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Environmental Injustice in Ecuador: Endangered Indigenous Populations and Environmental Degradation

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I. Introduction: The Existence of Scarcity

"Environmentalism and justice share a common organizing concern- the existence of scarcity..."-Andrew Dobson, Justice and the Environment

Nationally and globally there is a widening disparity between the rich and poor which is reflected at every level of society. Environmental injustice is a term to describe the unjust way that natural resources are allocated, and the very real phenomenon of a disproportionate amount of the negative consequences of environmental degradation being placed on those populations that are poor and underrepresented. This paper will address this situation in Ecuador, and specifically, the connection between the environmental degradation of one of the most biologically diverse places in the world, and the destruction of indigenous and repressed populations who have lived in and with that environment for generations. The modern prioritization of resource acquisition and the profit maximization tactics of institutions in the industrial global economy have driven extinction of these cultures and degradation of their environments. Affluent societies following the paradigm of "manifest destiny" have fallen to trying to tame the wilderness and conquer the "primitive" peoples who call it home in order to bring them in to the "civilized", modern world, and moreover, exploit their land and its intrinsic values and services for monetary profit.

While Latin America contains less than 10% of the world's population, it has nearly 25% of the world's potentially cultivatable land, 25% of forests, more than 50% of the tropical forests, and rich mineral and fossil fuel deposits as well as coastal and marine resources (Roberts and Thanos, 2003). The percentage of indigenous peoples living in

poverty is also significantly higher than the non indigenous populations. Environmental degradation and exploitation of both the land, and consequently the native people, is a huge and ever growing problem in Latin America. Justice for these exploited cultures is intrinsically tied to environmentalism through what Andrew Dobson describes as, "the existence of scarcity" (Dobson, 1998). While environmentalism aims to protect and preserve decreasing natural resources and the intrinsic values of nature, the concept of distributive justice is concerned with providing an equitable share of these limited resources, as well as financial and social resources, to all populations. Environmental justice therefore, pairs two movements together, united around the idea of protecting what is threatened and ensuring its continuance (be that a culture or environmental resource) for future generations.

For decades natives have possessed the experience of sustainability and have been able to live in balance with their land. Years of observation, thousands of years in some cases, has given them a specific understanding of their land unlike that of any foreigner. A strong oral tradition exists to pass this knowledge down from generation to generation. These natives also posses the lands that are in strong demand by urbanization (Gedicks, 1993). The fury of globalization is quickly advancing the trends started with colonization: indigenous groups are losing, or have already lost control of their environments and in doing so are losing a significant part of their culture. Close to 2,000 indigenous groups have been made extinct over the past 400 years (Gedicks, 1993). As the dominant cultures of the world exploit the resources of the less developed countries and less powerful cultures, not only is the environment being degraded, but cultures are being

endangered. Thus, the goal of sustainable development is inseparable from the goal of maintaining cultural diversity.

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II. The Land and Its Resources

Ecuador lies on the northwest coast of South America between Colombia to the north and Peru to the south. Just smaller than the state of Nevada, Ecuador covers 283,560 square kilometers divided into three continental regions and the Galapagos Islands. The "Costa" lies between the Pacific Ocean and Andes Mountains, the "Sierra" highlands in the interior of the country, and the Amazon region, the "Oriente", in the east. Each region is divided into provinces, 22 in all, with each having unique environmental and cultural characteristics, and in turn each presenting its own share of environmental and cultural conflict (Gerlach, 2003).

While Ecuador contains only 1.72% of Earth's surface, it is the eighth most biodiverse country on Earth boasting close to 20,000 species of plants, 1,500 species of birds (17% of all bird species), 840 species of reptiles and amphibians, and 340 species of mammals (Gerlach, 2003). The coastal region's tropical climate supports a unique ecosystem of saltwater and freshwater tropical species including the mangrove, a coastal wetland shrub that thrives in very specific tropical and subtropical zones across the globe (Figure 1). Mangroves provide shoreline protection as well as the export of organic materials with the tides which provides nutrition to a wide variety of organisms and provides for continued growth of the fringing forest. Inland, cloud forests and tropical jungle provide unique ecological niches for innumerable species of plants, animals, and

humans. Intense equatorial sun and volcanic soils make the Sierra highlands especially fertile land and an ideal place for growing a variety of crops.

The eastern Oriente has some of the highest biodiversity in the world. Flat to gently rolling hills of rainforest characterize this region which provides more than 20% of the world's oxygen and at least 80% of most people's diets. Numerous life saving prescription drugs come from plants unique to the rainforest and many more are waiting to be discovered by the modern world. (Although Amazon Indians have used combinations of native plants as traditional remedies for generations, and with a level of understanding that far exceeds some of the developed world's pharmaceutical companies today.) Additionally, the abundance of vegetation in the Amazon rainforest accounts for a large percent of worldwide carbon sequestration, helping to control global warming and slow climate change (Tian, 2000).

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III. The People

When the Spanish conquered Ecuador in 1530 they encountered indigenous populations that had been conquered a few decades earlier by the Inca. Indigenous descendents of pre-Columbian inhabitants have remained at the bottom of society since the Spanish conquest. Today's ethnic groups are traced from four main divisions: the Spanish colonizers, South American Indians, a mix of these two know as mestizos or cholos, and descendents of black slaves of the Spanish (Hanratty, 1973). The native cultures are distributed throughout Ecuador's 22 provinces (Figure 2), with 96% of the indigenous population living in the highlands (Gerlach, 2003).

Racially based population counts have been a controversial subject. Not only is it difficult to establish criteria with which to identify people, the importance of doing so is heightened by the fact that the results of such counts will be important in determining the degree of political clout indigenous groups will have:

> To establish the number of Indians that exist in Ecuador is a theme that has occasioned more than a headache. The problem begins when one tries to establish who the Indians are, which is to say, does one consider them such on the basis of physical characteristics or whether they live within the Andean Indian world? White and Mestizo society have affirmed-among them former presidents León Febres Cordero and Osvaldo Hurtado-that the Indian population is a little less than two million people and that, as such, it has no right to impose its vision of the world on Ecuador. The organized Indian movement, on the other hand, says its population numbers over four million people.
>
> (From Quito's newspaper *El Comercio*, qtd. in Gerlach, 2003)

Some of the highest levels of indigenous advocacy come from the diverse groups of the Oriente. This region is home to 75,000 individuals divided into eight native groups (Gedicks, 1993). The largest group of Amazon Indians is the Oriente Quichuas. They are related to the highlands Quichuas and are divided into Canelos and Quijos of north-central Sucumbios, Napo, Orellana and Pastaza provinces (Figure 2). The second largest group is the Shuar, known for their traditional fierceness and violence. This group is closely related to the Achuar of the central-south provinces of Pastaza, Morona, Santiago and Zamora Chinchipa (Figure 2). Traditional Shuar warriors would cut off the heads of their enemies after killing them and shrink them to keep as a trophy of victory. The third largest group is the Huaorani, well know for their publicized battle against oil companies degradation of the land on which they live in the center provinces of Orellana and Pastaza. After the Huaorani in size come the Cofan tribe that live in western portion of Sucumnios Province and the Siona and Secoya, traditional enemies of Huaorani who inhabit the Eastern portion (Figure 2). The smallest group still in existence is the Zaparos

of Pastaza (Gerlach, 2003). In 1992 the rate of extinction of indigenous peoples in the Amazon Rainforest was equal to one indigenous nation per year (Gedicks, 1993). Among those nationalities that have died out are the Arda, Bolona, Bracamoro, Chirino and Tete (Gerlach, 2003).

