Challenge & Co.

Informational Brief

Subject: The Amazon Economy vs. Environment

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Date: November 2013

Submitted To: The Rio Times

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**The Struggle in the Amazon: Environment versus Economy**

**Worldwide: The Ratio of Protected Forest to Forest Used Unsustainably for Financial Gain is Not Equal**

According to the World Bank, a worldwide financial and technical aide, as of 2011, 30.9 percent of the world’s land was covered in forest, a significantly steady decline, compared to 31.8 percent in 1995 (“Environment”). A 2010 Global Forest Resource Assessment by the Food and Agriculture Organization (FAO) of the United Nations agrees that this nearly 31% of forested land covers just over an estimated 4 billion hectares, equivalent to approximately fifteen and a half million square miles (“Global Forest Resource”). This constant decline is due to the large scale of deforestation happening worldwide, in which economic success through harmful, yet productive industry is the primary focus, at the expense of regional and global environments. According to FAO’s Assessment, South America, home to the Amazon Rainforest which covers nearly three fifths of the continent, has suffered the largest net loss of forest, losing an average of 4 million hectares annually for the past ten years (“Global Forest Resource” and “Brazil: Natural Resources"). At the same time, FAO's assessment shows that South America is also a perfect example of the increase in forest area, now totaling 12 percent globally (460 million hectares), where the primary purpose is the designation of the conservation of biodiversity. (This is due, in part, to non-governmental and non-profit environmental organizations, funders, and groups that empower indigenous people, map the lands and forests, spread global awareness, promote sustainable activities, research climatic impact, and provide the bases for forest management plans.) Although 12 percent of global forests are purposed for preservation, a larger thirty percent of global forests are purposed for the production of wood and non-wood products that benefit regional economies (“Global Forest Resource”). In South America, specifically, cattle-ranchers, loggers, and farmers put the value of the forest, it’s biodiversity, and its impact on climate and carbon patterns, on the line in order to purpose the land for their money-making uses that are both unsustainable and destructive. Herein lies the dilemma for the Amazon; though area of protected forest is on the rise globally, forests purposed for unsustainable activities are still greater and, inevitably, ever decreasing with harmful effects.

**Economy versus Environment: South America and the Amazon**

South America must recognize the problem of the contrast between the needs of industries that support the economy through means that are not sustainable, and the needs of the forest’s protection and preservation, then discover whether or not there is a healthy balance between the two. In the Amazon, industries such as logging, cattle-ranching, and farming support the South American economy immensely and the South American people, providing jobs to the people and creating agricultural exports that bring money to the country. However, this is at the expense of the Amazon forest, as these industries clear forest and often releases carbon emissions through burning. Environmentalists argue the side of the forest by backing its importance in the world’s climate patterns, carbon cycle, and biodiversity. They focus on the harmful effects of the long run in terms of the global climate, global warming, and the loss of the most diverse, undiscovered forms of life. Supporters of the unsustainable industries, such as logging and ranching, focus on the benefits and opportunity the land provides in the present, and they maximize on this opportunity with a short-term view. Environmentalists, inadvertently suggest that these industries cannot continue their destructive existence. With these industries, the forest is hurting; without these industries, though biodiversity could thrive, carbon emissions would decrease, and climate would be regulated, the economy of South America and the people of South America could be jobless, homeless, and suffering. So, which matters more? The economy or the people? Is there a happy medium?

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**Environmental Support in the Amazon: What They Believe AND What They Accomplish**

In the Amazon, there is a multitude of different environmental groups, organizations, funders, and more, that work towards a common goal, protecting or conserving the Amazon and Amazonians, through varying means and approaches, that nonetheless, have made considerable efforts and produced notable results. The Gordon and Betty Moore Foundation, the largest private funder of conservation activities in the Amazon, conserves Amazonian forests by supporting the establishment of protected areas, transforming frontier economies, and addressing the root cause of deforestation and forest degradation in the Amazon (Burris and “Environmental Conservation Program”). Examples of their efforts include that nearly one-third of the Amazon is now under sustainable management, sustainable, legal timber harvesting and deforestation-free cattle ranching have been created in Brazil, and support for the Reducing Emissions from Deforestation and forest Degradation program, REDD, which “aims to make forests more valuable standing than they are cut down,” has been furthered (“Andes-Amazon Initiative”). Supported by the Gordon and Betty Moore Foundation, the Amazon Conservation Team, ACT, takes a different approach to the conservation of the Amazon by putting their focus equally on the indigenous people. “Biocultural conservation, an approach to conservation that views biodiversity and native cultures as an interrelated system,” has allowed ACT to empower indigenous tribes with the knowledge needed to support themselves based on sustainable development and to work with the natives, in areas like northern Brazil, to develop comprehensive sustainable management plans for threatened forest area (“How We Work”). Another approach to conservation efforts works outside of the forest to further efforts and understanding. Imazon, a nonprofit association and research institute, supports sustainable development in the Amazon through their research efforts, including socioeconomic diagnoses of land use and the development of methods for monitoring and evaluating these uses (“About Us”). The Gordon and Betty Moore Foundation, ACT, and Imazon are just few of many groups that further conservation efforts in the Amazon through varying approaches that have resulted in a multitude of protected lands, furthered programs, and increased awareness and understanding.

