

4-1-2008

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### Recommended Citation

Rodriguez, Jennifer (2008) "The Destructive Legacy of Deforestation in the Amazon," *ESSAI*: Vol. 6, Article 40.  
Available at: <http://dc.cod.edu/essai/vol6/iss1/40>

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## The Destructive Legacy of Deforestation in the Amazon

by Jennifer Rodriguez

(Biology 1110)

### ABSTRACT

As the global penalties of industrialization and human land use become more evident in the world we call home, more questions are raised about the future of our Earth and its inhabitants. This paper intends to look back and revisit history and why the Earth has fallen prey to global warming and the alarmingly rapid rate of destruction of its biodiversity through the means of deforestation. While the current state of the Earth and its rapidly disappearing rainforests are of global concern, the global community hungry for profits, development, and expansion of industrialization is also destroying them. In Brazil, the Amazon rainforest is on the global cutting floor, and even beyond this place, there is a two-edged sword that continues to prolong and proliferate deforestation: Lack of enforced governmental protection for the lush and irreplaceable rainforests, and the need to develop the land to provide for and prosper its people. The current and future consequences of deforestation will be examined. Also mentioned is the potential of sustainable projects and possible keys to shifting the ominous death warrant of the Amazonian rainforests to a more hopeful future.

### **Virgin soil and the seed of civilization**

Centuries ago, the expansive Amazon rainforest was inhabited by a diverse assemblage of plant and animal species, and also by indigenous peoples (Cockburn and Hecht 1989). Beginning with the Spanish conquistadors in the 16<sup>th</sup> century, the “New World” was a place deemed by competing old world states, to be bursting with promise. Not because of the lush vegetation and beauty of the forest, but because of what taming the vast and seemingly endless forest could bring to its conquerors. In time, the fantastical and romantic ideology of wealth and fortune that was to be found in the green wilderness, spread beyond the imagination of Spanish and Portuguese royalty, but also to other wide eyed and ambitious explorers hungry to see with their own eyes the gold, diamonds, and the savage Indians that were tucked away in the deep of the forest. Fired up by myths like that of El Dorado and the promise of wealth, many insatiably curious and boldly brutal individuals went on to pillage from those they overwhelmed with their firepower and disease (Cockburn and Hecht 1989), eventually converting the survivors of the once strong and autonomous natives, into slaves. As colonialism ensued and the Amazon became the object of desire for the nations, these nations began to subdue the untamed Earth to make it into something useful, profitable, and valuable by developing it.

### **Rise of deforestation and the global market**

Since the time of the conquistadors and the rush of outside influence, the majority of the Amazon rainforest has been located in Brazil. In the 1960's, not very unlike the early developers of the land centuries before, development became the unabashed goal of the Brazilian government (Laurence 2005). Brazil's military dictators began doing everything possible to populate the land and develop the area by building infrastructure like roads, and offering incentives for cattle ranchers and

industries to immigrate to the basin. What drives deforestation in the Amazon to this day is deeply rooted in the initiatives taken by the Brazilian government decades ago. Today the population of Brazilian Amazonia has grown tenfold to 20 million people from the 2 million that were present during the 1960's. This exponential growth of the population has put strain on the Brazilian economy and like in other surrounding rainforest cities, the growth demands more economic development to support the vast amount of people that dwell there (Laurence 2005). As the beef and cattle industry proceeds to flourish in modern day Brazil due to the surplus of domestic and foreign buyers, more and more forest is being cleared for the grazing and raising of cattle. Also, rare and expensive woods, like mahogany, are too easily, and illegally, taken from the Brazilian forests to supply the demand of wealthy foreign nations who need beautiful furniture (Kelly and London 2007). The Brazilian government has estimated that about 80% of all logging that takes place in the Amazon is illegally executed (Laurence 2005). In the last thirty years, 12% of the total Amazon has been cut down (Stone 2007). The rate of deforestation has been steadily climbing, with the exception of 2005 when it slowed due to a reduced price for Soya and beef prices, which decreased the demand for forest clearing (Laurence 2005). But unfortunately that exception is not the current trend as deforestation rates continue to climb and thousands of hectares of forest are lost every day.