In *The New Resource Wars: Native and Environmental Struggles Against Multinational Corporations,* Al Gedicks describes governments as having become "wedded" to international debt and the pursuit of industrialization as a way to compete, or even just to keep up in the increasingly urbanized and globalized world. For the 5,000 indigenous societies worldwide, natural law was once preeminent. In this way people were able to live as one with nature through a system of reciprocity that defined responsibilities and the way in which humans interacted with the ecosystem. Continuous inhabitation of one place requires such methods in order to maintain balance. This includes a decentralized, communal, self-reliant system which contrasts with the industrial society of most of the contemporary world. Today Ecuador's native groups are encountering this reality at an intense and accelerating pace. Development methods striving to integrate Ecuador into the global economy have left many of its people behind. Since the first arrival of the Spanish, indigenous groups across Latin America have been in conflict with foreigners over the control of their land and its resources. Today when ninety percent of Latin America's indigenous population is still subsistence farmers who continue to depend directly on the environment for survival, the globalization and environmental crisis has become inevitably intertwined with their prospects for survival (Roberts and Thanos, 2003).

It is important to note however, that not all natives are environmentalists in the modern definition of the term. However, the term environmentalist was created in a movement aimed in part to retain valuable elements of the past for the future. The term and the movement have become necessary in order to protect the natural resources of the environment for future generations because if left alone the current course of society would cause these resources to become extinct. Native cultures are in a similar position. They live, in large part, outside of the modern economic and political system. They live in traditional ways, on their ancestral lands and it is this way of life, part of what defines who they are, that is being threatened. Their lands contain valuable resources which are in high demand by the modern world which many indigenous cultures are not a part of. Therefore, it is realistic to assume that most indigenous people want to protect their homes, their families and their heritage for it is what defines who they are. The common concern of the "existence of scarcity" ties their fate to that of the environment, and if they do not take the stand of an "environmentalist" neither interest, that of indigenous cultures or the environment, will have anything left to protect.

* * *

IV. The Economy: Patterns of Globalization

> *"Poverty and environmental degradation are interrelated and interdependent. Poverty is one of the major forces driving environmental degradation, while sound natural resource management is essential for reducing poverty and ensuring future prosperity." - Carl H. Leonard, acting assistant administrator (2000), bureau for Latin America and the Caribbean, U.S. Agency for International Development*

Across the world it is the poorest neighborhoods that are subject to the worst environmental degradation. Industrial centers are found in the backyards of those who

cannot afford to move elsewhere and who do not have the political or financial influence to effect change from the polluters. It is also the poorer sectors of society who are forced to buy the environmentally unfriendly, cheaply made products of poor working conditions and imported food that hurts local economies because they cannot afford to pay more for sustainability when the cheaper options are available. In this way, poverty and environmental degradation are reinforcing each other in a destructive cycle.

In Ecuador there is an additional element to the situation. While in the cities, the poorest Ecuadorians are found living in the most environmentally degraded areas, elsewhere in the country it is the poor, and specifically indigenous populations, that are living in some of the most environmentally productive and, at one time, pristine areas. Ecuador's development was originally influenced by the fact that it is the only Andean country without precious metals. After the large-scale discovery of oil in the Amazon in the 1960s this all changed. Indigenous tribes' pristine lands were in high demand for the economic profit they could bring. As the Amazon began being thoroughly exploited for profit and left stripped of its natural productivity, the indigenous tribes were left with little control over their ancestral lands. For generations, Amazon tribes had been rich in resources and were able to live successfully as a self sufficient and productive system outside of the standard order. Luis Macas, former president of CONAIE described this situation when he said, "It is no accident that most of the remaining natural resources are on indigenous land. First the white world destroys their own environment, then they come asking for the last pieces of land they have put us on, the earth we have protected" (CONAIE). Now forced to deal with a capitalist system whose priorities lie in profit above all else, the rich resources of indigenous tribes are being diminished and new

problems introduced leaving them unable to live outside of the capitalist system any longer.

While access to some social services has increased in recent years, the level of monetary poverty has also increased. In 2004, 41% of the population was living on less than two dollars a day. Figure 4 shows the distribution of poverty, with the highest levels occurring in the Sierra. However, data for the Oriente is not included in the World Bank survey, meaning the indigenous Amazon tribes are not represented (Figure 3, World Bank Poverty Assessment, 2004.) The World Bank Ecuador Poverty Assessment of 2004 ties the inability to reduce poverty to the close dependence between economic growth and productivity growth, "which in turn depends on the quality of inputs (labor and capital), institutions, and policies" (World Bank, 2004). In 2000 in an effort to combat the financial crisis of the 1990s, the final stages of a dollarization plan went into effect and the U.S. dollar became Ecuador's official national currency. This eliminated the possibility of using the exchange rate to stimulate increases in competitiveness and growth. For many people hyperinflation caused their lifetime savings to be lost, and most benefits of a decreased price of consumption have gone to the non-poor. Moreover, in order to preserve the economic benefits that did come from dollarization, and to decrease the poverty rate in the future, sustained productivity will be required- which likely means increased development and the potential for more environment degradation.

Ecuador's economy relies heavily on exports, especially petroleum production, as well as bananas, cut flowers, cocoa, coffee and shrimp, a large percentage of which end up in the United States. For years Ecuador's economy has gone through a cycle of boom and bust periods, tied closely to the price of oil. Currently, a series of Andean Free Trade

Agreements (AFTA) are being negotiated between the Andean countries of Peru, Colombia, and Ecuador, and the United States. The Agreement would virtually be an extension of NAFTA to the Andean countries of Latin America. It is modeled after the controversial and narrowly passed U.S. - Central America free trade agreement (CAFTA), and is an attempt to implement the United States' broader goal of a Free Trade Area of the Americas (FTAA) which is strongly opposed by many countries. AFTA includes no enforceable labor or environmental protections, services provisions promoting the privatization and deregulation of fundamental public services, and the removal of all tariff barriers on imported agricultural products (Public Citizen, 2006). These provisions would severely injure Ecuador's local, small scale producers.