**The Overall Importance**

Beneath all of the impressive results of groups such as these, lies the unarguable importance of the forest in relation to all life on Earth. ACT, specifically, emphasizes the reason for pursuing their interests and efforts of Amazonian forest conservation. They claim that “the survival of the Amazon has great ramifications for life across the planet. A healthy and intact Amazon forest will stabilize the climate patterns of which world economies and ecosystems depend, and will continue to serve as the planet's greatest storehouse of biodiversity, sheltering a vast array of species of potentially profound value to human health.” (“Why It Matters”). The Amazon helps stabilize climate through its place in the global carbon cycle. The trees of the rainforest absorb carbon dioxide from the atmosphere, created by common sources such as automobiles, humans, emissions, and fires. Carbon is stored in the trees, an estimated 80-120 billion tons in the Amazon alone, and is released into the atmosphere when trees are cut down (“Slaughtering the Amazon”). At the same, when trees are cut down, fewer trees are available to absorb carbon dioxide from the atmosphere, and even more carbon dioxide remains unabsorbed. As one of the main greenhouse gases, carbon dioxide is leading to the greenhouse effect causing global warming, a concerning climatic event (“Greenhouse Gases”). In addition to regulating climate patterns through its part in the carbon cycle, conserving the Amazon protects “the most diverse terrestrial ecosystem on the planet” (“Why It Matters”). “Despite covering only approximately 6% of the Earth’s surface, it is home to more varieties of plants and animals than any other place on Earth. This astounding level of biodiversity has already shaped the course of human history in a variety of ways, such as providing the first cure for malaria, and the first source of rubber, which helped fuel the industrial revolution. Yet only a small fraction of the species in the Amazon have been examined for their potential benefits to humankind” (Why It Matters”). Industries that destroy the forest are taking away much more than the wood of the trees. Behind all of the efforts and effects of environmental groups, the bottom line is that the Amazon forest is crucial to both carbon and climate cycles, and it is home to more forms of undiscovered live, than any other place, which is why it environmental groups argue for its protection.

**The Gap and Challenge in Success and Execution**

Though environmental groups are both abundant and full of ideas with promising possibilities, the link between their plans and the power needed to put those plans successfully into action can be challenging because of reasons such as dramatic changes in global commodity prices, a lack of governmental progress, and poor governmental implementation. Rhett Butler, C:\Users\Porter\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\MLOJ25ZO\MC900437621[1].wmfconservationist and founder of mongabay.com, an environmental science and conservation news site, admits that “the Amazon region is huge and the central government has relatively limited control. Thus, top-down efforts to control deforestation have mostly failed in the past simply because there is little capacity to enforce environmental laws” (Butler). Butler continues on to explain that the two reasons of deforestation are small, poor farmers, clearing land to support themselves, and large landowners and corporations bulldozing “ vast tracts of trees to establish cattle ranches, plantations, and farms to produce commodities” (Butler). In 2008, the real driver of deforestation as a result of the production of commodities needed worldwide was clearly seen with the sudden failure of the Amazon Deforestation Management Plan, which appeared to have been successful. Announced in 2003, the plan set a goal to achieve zero net deforestation by 2015. In early 2007, the net deforestation managed to be down from half of the 2004 level, but increased suddenly and significantly in the final months of 2007 due to rises in worldwide commodity (mostly food) prices, proving, ultimately, that “commodity prices -- not policy measures -- are the primary determinant of forest clearing” (“JICA USA November” and Butler). Despite the management plan, when prices of food went on the up rise, landowners and corporations were quick to tear down trees to provide what was needed and what would bring income. Under good conditions, the management plan was steadily reaching its desired net goal, but when hard times produced hard circumstances, the plan was abruptly shown to have been ineffective and powerless. Another instance of a plan that was good in theory but flawed in implementation, was the controversial REDD (Reducing Emissions from Deforestation and forest Degradation) solution. Under this previously mentioned solution, industrialized countries reward (usually developing) countries for keeping forests standing, through the provision of financial incentives to the developing countries containing these forests. However, industrialized countries seemed to misinterpret REDD as a way to offset their excess carbon emissions by financing reductions in other countries (“Debating REDD”). Despite support and funding from nearly every major environmental organization, these misinterpretations, along with the concerns of Amazonians that would be affected, have allowed the status of REDD to remain frozen. Strategies for REDD have been “in implementation for some time” and the most the Amazon has seen of REDD is the development and scarce implementation of pilot projects (“Debating REDD”). Environmental groups, which support and fund ideas such as REDD and the Amazon Deforestation Management Plan, can only do so much with unpredictable outside forces and the lack of governmental execution. Another instance of the lack of governmental execution occurred when rice farmers in Brazil were approved the Raposa Serra do Sol reservation, only after a troubling two years of hesitation from President da Silva (Moran). Indigenous leaders then questioned whether the government would follow through and evict illegal farms and encroachers on the reservation, because attempts in the past had resulted in violence, including the murder of tribal members (Moran). No matter how many plans and policies environmental groups support, promote, and fund, successful results in the Amazon will continue to be challenging because of trouble with governmental implementation, progress, and inevitable outside forces, such as global rises in commodity prices.



