

Oil Development, Deforestation, and Indigenous Populations in the Ecuadorian Amazon

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Introduction

For hundreds of years, scientists have been fascinated with the Amazon basin, known in Ecuador as the *Oriente*. More recently, this region has also become a focus for environmental and social activism, particularly regarding biodiversity and indigenous people.

In this paper, we examine two major activist concerns: deforestation and the dislocation of indigenous communities.¹ More generally, we examine a 15-year campaign waged by environmental groups against petroleum development in eastern Ecuador, which has strongly influenced international public perception of events there. This campaign has evolved a “standard narrative” that attributes virtually all disruption in the *Oriente* to oil.

Many facts are not in dispute. Between 1972 and 1992, as many as 350,000 Ecuadorian homesteaders from other provinces moved into the northern *Oriente*, onto lands traditionally used by three indigenous groups: the Cofán, Siona-Secoya and Huaorani. “Colonization” brought widespread hardship and dispossession for these groups, along with deforestation and other environmental impacts.

In this paper, we use ethno-historical information, government documents and other sources to analyze the causes of deforestation and the dispossession of indigenous land. Our analysis shows that very little forest was cleared to make way for oil platforms, access roads and other oil-related infrastructure. Instead, practically all deforestation resulted from government policies to promote agriculture and “national integration” – before, during and after oil was discovered. The same policies, implemented through various agrarian and homesteading laws, also deprived indigenous groups of their traditional lands.

Our research reaches two conclusions. First, despite setbacks, indigenous populations in the northern *Oriente* have recovered since 1970 and are now larger than before oil was discovered. Second, responsibility for loss of traditional lands lies indisputably with Ecuador’s policymakers.

Deforestation in northeastern Ecuador

In a well-known study of land-use change in petroleum-producing countries, environmental economist Sven Wunder rebuts those who blame deforestation on easily-identified culprits, such as loggers and extractive industries. Instead, he stresses another reason for the disappearance of forests, which is the geographic expansion of agriculture.

This general observation applies directly to the Ecuadorian Amazon. Wunder calculates that no more than 2,000-5,000 hectares throughout the *Oriente* have been occupied by oil companies since the mid-1960s, with direct authorization from the national government.² Recent analysis of satellite imagery suggests that 681 hectares were cleared for platforms and other production infrastructure within the original zone of petroleum development, while another 3,734 hectares were used for access roads.³ These 4,415 hectares

¹See Judith Kimerling, “Indigenous Peoples and the Oil Frontier in Amazonia: The Case of Ecuador, ChevronTexaco and *Aguinda v. Texaco*,” *International Law and Politics*, Vol. 38, pp. 423-664, 2006; Judith Kimerling, “Transnational Operations, Binational Injustice: ChevronTexaco and Indigenous Huaorani and Kichwa in the Amazon Rainforest in Ecuador,” *American Indian Law Review*, Vol. 31, pp. 445-508. Other examples are cited in the bibliography.

²Sven Wunder, *Oil Wealth and the Fate of the Forest*, London: Routledge, 2003, p. 221.

³James Ellis, “Cambios en el uso del suelo evaluados por sensores remotos” [“Changes in Land Use Evaluated by Remote Sensors”], expert testimony submitted to the Nueva Loja Superior Court, November 28, 2008. For a general discussion of deforestation and its causes in Ecuador, see Basilio Toro Orellana, “Avance de la deforestación de los bosques amazónicos del Ecuador,” CLIRSEN, 2007. Academic research on this subject is quite extensive; additional references will be provided on request.

equal approximately one percent of the original exploration area (442,936 hectares). In contrast, satellite images show that by 2000 agricultural settlement *within* the same zone – either sponsored or encouraged by government agencies – destroyed 240,888 hectares of forest, or 54.4 percent of the total area.