In May 2006 the U.S. put a hold on talks when Ecuador seized the assets of the U.S. oil company Occidental Petroleum, who Ecuador says violated the terms of its operating contract by selling part of an Ecuadorian oil field to a Canadian country without Ecuador's approval. Ecuador's take over and the resulting freeze on talks has been met with happiness by the Amazon indigenous tribes who had tried to get Occidental to leave for many years, and who are skeptical that any trade agreement with the US would benefit lower class workers or indigenous groups like themselves, but would rather exploit their resources with nothing in return. Indigenous farmers and small scale producers would not be able to compete with cheap American imports, especially agriculture which is heavily subsidized in the U.S. The failures of NAFTA cause further concern for what could happen if such an agreement were extended into Ecuador. The Ecuadorian government declared a state of emergency in March 2006 after hundreds of indigenous and student protesters marched to the capital to protest the free trade talks.

Protest tactics included blocking roads with burning tires, rocks and tress trunks. The radical and passionate positions caused the protest to escalate to violence giving the police justification to use tear gas on the protesters (BBC News Reports, 2006).

It is a turbulent time in Ecuador's economic climate, much of which has to do with the rising voice of the underrepresented population who fear the direction that the country is going and the negative consequence for local populations such unilateral, globalized priorities would bring. Luis Macas, the president of the Confederation of Indigenous Nationalities of Ecuador (CONAIE) summarized the situation:

> We are living in a process of structural adjustment in which the rise in process for necessities affects all Ecuadorians, but the situation is even more serious for indigenous peoples who do not have any insurance, salary, or other protection. I think that the government follows the directives of the World Bank and IMF very closely, and these are policies that impact indigenous peoples throughout Latin America. The Ecuadorian government has to accept the conditions of the IMF and World Bank in order to obtain new credit. And it does not matter is this negatively affects a great majority of Ecuadoreans. What matters is that they do what is necessary to obtain credit. These are policies imposed from outside, but they create problems inside our country. It is really part of a global problem that is very complicated. But we are questioning the priorities of multilateral banks and government.
>
> (qtd. In Gerlach, 2003 from an undated press release titled CONAIE, CONFEDERACION DE NACIONALIDADES INDIGENAS DEL ECUADOR).

To ensure environmental and social justice, government policies must not submit to externally imposed strategies which ignore the interests of such a large percentage of Ecuador's population. In the long term Ecuador will not survive in an international market if their resources and peoples are destroyed at home.

* * *

V. Environmental Conflict

Three situations which I personally witnessed during my time studying in Ecuador, one from the Costa, one from the Oriente and one from the Sierra, exemplify the range of the current environmental crisis and the impacts it has on those poor, indigenous peoples disproportionately forced to carry the burden:

Oil and the Oriente

Long before any large scale discoveries or environmental exploitations, traditional coastal Indians had turned oil to tar and used it to caulk canoes, waterproof arms and utensils and make torches. The modern well that set in motion the destruction of the Oriente began shortly after World War I. Their output was always low but nevertheless in 1921 Standard Oil obtained the first concession to explore the Amazon. Their search appeared at first to be in vain, leading President Galo Plaza Lasso to declare that there was simply no oil to be found in the Amazon, it had all been a myth. It wasn't until almost 50 years later in 1967 that he was proven wrong when The Texaco Gulf Consortium discovered vast amounts of crude in far north regions of Sucumbíos province in the Oriente. This discovery launched Ecuador's third economic boom (Gerlach, 2003). This boom however, even more than the first with cacao or the second with bananas, would inaugurate a new era in Ecuador's history and the lives of their indigenous peoples.

On June 26, 1972 Ecuador began using the 312 mile Trans-Ecuadorian Pipe Line (SOTE) to ship oil out to foreign markets. Initially SOTE handled 250,000 barrels/day but was enlarged three times to 360,000 barrels per day by 2000. One year later in 1973 Ecuador joined The Organization of the Petroleum Exporting Countries (OPEC). Their

newfound wealth and unprecedented spending saw public expenditures rise 12% per year following 1972. By 2001 the government relied on oil revenue for 46% of its income (Gerlach, 2003). While this money came directly from the resources of the Oriente, it went straight to the government in Quito bypassing all people from the communities from which is came.

These spending habits and income trends indicated a dangerously high dependence on a single export, yet in the face of prosperity this was not seen by most as a concern. Economic output rose 233% in the 1970s from $4,347 to $10,155 million. From 1972 through 2000 the military took 45% of the revenue, money which was not included in the legislatively approved budgets and was removed from congressional oversights. During this time Ecuador began to gradually take over the Texaco Gulf Consortium. In 1971 President Ibarra initiated the process with the formation of the Ecuadorean State Petroleum Corporation (CEPE). Soon Ecuador acquired 25%, then 51% interest in Texaco-Gulf. In 1976 CEPE took over the installations of British Anglo Ecuadorean Oil Fields Ltd. and by 1989 President Borja had taken over the last Texaco Gulf shares. Soon after that CEPE was restructured and named Petroecuador which it remains today. State ownership and the ability to tax private, foreign petroleum companies gave the government their own source of revenue at long last. Military regimes were in control of the state run oil company, refinery and fleet; building roads; credit for agricultural development; incentives for manufacturing and industry; and equipment for the armed forces (Gerlach, 2003). Ecuador's agricultural economy was becoming transformed into services, manufacturing, industry and mining.

At first modernization worked well, at least at the surface level and for those at the upper end of the bureaucratic system. But gradually the discontent that was boiling at the lower levels of society came to a head. Many people began to express their opinion that the oil wealth was not trickling down to their sector of society. After seven years of military rule, civilians took over in full force including the writing of a new constitution and new elections. This new regime was left with a foreign debt that had increased twenty fold during the 70s. After the oil boom began there were three approaches taken to the economy: Between 1972-79 the state oversaw direction and development, 1979-84 saw a reformist middle course, and 1984-2000 applied greater free market policies known as neoliberalism (Gelach, 2003).

By the end of the century there was a large drop in crude oil prices which led to recession, inflation and increased foreign debt. Government spending did not reflect this price drop, reflecting irresponsible financial advisors. Things only continued to get worse. An earthquake severed the main oil pipeline. This, coupled with bad weather causing crop, housing and road damage severely threatened Ecuador's new found prosperity. In response to dropping oil values, OPEC had tried stabilizing prices by limiting output. Ecuador however, continued to seek new oil fields and repeatedly exceeded its quota. In 1992 Ecuador left OPEC (Gerlach, 2003).

Throughout the 1990s social problems related to the oil economy continued. Rising prices, waning services, and unemployment gave rise to numerous protests, demonstrations and strikes. The poverty rate steadily rose from 47 percent of the population in 1975 to 67 percent in 1995. According to World Bank calculations (which slightly differed) the figure was at 60 percent in the early 1990s. Of the 6 million poor

Ecuadoreans it classified 2 million of them as indigenous. By 1995 the wealthiest 10 percent of the population had 54.7 percent of the income, while in 1993 the bottom 20 percent had just 1.68 percent of the income. For most, oil was not the black gold it had once been thought to be.