**Industry in the Amazon: Farming, Cattle Ranching, Logging**

**Farming**

**What Does Farming Look Like in the Amazon Forest Region?**

Research of the farming industry in the Amazon region as a whole is limited and vague, however, research of the individual farming industries of the major countries covered by the forest provide a more accurate depiction of the crops that create the face of agriculture in the Amazon region. Nearly three fourths of the Amazon rainforest is contained in Brazil (nearly 60%), Peru (nearly 13%), and Colombia (nearly 10%) (Kazmeyer). Brazil is the world’s biggest producer of coffee, soybeans, sugar, oranges and orange juice, beef, and chicken (“Brazil: Natural Resources”). In Peru, subsistence farming, small-scale farming to produce only enough for one’s own family, is the extent of Peruvian farming C:\Users\Porter\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\MLOJ25ZO\MC900437621[1].wmfbecause large-scale farming is not generally possible with the lack of arable land (“Peru: Natural Resources”). Thus, farming is not a considerable industry in Peru. However, in contrast with Peru, Colombia’s “varied topography and climate ranges have resulted in a diverse agricultural sector” (“Colombia: Natural Resources”). Some of the products farmers grow throughout Colombia include flowers for export, rice, sugarcane, tobacco, potatoes, wheat, and barley; sustainable products include bananas, plantains, coconuts, citrus fruits, pears, and pineapples. The crops produced within these regions, which account for almost 75% of the Amazon forest, provide a good idea of farming within the Amazon forest region.

Area of South America Covered by the Amazon Forest

**Economic Benefits from the Amazonian Farming Industry**

These agricultural products combine to form strong industries within these countries of the Amazon region, and are worth millions, often billions, of dollars, and subsequently, thousands of jobs. According to data from the Observatory of Economic Complexity for 2010, soybeans account for 5.5% of Brazil’s 205,053,471,177 dollars of exports, making the soybean industry, worth more than 11 billion dollars, the fourth largest and most valuable type of Brazilian export (“What Does Brazil”). One place above coffee, raw sugar and sugar cane, are Brazil's third most valuable export, being valued at nearly 13 billion dollars, 6.3% of the total country’s exports (“What Does Brazil”). Other notable agricultural products in Brazil include the coffee industry, worth $5.3 billion dollars in exports, the raw tobacco industry, worth $2.4 billion, and the corn seed industry, worth $2.3 billion (“What Does Brazil”). In Colombia, the agricultural exports worth the most come from the coffee and flower industries and the sustainable banana/plantain industry (“What Does Colombia”). The coffee industry accounts for 4.8% of Colombia’s 42 billion dollars of yearly exports, making the coffee industry worth more than 2 billion dollars, and exported flowers account for 3% of total exports, valuing the Colombian flower industry at 1.2 billion dollars (“What Does Colombia”). In addition to employing thousands of local workers in order to function, these agricultural industries are able to benefit and provide the Amazon region with millions of dollars in exports every year.