Governmental policy favoring settlement of tropical lands

This extensive conversion of forests into cropland and pasture throughout the *Oriente* represented the culmination of the Ecuadorian government's long-held aspirations. Such aspirations were first expressed in 1899, when the government issued its *Special Law for the Oriente*. Under this legislation, "unoccupied" land, including the traditional territory of native people, became available to agricultural colonists (see attached chronology).⁴ For example, 500,000 hectares were granted in 1905 to a European company that promised to attract thousands of German and Dutch settlers.⁵

This scheme failed, due to the *Oriente's* extreme isolation. Without roads and other infrastructure, settlement remained sparse and confined for years to a few river banks and the Andean foothills.⁶ Much more successful was agricultural colonization in the coastal lowlands between the Andes and the Pacific Ocean. One hundred years ago, this region was an important source of cacao.⁷ Following World War II, the Ecuadorian *Costa* became the world's leading source of bananas, grown largely by small-scale farmers who had migrated from the Andes.

Technology for growing *Gros Michel* bananas, the predominant variety at the time, was simple. Furthermore, financing was not a major concern, because small producers could begin harvesting around 12 months after planting their trees – much sooner than the minimum of three years for coffee and citrus fruits. Under these circumstances, thousands of highland farmers moved to the *Costa*, where they settled on and cleared a few dozen hectares, and planted bananas.⁸ Through the middle of the twentieth century, most colonists settled in and around the Guayas River basin – a fertile area that drains into the Pacific Ocean just south of Guayaquil.

Until the 1970s, practically all migration out of the Ecuadorian Andes, or *Sierra*, was directed toward the west. But like their counterparts elsewhere in South America, national leaders never wavered in their determination to fill up "empty" Amazon forests with settlers, ignoring the rights of indigenous groups that already lived there. This determination was strengthened after a military invasion from Peru in 1941, which resulted in substantial loss of Ecuadorian territory.

In 1954, Ecuadorian officials renewed the *Oriente Law*. Ten years later, it enacted a new *Agrarian Reform and Colonization Law* and the *Vacant Land and Colonization Law*. These laws, and a subsequent *Special Law for Awarding Vacant Lands to Spontaneous Settlers* (1973), provided 50-hectare parcels to homesteaders who cleared half their land for farming and ranching. With few exceptions, traditional

⁴ Jorge Uquillas, "Colonization and Spontaneous Settlement in the Ecuadorian Amazon," in Marianne Schmink and Charles H. Wood, eds., *Frontier Expansion in Amazonia*, Gainesville: University of Florida Press, 1984, pp. 261-284.

⁵ Michael Stanfield, *Red Rubber, Bleeding Trees*, Albuquerque: University of New Mexico Press, 1998, p. 118.

⁶ For a description of government plans and their failure, see Natàlia Esvertit Cobes, "Camino al Oriente. Estado e intereses regionales en los proyectos de vías de comunicación con la Amazonía ecuatoriana, 1890-1930," in Pilar García Jordán, coord., *La construcción de la Amazonía andina (Siglos XIX-XX)*, Ediciones Abya-Yala, 1995, pp. 287-356; Natàlia Esvertit Cobes, *La incipiente provincia. Incorporación del Oriente ecuatoriano al estado nacional (1830-1895)*, Barcelona: Universitat de Barcelona, Departament d'Antropologia Social, 2005.

⁷ Lois Crawford de Roberts, *El Ecuador en la Epoca Cacaotera*, Quito: Editorial Universitaria, 1980.

⁸ Steven Striffler, "In the Shadows of State and Capital: The United Fruit Company and the Politics of Agricultural Restructuring in Ecuador, 1900-1995" (doctoral thesis), Graduate School of Political and Social Science, New School for Social Research, New York, 1997.

indigenous territories – inhabited by Quichua, Cofán, Siona-Secoya, Huaorani, Shuar, and Achuar – were treated as “unoccupied” and available for settlement.⁹

The emphasis placed on “integrating” the *Oriente* through settlement was reflected in a map prepared in 1963 by the National Economic Planning and Coordination Board, which identified high-priority colonization areas as part of a broader plan to settle the Amazon (see Figure 1).¹⁰ According to the map, the leading edge of colonization would advance on two fronts, one heading southeast from the Andean foothills toward the Peruvian border and the other located east of Quito and along the border with Colombia. It was expected that colonization within this second region, covering 1.2 million hectares, would proceed from northwest to southeast – again, moving away from the mountains and toward Peru.