For the Amazon tribes living in the Oriente the consequences of oil exploration are personal. The Trans Ecuadorian Pipeline alone is reported to have leaked 16.8 million gallons of crude oil into the Amazon River, having direct environmental and health effects on the tribes living in proximity to it (Roberts and Thanos, 2003). Toxic waste has leaked into the groundwater, streams and rivers including sites used as sources of drinking water. Vapors from the pits contain carcinogens that are breathed in on a daily basis. In a study of sites near former ChevronTexaco holdings childhood leukemia rates were found to be three times those in the rest of Ecuador. Other health affects include reproductive problems and higher levels of birth defects. A trial is currently underway to determine if Texaco (which merged with Chevron in 2001) never properly cleaned up the toxic pollution they left behind in the more than 600 oil pits they operated in Ecuador between 1964 and 1992 (Figure 4). The international campaign to hold Chevron accountable for their action includes three main demands: to have Chevron fund and implement a major environmental clean-up, to compensate local communities for health and environmental impacts, and to provide affected communities with real access to health care and potable water (ChevronToxico, 2006). Another current struggle in the Oriente is the recent ConocoPhillips acquisition of Burlington Resources which has given it stakes in multiple concessions throughout Ecuador including 100% of the highly contested "Block 24" and 50% of "Block 23" which are the ancestral homes of the Shuar,

Achuar, and Kichwa tribes; groups that have managed to remain fairly isolated until now (Amazon Watch, 2006).

The Flower Industry

"That which we call a rose by any other name would smell as sweet"-William Shakespeare ...or would it?

The Cayambe Valley in Ecuador's highlands is the site of the world's fourth largest rose industry and one of Ecuador's top three exports. The abundant equatorial sun, volcanic soils and Andean snowmelt make ideal growing conditions for the production of "perfect" roses, two thirds of which end up in the United States. Perfection, however, comes at a greater cost. The rose we buy in the United States for as much as $8 cost only 17 cents to produce in Ecuador from a rose plantation that was probably foreign owned and staffed mostly by impoverished women and children earning around $140 a month. Although this wage is significantly above Ecuador's minimum wage, there are hidden costs to jobs in the rose industry which, if left unacknowledged, will in the long run outweigh the benefits. The workers however, often fell that they have no choice but to accept the conditions they are subjected to. Insecticide, herbicides, fungicides, and soil fumigants are used to kill insects and mildew, and the roses are drenched in preservative to ensure that they last the trip overseas. International health agencies report that these chemicals have serious consequence on the health of the 60,000 Ecuadorian rose workers. Pesticide poisoning plagues 60 percent of post production workers according to studies by the International Labor Organization and the Catholic University in Ecuador . Symptoms include headaches, blurred vision, and muscular twitching, as well as increased level of miscarriage for the 70% of rose worker who are women. A fifth of rose

worker are children under the age of 18 who suffer from symptoms of neurological damage at a rate above the national average. Many children born to women who work with the roses, or who live in communities adjacent to the plantations, are born with birth defects (Wehner, 2002).

While the dangers of Cayumbe rose plantation methods are known internationally, little seems to be being done locally. Owners claim that the risks are small and say that they provide their workers with masks and gloves. Few workers however, are actually seen wearing them. If employees do speak out about health concerns, or even request for longer breaks during their day, they can be blacklisted by their employer and will not be able to get another job in the rose industry or elsewhere. Many of the doctors in Cayumbe who workers have access to are "medicos de planta" meaning they are paid by the rose companies to come and make weekly visits. While employers contend they are simply providing better health care for their employees; others suspect corruption at play which is silencing the doctors from making and treating accurate diagnoses.

To combat this problem, rose purchasers in many countries are now able to look for a "green label" to indicate that their roses have been grown with adequate health and environmental regulations. Importers in the United States have resisted this certification, refusing to acknowledge that there is a problem (Wehner, 2002). What U.S. merchants refuse to recognize, many Ecuadorian victims refuse to complain about. For many rose workers the risk and suffering is worth it for the financial stability these jobs provide. The industry provides a unique opportunity for women to gain financial independence and the ability to support their family. They can not afford to speak out for fear of losing their job

which does pay better than some other industries where uneducated Cayambe women could find work. There is not only fear of losing ones own job, or being blacklisted, but a fear of the whole plantation being closed which would leave a whole community out of work. Thus, the victims are silenced and forced to accept environmental and health degrading conditions while rose supply and demand continues to increase. According to the Ecuadorian Flower Producers and Exporters Association, profits were expected to rise to $398 million in 2006, up 8% from a year ago. Exports from 2005 were already two and a half times those shipped abroad a decade ago (Alvaro, 2006).

Shrimp Farming and Mangrove Destruction

"If the mangroves disappear, we shall eat garbage in the outskirts of the city, we shall become prostitutes." – Ecuadorian conchera

Just off of the coast of the Northwest province of Esmeraldes is the tiny island containing the small village of Muisne, Ecuador. The only access to the island is by boat and the journey will take you by stretches of a peculiar looking tree growing out of the water with extensive finger like roots. Muisne is an ideal location for mangroves, a saltwater adapted wetland species of bush that is being threatened by shrimp farming which shares the ideal requirements of its unique ecological niche. The loss of mangroves is of grave concern for the ecosystem and the human populations who co-inhabit with it. In Musine, the population of around 6,000 locals is deeply impoverished and repressed by the mangrove destruction as a result of the shrimping industry that has invaded their lands.

Cases of corruption and human rights abuses in the shrimping industry, especially against women, have been reported throughout the world. The industry in Ecuador is

among the most corrupt according to Transparency International's 2002 Corruption Perceptions Index (Figure 5). The Environmental Justice Foundation cites, "increased poverty, landlessness and food insecurity, displacement of communities, pollution of drinking water, poor working conditions, and impacts on health and education" as the resulting social problems of shrimp farming and the conflict it creates between land rights and access to natural resources (EJF, 2003).

Mangroves provide vital shoreline protection and stabilization as well as creating habitat that supports abundant ecological diversity and marine species. In Musine, as in many other poor coastal regions, fish are a main component of the diet. The destruction of mangroves degrades coastal habitat and threatens coastal resources. Worldwide, 38% of mangrove loss has been attributed to shrimp farming, which has in turn contributed to food insecurity. In Musine, for example, "up to 80% of the population has lost their main source of nutrition due to mangrove destruction since the arrival of shrimp farming" (FUNDECOL, 2005). Not only is the amount of coastal resource reduced but the access to what is left is often restricted. Previously public, multiple user areas are bought by a single (often foreign) owner and converted to suit his single use. Employment is also impacted by reduced coastal resources. The main source of income for Musine locals is fishing. Concheras, or traditional shell fish collectors, have lost their traditional collection areas and had their livelihoods threatened. Shrimp farming is not a labor intensive field and does not provide nearly the number of jobs it takes away. Nor does it provide economic benefit to the community as the shrimp farm owner are mostly foreigners who take the profit out of Ecuador and export the shrimp to the United States.