**Ranching**

**What is Cattle Ranching and What Products of Export Does Cattle Ranching Provide the Amazon?**

Cattle ranching is a field of work that provides the basis for many important animal-related products exported annually by regions of the Amazon. In order to understand the industry of cattle ranching within the Amazon, one must understand that a ranch, by definition, “is an extensive farm on which large herds of cattle, sheep, or horses are raised.” These animals are used to provide profit in the form of cattle-related products. The main products that result from the raising of these types of cattle include beef from the cattle itself, dairy products such as butter, milk, and cheese, leather from the cattle’s hides, and fertilizer and fuel from the cattle’s waste products (“Cattle”). In Brazil, “the nation’s commercial cattle herd is the world’s largest, with more than 200 million animals grazing” and “the Brazilian government also hopes to increase its world-leading share of beef exports by 2018” (“Brazil: Natural Resources” and Moran). The cattle ranching industry in Brazil, which is already the world’s largest, is only continuing to grow. In Peru, livestock continues to play a role in agriculture, but indigenous populations continue to raise native animals more suited to parts of harsher climate (“Peru: Natural Resources”). In Colombia, access to the ocean and rivers support an expansive fishing industry, and animal products from cattle ranching make up much less of animal related exports (“Colomia: Natural Resources”). Cattle ranching, most common in the Brazilian section of the Amazon, provides a wide array of cattle-related Amazonian exports, ranging anywhere from leather to cheese.

**Economic Benefits from the Amazonian Cattle Ranching Industry**

Products from cattle such as meat and leather provide the countries of the Amazon billions of dollars in exports every year.  According to data, previously referred to, from the Observatory of Economic Complexity’s 2010 survey, frozen bovine meat (meat from cattle), accounted for 510 million dollars of Brazil’s exports, and unfrozen bovine meat, accounted for 280 million dollars of Brazilian exports (“What Does Brazil”). Bigger than both bovine categories, “footwear with leather body,” accounted for 2.1% of total exports, at 1.3 billion dollars (“What Does Brazil”). In Peru, concentrated milk and cream account were worth 79 million dollars of exports in 2010 (“What Does Peru”). And thirdly, bringing nearly 19 million dollars to Colombia in 2010 was bovine meat (“What Does Colombia”). Brazil, Peru, and Colombia, representing the majority of the Amazon region, utilize the cattle ranching industry for the cattle-related products it creates, which beneficially bring the Amazon region billions of dollars in exports every year.

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**Logging**

**What is Logging and What Does Logging Look Like in the Amazon Region?**

The cutting down of multiple types of trees throughout the Amazon allow for timber and multiple wood products to be then produced by result. By definition, logging is the process, work, or business of cutting down trees, then transporting them to mills to be cut into lumber and distributed for further construction and production (“Logging”). “The Amazon rainforest is home to vast tracts of virgin forest used . . . by the timber (logging) industry for valuable timber species” (“Peru: Natural Resources”). In Brazil, logging is expanding in the Amazon region (“Brazil: Natural Resources”). Some of Brazil’s timber comes from hardwood species, but the majority comes from plantations of eucalyptus, Honduras pine, and other exotic species (“Brazil: Natural Resources”). In Peru, cedar, moena, tornillo, congona, and mahogany trees are logged, with mahogany being the most important lumber product because of its value as an export to the U.S. and Europe (“Peru: Natural Resources”). Though the forest covers nearly half of Colombia, “timber exports of such hardwoods as mahogany are relatively few” and logging supplies enough timber to meet only domestic needs (“Colombia: Natural Resources”). In comparison to Brazilian and Peruvian areas of the Amazon, Columbia does not log on a large level solely for profit and production. Overall, various types of wood are logged throughout countries of the Amazon and are purposed to be produced into a vast array of wood-based products.

Brazilian Logging Truck

**Economic Benefits from the Amazonian Logging Industry**

Wood-based products from wood logged in the Amazon forest region supports the Amazonian economy with billions of dollars in exports yearly. Data from the Conservatory of Economic Complexity’s 2010, shows that Brazil’s largest export under the “wood and wood products” category was “chemical woodpulp” prepared from chipped wood, accounting for 2.5% of Brazil’s total exports and valuing in at 5.2 billion dollars (“What Does Brazil”). Second in the export category was various types of paper, which brought Brazil 990 million dollars (“What Does Brazil”). For Peru, the Conservatory’s data showed that under Peru’s “wood and wood products” export category, the largest contributor was shaped wood, valuing at 77 million dollars of the country’s exports (“What Does Peru”). In Colombia, the most valuable wood based product was toilet paper, providing Colombia with 220 million dollars in exports in 2010 (“What Does Colombia”). From wood logged in the Amazon forest, many wood-based products, such as woodpulp, paper, and toilet paper, strengthen the economy of the Amazon through providing billions of dollars in exports annually.