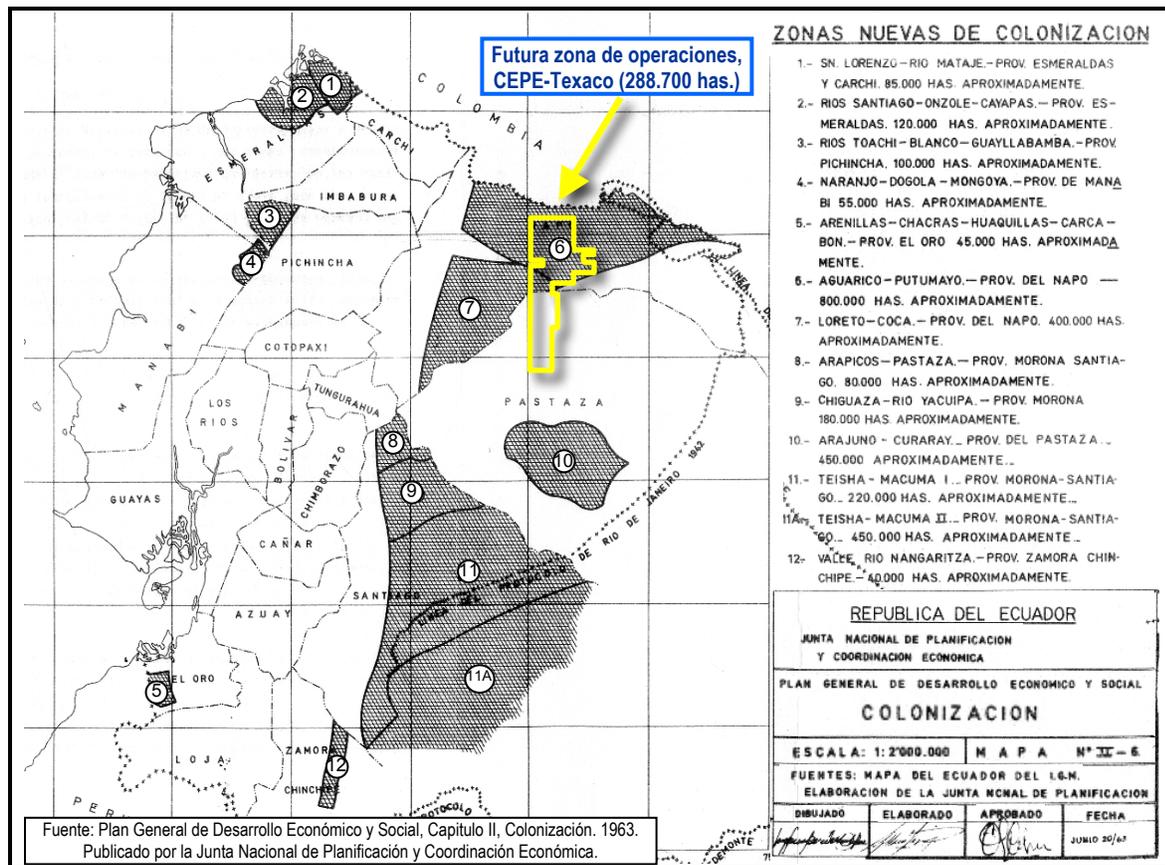
As in previous years, implementation of the colonization plan was hindered by lack of access from other regions. By the early 1970s, approximately 43,000 colonists had moved to the *Oriente*, primarily along a few roads that had been built by provincial governments and other agencies. But most migrants settled in the south, in Morona Santiago and Zamora Chinchipe, because these two provinces had direct links to Cuenca and Loja in the nearby highlands.¹¹ In contrast, the northern *Oriente* remained largely isolated, and hence sparsely populated.