A third impact is reduced availability of clean drinking water. Intense shrimp farming often pumps in fresh water from surrounding lakes, rivers, or the groundwater. Shrimp species require salt water so the waste water that is pumped out of the farms and back into the lakes and rivers can have salinity levels that threaten native species and are not suitable for drinking. Pollutants such as pesticides, antibiotics and disinfectants can also be present. Increased salt in soils also means people cannot adequately grow crops contributing further to the malnutrition problem. Illegal land seizures also limit the amount of land available for agriculture. Of the thousands of cases of land seizures, only 2% have been resolved through legal means. Thousands of hectares of ancestral land have allegedly been taken illegally (EJF, 2003).

There have also been incidences of violence associated with shrimp farms. In 2002 the executive director of La Fundación de Defense Ecológica (FUNDECOL), an environmental defense foundation based in Musine that has been fighting the shrimping industry for over ten years, was assaulted by individuals linked to the shrimping industry (EJF, 2003). Armed guards, and attack dogs can be seen surrounding shrimp farms and some have gotten restraining orders against FUNDECOL restricting their access to monitor or protest. The enforcement system in place to stop illegally acting shrimp farmers is very weak at best. Despite a 1994 decree banning mangrove deforestation in one part of Musine, 50% of the mangroves in that area have been lost (EJF, 2003). If anything, illegal farms will simply receive a small fine, and given how lucrative the business is, this is not enough to initiate any change. Many local shrimp farm owners or shareholders are active members of government positions, the military, judiciary or local

authoritative boards, gravely diminishing any likelihood of a more severe punishment being put in place.

Murals can be seen throughout Muisne depicting the corruption and destruction of the shrimping industry and the community's commitment to protect and restore their mangroves. One such mural reads: "Este pueblo nacio del manglar...este pueblo defenderá su vida" meaning, "This community was born from the mangroves...this community will defend their life" (EFF, 2003).

* * *

VI. A Voice of their Own

The first intrusion of the Huaorani was by rubber tree explorers in 1875. Since then, the Huaorani and other Amazon tribes, as well as indigenous cultures across the rest of Ecuador, have faced greater and greater intrusion into their lands and their lives coupled with economic and political policy that threatens to leave them behind. Early pressures to assimilate came from Protestant missionaries in 1953 whose influence began to change the way natives dressed, the tools they used, food they ate and crops they grew. Traditions agriculture involved adjoining parcels of land cultivated at different times of the year depending on the crop: wheat and barley to potatoes to beans and corn. The Spanish had introduced cattle, pigs, sheep and horses to the Sierra decades earlier. In the Amazon, farming was done by clearing a few acres every few years for a new field of a crop that flourished with little care, for example, manioc, sweet potatoes, or peanuts. The jungle would take over the fallow plots left behind. This method required a lot of land, but was changed after 1960 when more people began coming to the area and cattle and fruit trees were introduced. Initially some good seemed to come from the influence of

foreigners, for example mortality rates were reduced due to medicine from missionaries. However, this also marks the beginning of what was to become an increasingly dangerous trend of foreigner influence that would stem the tide of an indigenous revolution. A nationalist fervor rose against the Protestant foreigners causing them to leave in 1981 (Gerlach, 2003).

It was the Oriente Indians who gave the major impetus to forming a national Indian organization. In contrast to the Highland Indians who has been exploited by Hacendados, the Amazon had been left alone until into the 1960s. In 1980 the Confederation of the Indigenous People of the Ecuadorian Amazon (CONFENIAE) was formed. Their main objectives were stated as follows:

> ...the defense and the legalization of the indigenous territories, the preservation of the ecosystems and of the natural resources. Our desire is to promote the social, political, and economic development of the indigenous communities, respecting and rescuing the cultural identity of each nationality, and for the recognition of their rights to the heart of the Ecuadrean state (Qtd in Gerlach, 2003).

This group brought together several provincial organizations that had begun in 60s and 70s. Also in 1980, the National Coordinating Council of the Indigenous Nationalities of Ecuador (CONACINIE) formed in conjunction with the timing of the Highlands Ecuador Runacunapac Riccharimui (ECUARUNARI), and the Coordination of the Indigenous Organizatoins of the Coast of Ecuador (COICE). ECUARUNARI, CONFENIAE and COICE allied in 1986 to make CONAIE which represented natives from all three continental regions of Ecuador (Gerlach, 2003).

The establishment of the first truly united indigenous organization in Ecuador was a huge achievement. However, despite unification, indigenous populations still faced great oppression turmoil in their fight against the government centralized in Quito. The

case of Yasuni National Park exemplifies the political struggles natives faced to retain rights to their land:

Between 1963 and 1966 the oil drilling invasion led by the Texaco-Gulf consortium had been helped along with a 1.4 million hectare land concession from Ecuador's military junta. After the establishment of Petroecuador in 1972 "association contracts" were made between the state company and the foreign oil companies. In 1983 after much struggle, the government gave the Huarorani title to 67,000 hectares of reserves land and the right to hunt in another 250,000 hectare reserve, *Yasuni National Park.* This area was declared a world biosphere reserve by the United Nations Educational, Scientific, and Cultural Organization. However, the government failed to prevent oil drilling in the park and was accused of creating conservation zones just to keep the area clear of settlers so as to keep oil extraction unhindered. In a blaringly obvious sign of corruption at play Conoco themselves financed the Ecuadorian government's preliminary management plan for the park which allowed more than half of the area available for industrial use. In 1990 the last Huaorani refuge was opened to oil development (Gedicks, 1993).

The Natural Resource Defense Council (NRDC) convened talks with Conoco resulting in a compromise to permit drilling in part of Yasuni in return for a multi-million dollar corporate funded grant to the Amazon Indian Federations. Robert Kennedy Jr. was the NRDC staff attorney in charge of these talks. When the talks were exposed by the Ecuadorian law firm, Corporation for Defense of Life, environmental groups were outraged by the secrecy and outcome of the talks saying that Kennedy sold out the natives. Kennedy insisted that he thought drilling was inevitable and was merely trying to

negotiate a realistic deal. On October 11, 1991 Conoco pulled out of Yasuni and Maxus Energy Corporation from Dallas, Texas took over the project. They in turn were pushed out by pressure from the Rainforest Action Network, Friends of the Earth, and Sierra Club Legal Defense Fund. In April of 1992, 1,500 Amazon natives walked the 140 miles to Quito to negotiate with the government for titles to 13,000 square miles of ancestral lands they claimed to have rights to. They were given the title but the government retained mineral rights because, claimed the chief negotiator Diego Bonifaz, "...Ecuador lives off oil" (qtd. in Gedicks, 1993).