### **Living and dying in the aftermath of development**

Aesthetically speaking, the deforestation of the Amazon has left once vibrant, living forests looking like ghostly graves. But, as has been proven by the events of the world, the eradication of the beauty of the forest is not enough of a catalyst to stop its destruction. What has too often been overlooked by greedy exploiters of the land is the secondary casualties and the long lasting impact of our gutting of the forest to meet our First World needs and desires (Cockburn and Hecht 1989). The rainforest is home to millions of species and its destruction has a direct impact on the livelihood, or consequent destruction, of these species. To illustrate this, a correlation can be made between animals in the Amazon and animals affected in other parts of the world by deforestation. An example of this would be the African red colobus monkey, which has been adversely affected by the destruction of its habitat in Uganda (Gajewski 2004b). Studies showed that in areas where the forest had been fragmented, the incidence of parasitic infections and death increased and further put the endangered red colobus at risk. Although the specific implications vary from forest to forest, similar relationships between the animals in the rainforest and the health of their habitat exist. The richness of the Amazon's biodiversity is so great that it holds one quarter of all the world's plant and animal species (Stone 2007). The disruption of this living habitat has implications for humans as well. One example would be how deforestation potentially forfeits any pragmatic medicinal discoveries that can be made from studying the diverse plant life that can only be found in the Amazon (Thomas 2007). As more forest is cleared every day, these potentially life saving plants are being destroyed. This has important implications for humanity as emergent diseases increase and known diseases can evolve beyond our medical capacity. Another example would be the deadly bat attacks that occurred in Brazil 2004 (Gajewski 2004a). There were nearly 300 attacks on humans and thirteen human deaths resulting from rabies infected vampire bats. The Brazilian government cited that deforestation was the cause of this unusual bat behavior. The loss of vegetation was connected to changes in the bats' migratory patterns, which subsequently affected their population and behavior.

### **Impending doom**

Another significant and frightening consequence of deforestation is global warming. Global warming has several contributors but there are some very important ties to deforestation (Afzal 2007). Due to the demand for grazing land for cattle ranching as mentioned earlier, the forests are

being leveled at an alarming rate (Kluger 2006). Deforestation is also taking place to make way for growing human populations in Brazil (Afzal 2007). When the forests are burned to make way for these developments, carbon dioxide, which has been trapped in the trees, is released into the atmosphere (Kluger 2006). As the carbon dioxide builds up in the atmosphere, along with other greenhouse gases, these gases allow sunlight in but prevent much of the heat from escaping. This trapped heat over time raises the global temperature. Although a few degrees sound harmless, glaciers and icecaps are melting at unprecedented rates and could have frightening repercussions that include rising sea levels and engulfed low lands, displacing people from their habitats. It is suspected that this global climate change has already offset weather patterns and produced severe consequences like drought, fire, heavy rains and floods (Afzal 2007). If the current trends continue the global temperature will continue to rise and will produce disastrous results indiscriminately against all inhabitants of the Earth.

### **Silver lining**

While there is overwhelming evidence that humanity is headed towards an ominous future, we are fortunately still in the position where we are able to make changes in hopes of preserving this world for future generations. There is much environmental damage that has been inflicted upon the world by humanity and even as this is being written, plans are being drawn up to keep expanding, keep uprooting, and keep pushing forward with the steady hum of globalization (Laurence 2005). However, because of the interconnectedness that globalization engenders, the shared fate of humanity and all other life on this planet is becoming more clearly interwoven and inseparable. The awareness of these environmental issues is bringing about the organization of NGO's and international policies (Kelly and London 2007). There even seems to be whispers of hope for Brazil to confront the difficult paradox of its need for economic development for its people and the responsibility it has to protect the sacred forest. In certain areas like in Zona Franca, there has been more success in enforcing the law by rewarding good behavior rather than occasionally enforcing the punishments that the law requires against those who break it. Although small strides are being made in the right direction, it's going to take much more than the willpower and ingenuity of the Brazilian government to maintain and protect the biodiversity of the rainforest and stop the flagrant destruction of the Amazon. The global community has a responsibility to do its part as well. The United States and other developed nations need to encourage sustainable development in Brazil and also be willing to invest in sustainable projects that provide alternative land uses (Laurence 2005). The United States in particular needs to stop fluctuating on its stance on environmental protection and health, a noteworthy example would be when the U.S. backed out of the Kyoto Protocol agreement in 2001. Also, responsibility must be taken for the environmental damage being done exponentially by the American people versus other members of the global community. It is then and only then that we can work in unison towards a more optimistic future.

### **Conclusions**

The consequences of deforestation have scarred the Brazilian rainforest forever, and if our reckless use and abuse of resources does not change, we will be the ones reaping those consequences. Though the demand for exotic wood, quality beef and grandiose development continues, we must face these demands with discernment and forbearance. Deforestation compromises the future of irreplaceable animal species by ripping their habitat apart and also compromises the vibrant biodiversity that can only be found in the Amazon. Moreover, the protection and preservation of the rainforest not only preserves the vitality of the ecological biome, but also is beneficial for us as we go forth in human history.

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