⁹ Uquillas, “Colonization and Spontaneous Settlement in the Ecuadorian Amazon,” pp. 269-271; see also Guillaume Fontaine, *El precio del petróleo*, Quito: FLACSO (published by the Instituto Francés de Estudios Andinos y Ediciones Abya Yala), 2007; Jorge Trujillo, “Colonización en la región amazónica ecuatoriana,” Quito, report prepared for Entrix, 2007.

¹⁰ Junta Nacional de Planificación y Coordinación Económica, *Plan General de Desarrollo Económico y Social, Capítulo II, Colonización*, Quito: 1963.

¹¹ Jorge Uquillas, “Colonización y Asentamientos Espontáneos en la Amazonía Ecuatoriana,” in Carlos Aramburú and Carlos Mora, eds., *Desarrollo Amazónico: Una Perspectiva Latinoamericana*, Lima: CIPA-INANDEP, 1986, p. 365.

Figure 1. The Government's Settlement Plan, 1963



Migrants follow oil roads into northeastern Ecuador

Texaco and Gulf Oil began searching for hydrocarbons in the northern *Oriente* in 1964. Three years later, they made significant finds near Lago Agrio.

Energy resources in the vicinity of Lago Agrio might have been developed with little or none of the agricultural settlement and deforestation that subsequently occurred. Originally, Texaco and Gulf proposed to export all output through an existing pipeline running from southeastern Colombia to Tumaco, on the Pacific Ocean.¹² Had this plan been implemented, the *Oriente* might have remained largely isolated and unsettled, with forests and other habitats largely undisturbed.

However, a new pipeline, known as SOTE in Spanish, was eventually built on Ecuadorian territory. It ran from Lago Agrio to a new oil refinery at the port of Esmeraldas.¹³ In contrast, a pipeline through

¹² The feasibility of this option was eventually confirmed in 1987. After many kilometers of the SOTE were destroyed by an earthquake in March, part of Ecuador's oil continued to reach international markets via the Trans-Andean Oil Pipeline in southern Colombia.

¹³ Article 11, Official Gazette, Number 209, 26 June 1969, pp. 1598-1600. For a more detailed discussion of these events, see the following works: Fontaine, *El precio del petróleo*; Guillaume Fontaine and Iván Narváez, coords., *Yasuní en el siglo XXI*, Quito: FLACSO, IFEA, Abya Yala, Petrobras, CEDA, WCS, 2007; Guillaume Fontaine, ed., *Petróleo y desarrollo sostenible en el Ecuador. 2. Las apuestas*, Quito: FLACSO, 2004; Guillaume Fontaine, ed., *Petróleo y desarrollo sostenible en el Ecuador. 3. Las ganancias y pérdidas*, Quito: FLACSO, ILDIS, Petrobras, 2006.

Colombia would have required few new roads and other infrastructure in Ecuador. The SOTE route provided far better access for settlers moving into the northern *Oriente* (Figure 1).

Ecuadorian officials designated SOTE's final route, along with the location of a parallel highway, bridges and other facilities.¹⁴ In 1973, they drafted a production contract for Texaco requiring additional infrastructure projects that were not essential to oil production but rather intended to facilitate settlement: an airport in Nueva Loja, a paved surface roadway between Tumbaco and Pifo along the highway from Quito, and a new road from Nueva Loja toward San Francisco de Orellana (Coca).¹⁵

The same contract also required Texaco and its partners to spend \$20 million over ten years on a network of secondary roads that were also unrelated to petroleum development.¹⁶ Since foreign oil companies held no property rights in surface land, these secondary roads, like other transportation infrastructure, belonged entirely to the government. By law, all thoroughfares remained open to public transit and their purpose was to assist the government in advancing its goal of national integration (see Figure 2).