Despite some significant setbacks and loss of land, the Yasuni example shows the power that the newly united indigenous front could potentially have. Today, the indigenous movement is in full force, especially noticeable leading the campaigns against new oil concessions and the case against the legacy of ChevronTexaco. Indigenous groups are no longer isolated without a voice, but rather are seen in the center of Ecuadorian politics. While they may still struggle to be heard, their united voice is attracting international attention and evoking a climate of change.

* * *

VII. Hope for the Future

What it means to be indigenous in Ecuador has changed in recent years since the indigenous groups have gained recognition. Likewise, the environmental movement in Ecuador has made great strides in coming to understand and combat the issues facing one of the most ecologically significant countries in the world. This is especially evident in the case of the Oriente where worldwide attention has been brought to the issues of the dangers of the oil industry, and, especially U.S. company's responsibility, as seen in the

historic case versus ChevronTexaco. Independent certification programs for things like sustainable forest products and the "green labels" on environmentally and health friendly flowers are popping up in a variety of industries. Humans rights advocates are recognizing the connection between social justice and the environment and taking actions towards uniting the movement into a common front with organizations like the Center for Human Rights and the Environment and the Interamerican Association for Environmental Defense (AIDA) established to "...promote the ability of citizens to protect their health and environment through development and enforcement of national and international environmental laws" (AIDA, 2006). These are all huge steps that have been taken and none too soon. Change is a slow process. The next steps will be key in the fate of environmental justice issues in Ecuador, and awareness is imperative to successful steps. Governments, advocacy groups, and citizens across the globe need to acknowledge the existence of the problems going on in Ecuador and the negative consequences that will continue to worsen. While this has been successful in the case of oil drilling, much still needs to be done in the less known cases like the flower and shrimp industries. The means to this happening is education. Those who are aware and have already acknowledged the problem have a responsibility to educate those around them and support others in their efforts at evoking change.

Local organizations are vital to the education process. Environmental groups like FUNDECOL are appearing across Ecuador invoking passion in people and teaching them to care about what is going on around them. National groups like Amazon Watch and the Rainforest Action Network are using technology to reach audiences across the world that may otherwise have no connection to Ecuador. The "information revolution" we are a

part of can play a significant role in the future of environmental justice and spreading the word to communities across the globe.

As a leader in resource usage and political influence, the United States holds a great deal of responsibility in the future success of environmental justice campaigns. We need to make the real cost of U.S. energy a *political* issue in the United States as well as internationally and expose the consequences of our habits. The key to action is passion and to be passionate one must be informed. Ecuador also must take responsibility and establish greater financial independence and sustainability internally. Ecuadorians must continue to fight against unilateral trade agreements with the United States which will only make the rich richer and the poor poorer through the destruction of local industry and tradition.

It has been said that a society based on conquest cannot survive. If this is true, there may not be much time left for many cultures across the globe who have been repressed and diminished by their conquerors for centuries. In this paper I hope to have established that In Ecuador the plight of these peoples is inextricably tied to the fight for the environment. To ensure the survival of biological and cultural diversity for future generations we must continue to act now to redefine our relationships and responsibilities with each other and with nature through the application of reciprocity and respect.

* * *

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APPENDIX A:
FIGURES

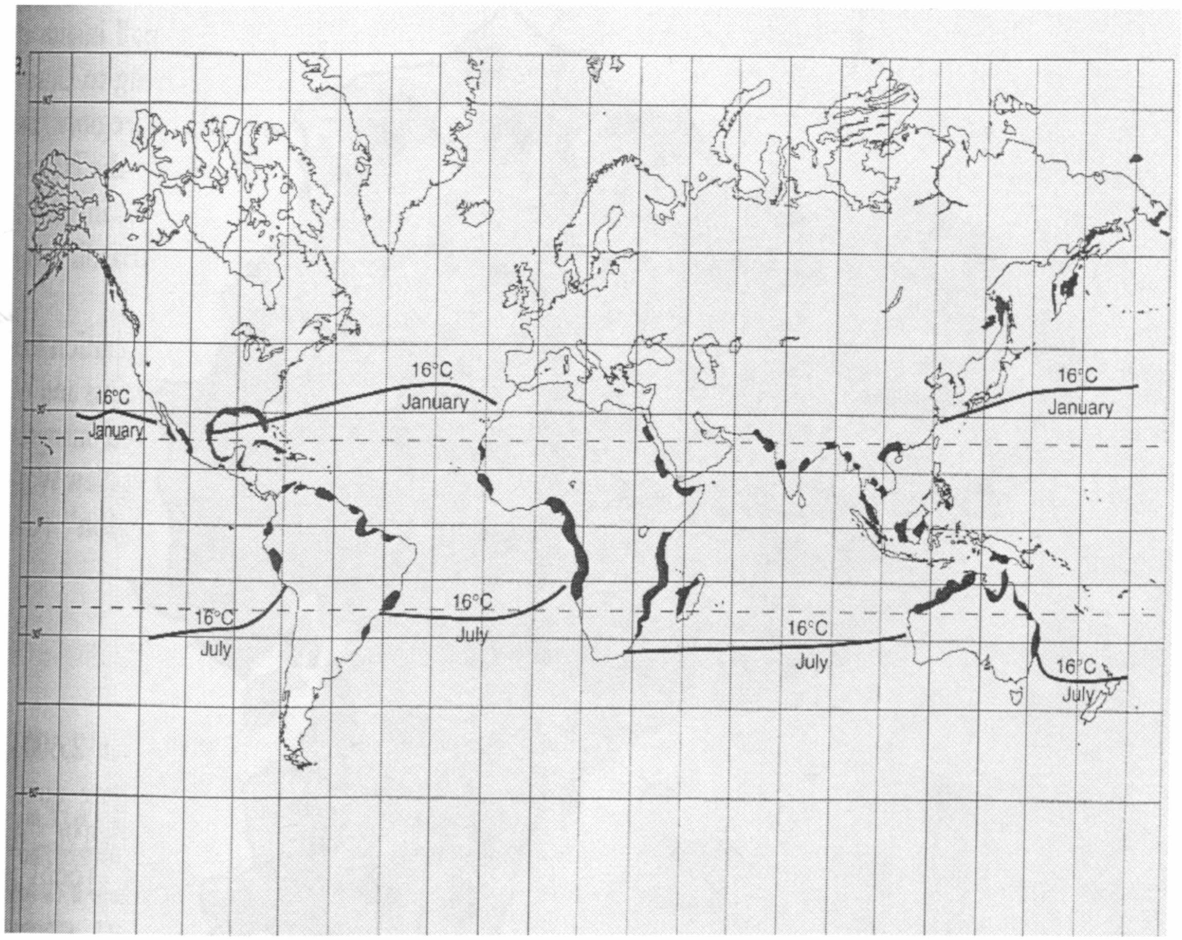

Figure 1. Distribution of Mangrove Ecosystems. From *Wetlands,* third edition by Mitsch and Gosselink.

