to climatic changes, erosion, and a destruction of genetic biodiversity, air pollution, and many hardwoods (Rosero-Bixby and Palloni, 1998). Latin America's environmental resources alone make it abundantly clear as to why the process of sustainable development is so crucial to achieve.

Colonial Foundations

A prominent theory behind the developmental and environmental issues in Latin America is that the region's colonial heritage is one of environmentally destructive practices. A direct link can be made between its colonial past and its current situation concerning the environment. Spain and Portugal, but more often Spain, stripped Latin America of its resources with disregard for the establishment of environmentally sustainable extraction procedures and tore through the jungles and forests of Latin America with no intention of fixing what it broke. For example, Spain targeted Mexico and Bolivia for silver mining. Mexico's mines in Zacatecas and Bolivia's mines in Potosí became the crown jewels of the Spanish empire (Chasteen, 2011). As such, the Spanish and forced indigenous labor ravaged the surrounding area and land. When the silver production slowed, the Spanish moved on and opened another mine without making any efforts for environmental regeneration of the previously mined area. Today, Mexico and Bolivia are two of the most frequent sites of environmental degradation, and the

current governments of the two countries still mine silver (Chasteen, 2011). Another example of destructive colonial practices lies within Brazil. The well-known rubber barons of the Brazilian interior created fortunes for themselves at the expense of the Brazilian forests. The degradation of Latin American coasts can also be traced back to their colonial heritage. The Spanish Empire prized coastal towns due to their maritime foundation, which led to the establishment of prosperous coastal fortresses, which were often under siege. This set a precedent for growth, which would later lead to large cities causing pollution, first in the coastal waters and then in interior rivers as trade in the region developed (Barragán, 2001).

Population and the Environment

A common cause of the proliferation of deforestation and destruction of coastal habitats is the growth of populations. Luis Rosero-Bixby and Alberto Palloni list two causal pathways in which deforestation can occur: land shortages in traditional farming areas combined with increasing populations, and an increased demand for timber and food, thus leading to agricultural clearings (1998). Simply put, the greater the number of people in a region, the more land and natural resources they will need to develop and utilize, such as wood for fuel or land for agriculture. However, a paradox arises when the tension between increased economic pressure and limited natural resources occurs. For example, Central America suffers from the fastest rates of deforestation from logging, creation of roads and infrastructure, and cattle farming practices combined with limited physical terrain already filtered through a history of environmental destruction (Franko, 2007). There is little the region can do given that it is among the poorest in Latin America, and the economic survival of its people is paramount. Costa Rica suffers a multitude of deforestation sources. Costa Rican forests suffer from credit and capital market failures that lead to further deforestation, lack of suitable mediation of proper clearing techniques, weak institutions failing to secure property rights, poverty, and uneven land distribution that relates to colonial failings (Rosero-Bixby and Palloni, 1998). Coastal cities throughout Latin America are continually at risk as the region develops. As coastal populations grow, they develop prosperous cities for the purpose of exportation of raw goods, which puts a strain on the integrity of their coasts. A lack of wastewater treatment and facilities during the development process leads to water pollution (Barragán, 2001). As the overall development of the region increases, the economic practices of the growing population proliferate causing an increase in the most destructive forms of deforestations such as mining, fishing, aquaculture, industry, and tourism (Barragán, 2001). In the following sections, I will further analyze the specific tensions that arise between an increasing population and the environment.

Poverty and Frontier Settlers

Poverty, uneven land distribution, and limited land resources drive many factors of deforestation in the population's search for economic liberation and the individual pursuit of a higher standard of living for themselves and their future generations. The poorest members of society will often seek their fortune on the outskirts, or borderlands. This area is usually unsettled, and the frontier lands promise a new life. In this venture of settling new land, problems can occur. Marquette explained the settling of the frontier in three phases: the pioneer, the experimentation, and the consolidation phases (2006). Within these three stages, many problems occur such as poor social cohesion, ignorance of the land, farms that are unproductive in early stages and weak land-titling mechanisms. At the same time, settling new lands provides economic benefits; but the more successful the frontiersman is in settling and farming, the less land is available (Marquette, 2006). Additionally, the settler's ignorance of the land and poverty of the settler leads to the inability to farm with sustainable technique. For example, the slash-and-burn farmer is the agent of the most significant amount of deforestation in the region. He is typically a landless peasant who migrates to the frontiers to utilize public lands and possesses little knowledge of the land and poor cultivation techniques. He may clear the land for logging, cattle ranching, or for cash crops such as bananas that are economically profitable, but continue the cycle of practices that lead to the destruction of forests and tropics (Rosero-Bixby and Palloni, 1998). Ultimately, the process is destructive to the environment; but economic survival is a necessity as well; and governments in the region promote this form of economic activity as a method of poverty alleviation. For example, as part of an "Integrated Conservation Development Project" Brazil attempted a program in Kayapó nestled in the Amazon. The government attempted to address both conservation and development goals in the region by promoting a non-invasive approach to timber extraction, but the poor indigenous peasants soon began logging because of its higher economic viability (Dove, 2006). Overall, the pressure of the landless peasant is a significant factor in the proliferation of deforestation due to impoverished conditions.