In addition to Texaco's expenditures, the government invested large amounts of its own money in transportation infrastructure. In 1974, 48.8 percent of all public sector investment was spent on road construction. This amount decreased a few years later, but in 1981 it still equaled 18.2 percent.¹⁷ Such investments provide clear evidence of the Ecuadorian government's overall focus on national integration and its particular interest in colonizing the *Oriente*.

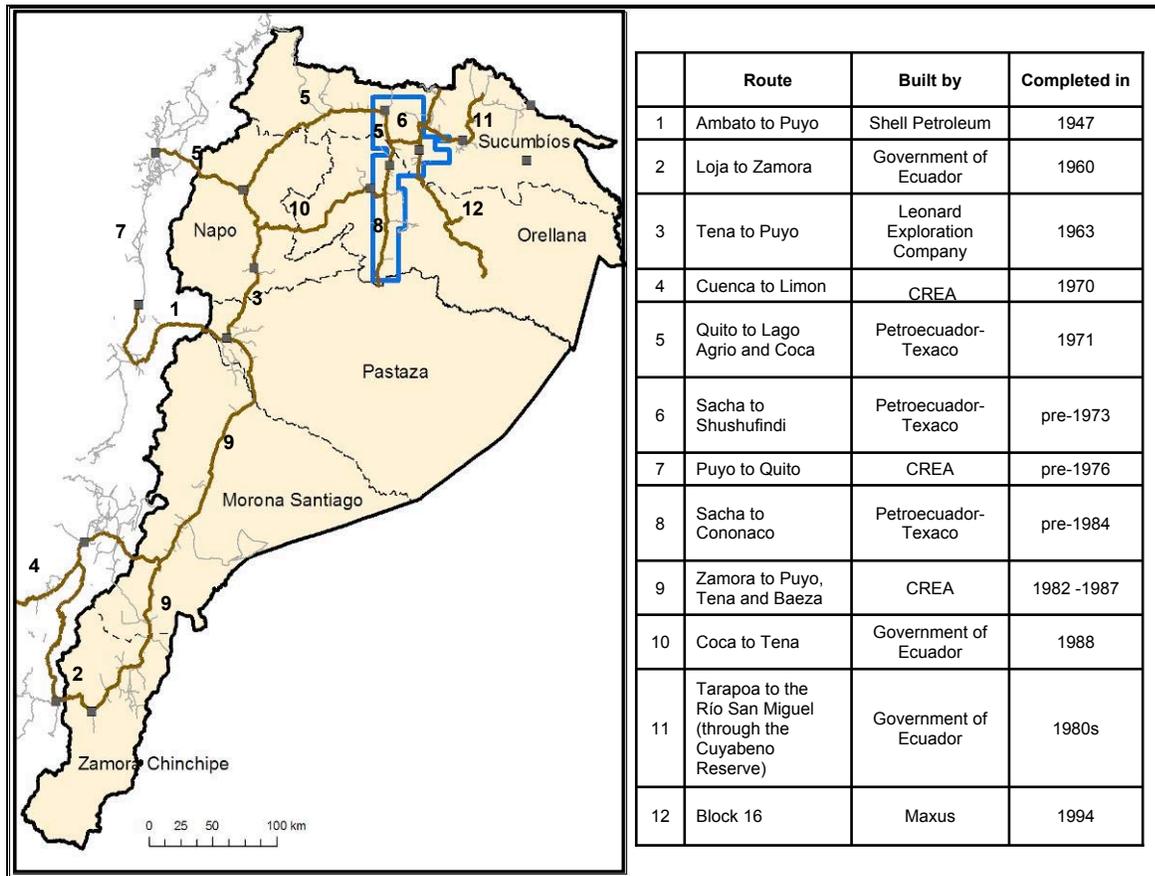
¹⁴ Fontaine, *El precio del petróleo*; "Contrato celebrado entre el Gobierno del Ecuador (Ministerio de Recursos Naturales y Energéticos) a favor de las Compañías 'Ecuadorian Gulf Oil Company' y 'Texaco Petroleum Company,' Quito, 6 August 1973" ["Contract between the Government of Ecuador Ministry of Natural and Energy Resources) and Ecuadorian Gulf Oil Company and Texaco Petroleum Company"].