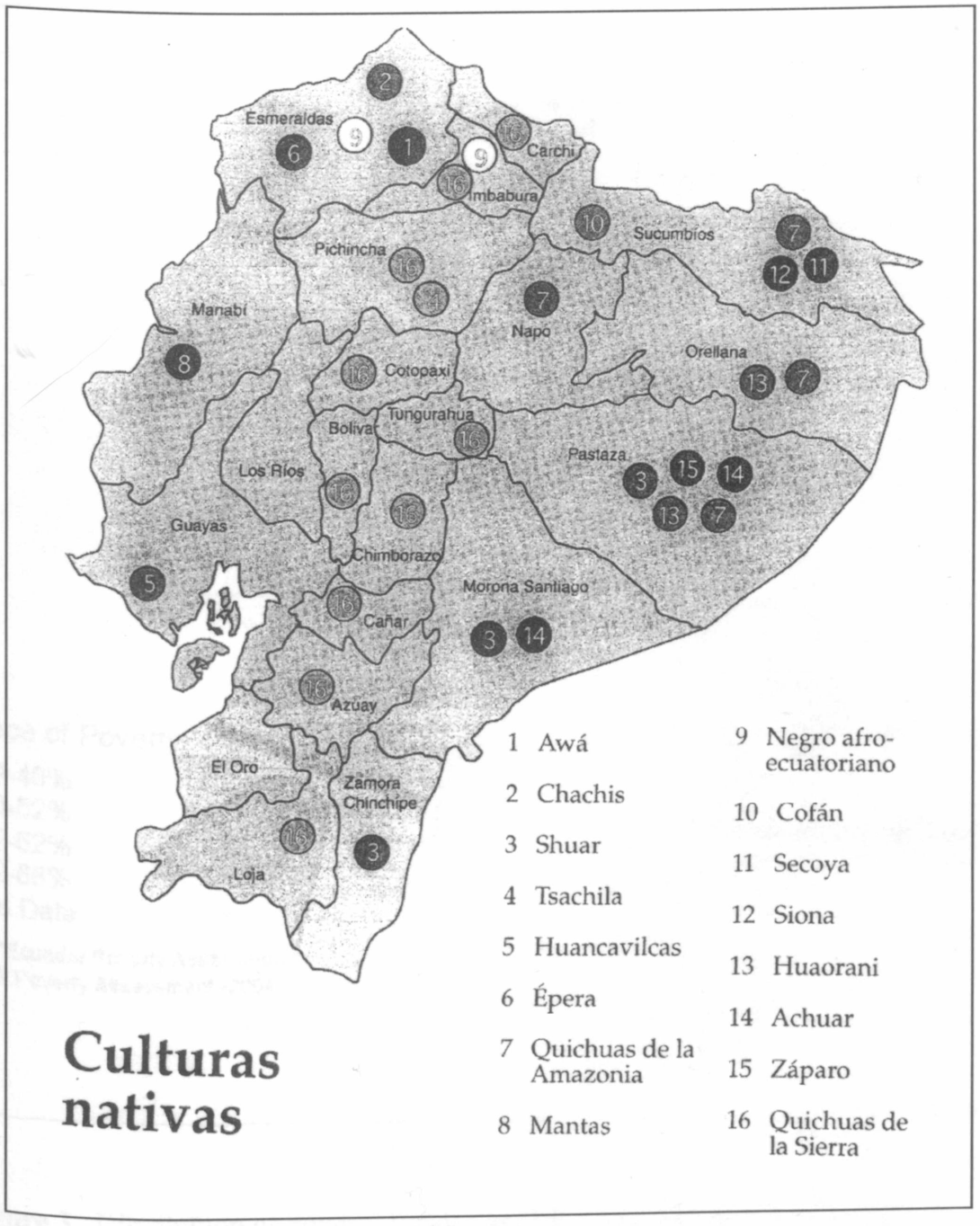

Figure 2. Distribution of Native Cultures of Ecuador by Province. From *Indians Oil and Politics, a Recent History of Ecuador* by Allen Gerlach.