Policy, Information, and International Relations

A major contributor to the environmental destruction that is so prevalent in Latin America are weak government institutions and policies. The first and foremost issue with achieving sustainable development is that it simply is not a priority. Indeed, without institutionalized policies, many countries are ignorant about the situation (Barragán, 2001). The attention to the environment began in the 1990s, but only a few countries have achieved any relative success such as Chile. These successes have not spread to the rest of the countries. Countries could solve this dilemma more easily if they viewed environmental issues as a

supranational issue that crosses borders, and if they attempted to unify their efforts. Separately, Latin American governments cannot reach sustainable development because of a shortage of funds, lack of scientific information, and inadequate training (Barragán, 2001). The region needs national and international aid supported by specific research institutions. For example, Universities in Chile and Colombia need specialized departments in coastal regeneration since their economic survival relies on port cities (Barragán, 2001). Brazil is a country that could utilize its resources for further education and research into sustainable development given that it is a regional hegemon and a pivotal state in the region attempting to become a global power (Snow, 2012). Policymakers should forge policy in areas with the highest risk of deforestation and coastal destruction based on demographic features such as ecology and accessibility (Rosero-Bixby and Palloni, 1998).

As outlined above, there are numerous factors that cause environmental degradation, and this study specifically looks at historical and human ones focusing on deforestation and the destruction of Latin American coasts. The solution to the problems of sustainable development and the proliferation of coastal and forest destruction is multifaceted; deforestation and coastal destruction are prevalent because of the region's colonial roots; weak institutions and policy; rampant poverty; increasing population and decreasing land availability; and an overall lack of informed approaches. First, the colonial roots of Latin America stunted the growth of the region. This is evident in the rapid deforestation in areas such as Central America and Mexico. The Spanish Viceroyalties focused on Mexico and Central America, while often ignoring the fringe colonies of Chile and Argentina. The Banana Republic governments of Central America, such as the United Fruit Company, ravaged the institutions of countries such as Costa Rica and El Salvador, causing them to remain weak and easily corrupted institutions well into the 21st century. The Neoliberal period in the late 20th century allowed for an opening of markets, which helped the economic situation in the countries where import-substitution industrialization had stagnated. This allowed for many of the natural resources such as the forests to be bought by private owners and, given that the institutions in Latin America are weak, made policing environmental activities, legal or illegal, difficult. The international community is pressuring Latin American governments to employ sustainable development practices now more than ever, yet their economic demands speak to the contrary. International markets for bananas and beef in Costa Rica continue to rise. The population will continue environmentally harmful techniques such as logging and cattle ranching as long as they are more economically viable than practices such as ecotourism. The countries throughout Latin America must continue their efforts to spread knowledge of the issues of deforestation and coastal destruction through education and specialization in

universities. In order to appropriately address this transnational issue, a supranational approach must be taken, and efforts made to institutionalize environmental successes across the region. Latin America should encourage alternative environmental practices such as ecotourism instead of cattle ranching and logging. Countries that rely on coasts should build infrastructure for waste management, and facilities to lessen the pollution of coastal waters. In sum, there is a diverse list of explanations for the deforestation and coastal destruction in Latin America, and the fight for sustainable development has yet to be completed.

This study only covered a few of the overall effects of environmental degradation in Latin America. It identified aspects such as an increasing population combined with limited land and economic necessity such as poverty that leads to destruction of forests. Economic prosperity and development without proper infrastructure also brings about coastal destruction due to pollution; for example, fertilizers from prosperous farms that pollute the Amazon and other rivers. Latin America has a long way to go if it wishes to achieve sustainable development. Additionally, informed policy from academic sources such as universities could greatly benefit the effort to stabilize the shaky connection between nonrenewable natural resources and economic prosperity and development. Perhaps the answer lies in the standard of living of the individuals in the environment. There tends to be a correlation between settler welfare and the ability to utilize the environment in a sustainable way (Marquette, 2006). It is crucial that emerging nations such as Brazil resolve this dilemma if they hope to break onto the global stage. The international community also has a vested interest given the absolute necessity and value of the forests, including tropical ones, in terms of biodiversity and absorption of carbon dioxide from the planet. The question is left open for the future. How Latin American governments respond to the problem in the next few decades will be worth watching as the resources continue to be depleted. If sustainable development is to be achieved, they must address the issue of poverty and sustainable environmental practices while simultaneously addressing the needs of an increasing population.

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