¹⁵ "Contrato celebrado."

¹⁶ "Contrato celebrado."

¹⁷ Jorge Marshall-Silva, "Ecuador: Windfalls of a New Exporter," in Alan Gelb *et al.*, eds., *Oil Windfalls: Blessing or Curse?*, New York: Oxford University Press, 1988.

Figure 2. Highway Construction in the *Oriente*



*CREA was a regional development authority in the southern highlands.

Land claim procedures contributed to deforestation

As the *Agrarian Reform and Colonization Law* illustrates, Ecuador’s government encouraged settlers from the highlands and the coast to migrate east of the Andes. This policy reflected a national goal of preventing neighboring countries from claiming Ecuador’s forested interior. It also required rural migrants to clear forests for cropland and pasture.¹⁸ Such procedures directly reflected the government’s long-standing decision to replace forests in the *Oriente* with agricultural land.

By the early 1970s, deforestation had become at least as important to the government as migration itself. For example, IERAC (the Ecuadorian Institute for Agrarian Reform and Colonization) required indigenous groups already living in the *Oriente* to establish their land claims just as new immigrants did. All of them, native people and colonists alike, could obtain title to 50-hectare parcels as long as the land was “in production.” In practical terms, this meant that 25 percent (later raised to 50 percent) had to be cleared.

The long-term impact of this policy has been well documented by social scientists who conducted research in the *Oriente* during the 1970s and 1980s. In Pasu Urcu, for example, Harvard University anthropologist Theodore Macdonald, Jr. found that Quichua people traditionally practiced crop rotation

¹⁸ An excellent account of this process is given in Mario Hiraoka and Shozo Yamamoto, “Agricultural Development in the Upper Amazon of Ecuador,” *Geographical Review*, Vol. 70, No. 4, 1980. Other key sources are listed in the bibliography.

involving long fallow periods. At IERAC's urging, several residents asserted that fallow lands were unoccupied and then claimed them as private property. These parcels were soon converted to pasture.¹⁹

IERAC contributed to deforestation in another way. It often took years to adjudicate land claims, so that settlers and others awaiting formal title tried to safeguard their informal possession by clearing more land. Statistical analysis has confirmed that uncertain property rights in eastern Ecuador contributed to deforestation.²⁰ Moreover, the same impact occurred found in the southern *Oriente*, where no oil was discovered.²¹

Subsidies for agriculture favor expansion

In his analysis of deforestation and policy in Ecuador, Wunder focuses on the livestock sector. One reason for this is that the sector's performance during the 1970s was strongly affected by government policies. Furthermore, the vast majority of deforested land was used for livestock production.

During the 1970s, when Ecuador's GNP per capita grew faster than the rest of Latin America, family income increased substantially. Income growth was further reinforced as the government devoted nearly four-fifths of its earnings to expanding employment and increasing salaries in the public sector.²² Improved earnings for many families drove up the demand for food, especially meat and other livestock products.²³

By themselves, increases in demand would most likely have brought in waves of imported meat, chicken, milk and eggs. Instead, as Wunder points out, the Ecuadorian government imposed tariffs and quotas to protect domestic livestock producers. As a result, these producers were major beneficiaries of the growth in domestic markets, as were construction companies and suppliers of other non-tradable services.²⁴

Government policies encouraged livestock producers in other ways. Enriched by oil revenue, official agencies gave subsidized credits that favored specific economic sectors. For example, nearly every loan from the National Development Bank (BNF), a public institution that specialized in agricultural credit, benefited large livestock producers. Meanwhile, real interest rates for BNF loans remained consistently negative.²⁵ Much of this subsidized credit was not used to improve production, but instead paid for urban

¹⁹Theodore Macdonald, Jr., "Indigenous Responses to an Expanding Frontier: Jungle Quichua Economic Conversion to Cattle Ranching," in Norman Whitten, Jr., ed., *Cultural Transformations and Ethnicity in Modern Ecuador*, Urbana: University of Illinois Press, 1981; Theodore Macdonald, Jr., *De cazadores a ganaderos*, Quito: Ediciones Abya-Yala, 1997.