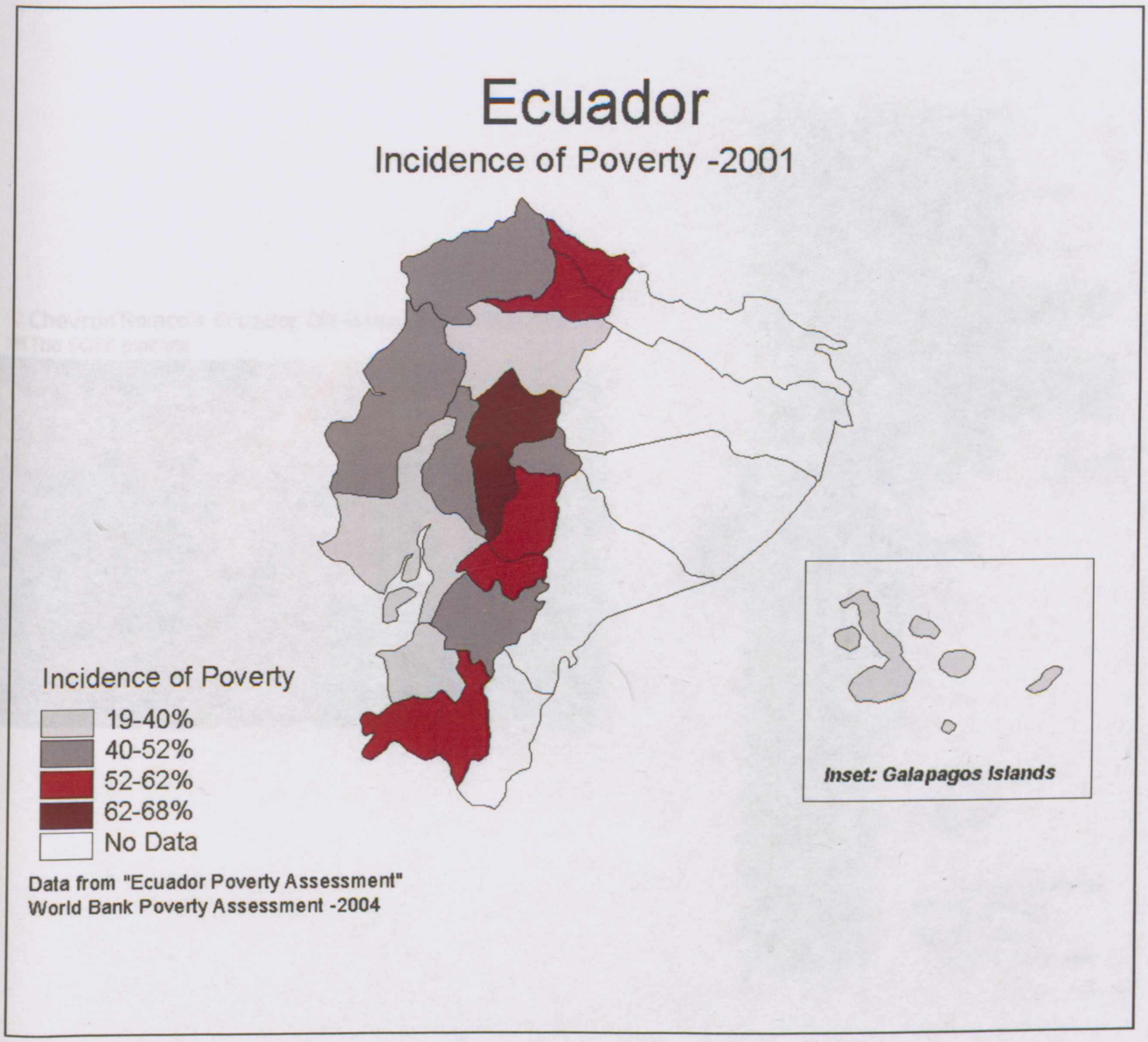

Figure 3. Distribution of Poverty Incidence in Ecuador. World Bank Poverty Assessment, 2004.

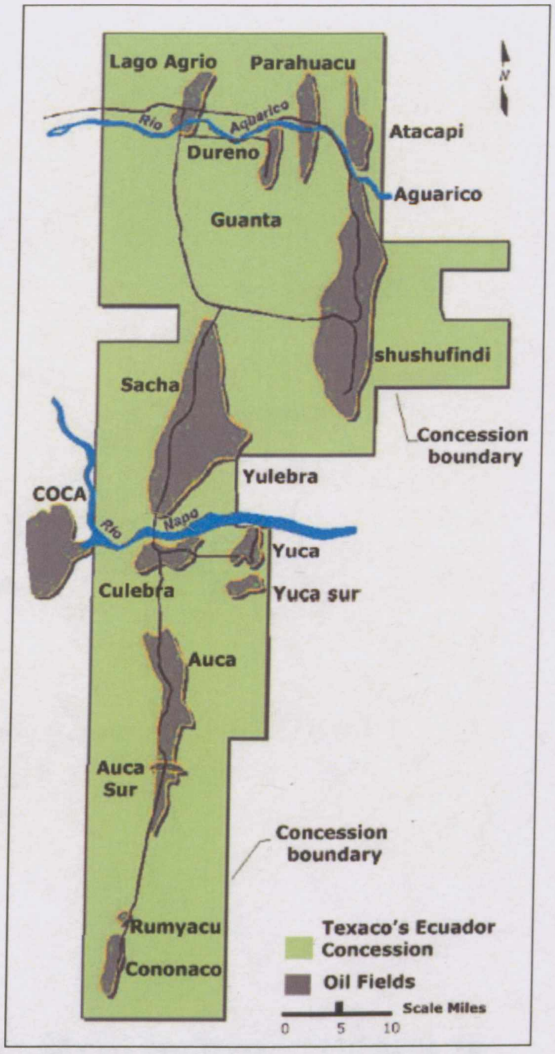

Figure 4. Map of ChevronTexaco's former Oil Operations in Ecuador. From http://www.chevrontoxico.com

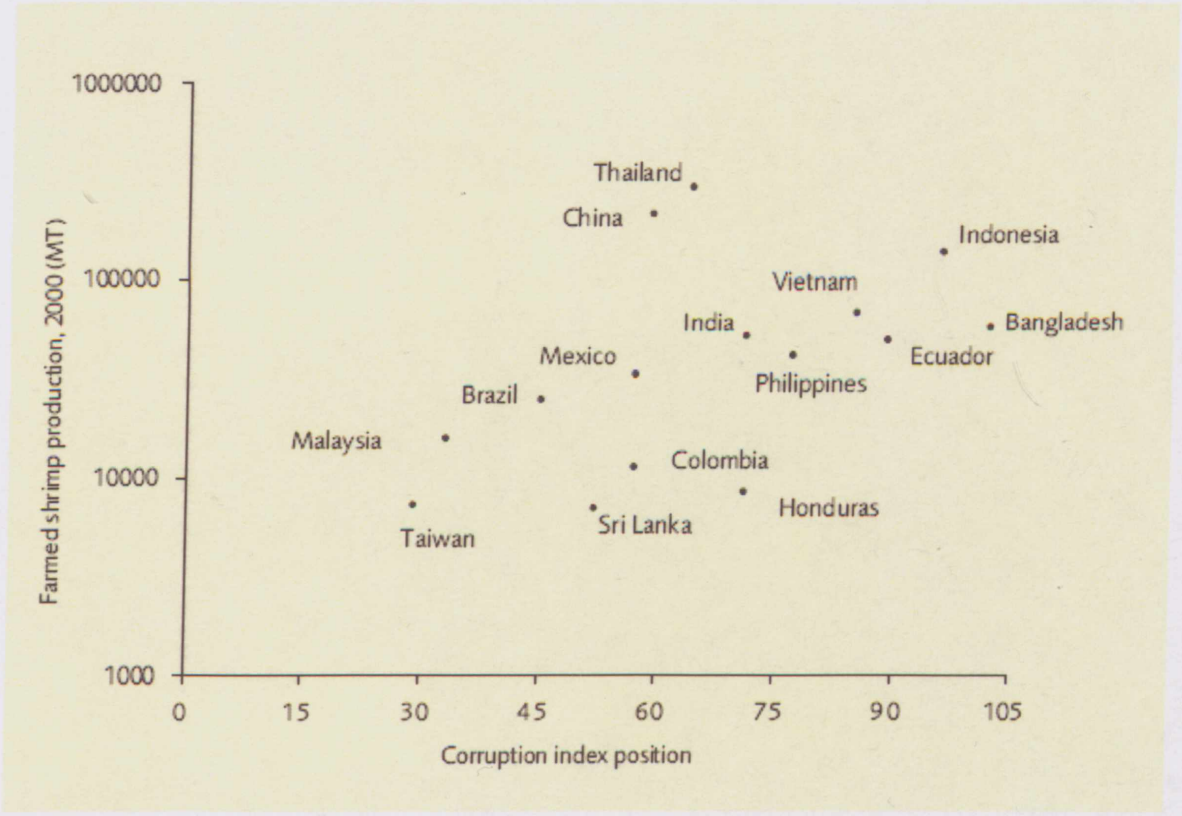

Figure 5. Corruption Index for Top 15 Shrimping Industries Worldwide. The higher the corruption index, the more corrupt the industry. Based on data from Transparency International's Corruption Perceptions Index (2002). Cited in the Environmental Justice Foundation's report *Smash and Grab*.