**More than the Profit: How Industry Falls Short**

Though industries such as farming, ranching, and logging provide billions of dollars and jobs to the Amazon region, the same issue environmentalists emphasize and fight for is the same expendable issue that these industries cannot deny: these industries clear forest, resulting in the disruption of climate cycles, carbon cycles, and biodiversity. Two common practices of logging include clear-cutting and selective logging. The devastation of the forest is very apparent from the practice of clear-cutting: every tree is cut down and all habitats in the area are destroyed. The devastation of selective logging, a process involving the picking and choosing of logs based on highest value, is less apparent, but nonetheless harmful. Selective logging converts closed wet forest into a drier forest, more prone to fire and drought (Pimm). As the forest’s density continues to decrease through selective logging and fires and droughts continue, “The forest can become progressively more open until all the trees are lost” (Pimm). In addition to selective logging, these industries often tear down forest to create roads and unplanned, unmapped infrastructure, much more destructive and harmful than roads that have been carefully planned out by the government. Both types of logging and unmapped road systems alike, are taking the risk of destroying forest area home to types of plants and animals that may hold more value, through medical discoveries such as the discovery of cures, than the C:\Users\Porter\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\MLOJ25ZO\MC900437621[1].wmftrees themselves. In addition to astounding levels of biodiversity, is the forest’s role in climate and carbon cycles, repeatedly stressed and focused on by environmentalist organizations. As a farmer burns several acres of Amazon forest to create farmland, he is releasing carbon in the trees’ biomass back into the atmosphere, while also subtracting from the trees available to absorb other carbon from the atmosphere. This excess carbon in the atmosphere adds to the effects of global warming which is partially responsible for global climate change. Though this farmer might raise crops worth thousands of dollars or cattle worth thousands of dollars of beef that could benefit the regional economy, his actions are, inarguably, still hurting the environment as he destroys wildlife and propels the effects of global warming. In all, these industries of the Amazon region responsible for the gain of billions of dollars in exports, cannot disagree with the environmentalists in the fact that their practices do, however, have significantly negative effects for the forest’s forms of life and the cycles the forest plays part in.

**What’s the Solution?**

Opposition between the unsustainable industries that support the economy and environmental groups must continue. Environmental groups, such as the Amazon Conservation Team, must continue their efforts in the Amazon forest region, through continuing research, informing the public, pressuring the government, empowering indigenous peoples, and working on the ground to transform types of unsustainable work into sustainable practices. Environmental groups cannot simply expect for every cattle rancher to plant a forest of trees on his farm and instead collect rubber for a means of income, or expect for every logger to pack up the saws and trucks and wait for an equal amount of trees to grow back before they log anything more. These industries are not going to disappear. Environmentalists must continue to offer solutions, alternatives, which provide a sustainable secondary option as well as a means of profit. Then, generally ease these sustainable industries, such as hydropower, solar power, and the growth of sustainable crops such as bananas or plantains, into being the economy’s new normal. Ideas such as the Amazon Deforestation Management plan, with a goal of zero net deforestation, are unrealistic, as it was proven that no matter what laws are in place, people will work where there are demands to be met and money to be made. The Amazon forest will continue to get smaller and smaller, and though it should not be rushed, it is, with all trends considered, inevitable. It’s said that one can never “save” someone’s life, just extend it. In the same way, as environmentalists continue to pose friction against causes of deforestation, they are only buying the Amazon time. This extended time, allows for changes in climate and carbon cycles to be slightly more gradual, at a rate that is adjustable for all parts of the world. Just as people have survived climate changes in the past, they will in the future, and they will face the issue when they absolutely must. As environmentalists continue to work on the ground to make sustainable types of development more of the norm or standard in the region, and as they continue to fight the unsustainable industries and rulings, providing opposition, allowing for the elongation of the Amazon forest’s life span, the closest idea to a happy medium can thus be achieved in the Amazon. Both the environment and the economy are essential, and with their opposing forces continuing to work against each other, the best solution is reached, as prolonging the inevitable ultimately allows for gradual global, regional, and economical adjustment of the effects and losses of an ever-shrinking Amazon.

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