²⁰ Douglas Southgate, Rodrigo Sierra and Lawrence Brown, "A Statistical Analysis of the Causes of Deforestation in Eastern Ecuador," *World Development*, Vol.19, No. 9, 1991, pp. 1145-1151.

²¹ Thomas Rudel with Bruce Horowitz, *La deforestación tropical. Pequeños agricultores y desmonte agrícola en la Amazonía Ecuatoriana*, Quito: Ediciones Abya-Yala (published as *Hombre y Ambiente 35-36, Número Monográfico con el apoyo de la Comisión Fulbright y Fundación Jatun Sacha*), 1996, pp. 88-89. Originally published in English as *Tropical Deforestation. Small Farmers and Land Clearing in the Ecuadorian Amazon*, New York: Columbia University Press, 1993.

²² Morris Whitaker and Duty Green, "Development Policy and Agriculture," in Morris Whitaker and Dale Colyer, eds., *Agriculture and Economic Survival: The Role of Agriculture in Ecuador's Development*, Boulder: Westview Press, 1990.

²³ Douglas Southgate and Morris Whitaker, *Economic Progress and the Environment: One Developing Country's Policy Crisis*, New York: Oxford University Press, 1994, pp. 16-17.

²⁴ Wunder, *Oil Wealth*, p. 231.

²⁵ The real interest rate is calculated by subtracting inflation from the (nominal) interest rate paid by borrowers. During the 1970s, and for a long time afterwards, interest rates were consistently less than the inflation rate, which means that real rates were negative.

residences and other expenses.²⁶ However, some BNF loans encouraged producers to buy labor-displacing machinery. This shift occurred in milk production, as well as rice and other crops.

Because large landowners with machinery could farm more land, mechanization facilitated agriculture's geographic expansion. As economist Carlos Larrea notes, it also reduced farm-related employment, which declined from 873,000 jobs in 1974 to 773,000 in 1982.²⁷ Many laid-off workers moved to urban areas or returned to cultivating small highland plots. But others joined the ranks of agricultural colonists moving to the *Oriente*.

Other policies accelerated agricultural expansion into frontier areas. During the 1970s, gasoline in Ecuador rarely cost more than US\$0.10/gallon, far lower than international prices. Even during the 1980s, when prices rose to \$0.30/gallon, gasoline remained heavily subsidized.²⁸ Although inexpensive energy might have benefited everybody, it was especially useful for farmers on the frontier. Without cheap fuel, these farmers would have paid much more for their inputs and would have faced higher costs in delivering their products to market. Taking such impacts into account, it is understandable how fuel subsidies encouraged colonists to settle in remote areas.

Insufficient support for intensive agriculture

Aside from low-interest loans and cheap energy, agriculture received other subsidies. For example, a limited number of farmers bought irrigation water for a small fraction of what it cost to build, operate and maintain canals, pumping stations and related infrastructure.²⁹ Meanwhile, improvements in technology, which would have benefited a much broader spectrum of farmers, received little support. Between 1975 and 1988, for instance, government outlays for agricultural research declined at a yearly rate of 7.3 percent. By the end of this period, these outlays had dropped below 0.2 percent of the total value of farm and ranch output – much lower than the shares in neighboring countries.³⁰

Inadequate support for agricultural research and the transfer of production technology to farmers was reflected in low crop and livestock yields. By the late 1980s, for example, rice yields in Ecuador (2.3 metric tons per hectare) had sunk to less than half the yields in Colombia (4.7 tons) and Peru (4.8 tons), despite the fact that farming conditions for rice are ideal in and around the Guayas River basin.³¹ Likewise, Ecuador's per-hectare production of corn, tubers and other crops were lower in 1998 than yields in Colombia, Peru and Venezuela.³²

As agricultural yields were stagnating, Ecuador's population grew and its standard of living improved, causing an upturn in the demand for food. In turn, these trends led to a sharp rise in the amount of cultivated land. For two decades starting in the mid-1970s, two-thirds of Ecuador's agricultural growth

²⁶ Hugo Ramos and Lindon Robison, "Credit and Credit Policies," in Whitaker and Colyer, *Agriculture and Economic Survival*.

²⁷ Carlos Larrea, "The Mirage of Development: Oil, Employment, and Poverty in Ecuador" (doctoral thesis), Graduate Program in Social and Political Thought, York University (Canada), 1992.

²⁸ Douglas Southgate, "Policies Contributing to Agricultural Colonization," in N. Sharma, ed., *Managing the World's Tropical Forests: Looking for Balance between Conservation and Development*, Dubuque: Kendall/Hunt Publishing Company, 1992, p. 227.

²⁹ Southgate and Whitaker, *Economic Progress and the Environment*, pp. 62-65.

³⁰ Morris Whitaker, "The Human Capital and Science Base," in Whitaker and Colyer, *Agriculture and Economic Survival*.

³¹ Southgate and Whitaker, *Economic Progress and the Environment*, pp. 27-28.

³² J. L. Gallup, "Geography and Socioeconomic Development," Andean Competitiveness Project, 2000.

resulted from increases in areas under cultivation. By contrast, increased yields were responsible for only one-third of that growth.³³

Impacts on native communities

In the *Oriente*, agricultural expansion occurred primarily at the expense of traditional indigenous territories.³⁴ By the late 1960s, lowland colonists were already squatting on native lands near Lago Agrio.³⁵ Beginning in 1972, when the highway to Quito was completed, this trickle swelled to a flood. By 1992, when official colonization ended, most of the northern *Oriente* had been given away to private farmers.³⁶

Settlement in the *Oriente* created significant conflict with native communities: occupation of land, alterations to their traditional economies and social organization, and loss of language and cultural identity.³⁷ But it does not explain why their populations were small and isolated to begin with, or why these populations have grown since the 1960s.

The answer to this question is not as obvious as it seems. Until a few years ago, anthropologists assumed that small, dispersed Amazonian groups were essentially survivors of the Stone Age who had developed

³³ Morris Whitaker and Jaime Alzamora, "Production Agriculture: Nature and Characteristics," in Whitaker and Colyer, *Agriculture and Economic Survival*.

³⁴ Jorge Trujillo, "Colonización en la región amazónica ecuatoriana"; James Hicks, ed., *Ecuador's Amazon Region. Development Issues and Options*, Washington: World Bank, Discussion Paper 75, 1990; Fontaine, *El precio del petróleo*.

³⁵ For a description of serial displacement in the *Oriente*, see Blanca Muratorio's excellent book, *The Life and Times of Grandfather Alonso*, New Brunswick: Rutgers University Press, 1991. [Published in Spanish as *Rucuyaya Alonso y la historia social y económica del Alto Napo, 1850-1950*, Quito: Ediciones Abya-Yala, 1987]. Also Scott S. Robinson, *Toward an Understanding of Kofan Shamanism*, Ph.D dissertation, Cornell University, 1979 (unpublished), p. 136. A Spanish-language edition is available as *Hacia una nueva comprensión del shamanismo Cofán*, Quito: Ediciones Abya-Yala, 1996.

³⁶ Objections to native dispossession arose early but were brushed aside. Consider this account of a speech made by President Guillermo Rodríguez Lara in 1972, provided by Norman Whitten:

On September 25 of that year, the president flew to Puyo in the central Oriente and made a lengthy speech stressing such development objectives as the construction of roads, the provision of public services, and the acceleration of colonization and cash crop production. When a bishop raised the issue that 50,000 Indians lived in the affected areas, Rodríguez Lara...maintained that all Ecuadorans were part Indian. "There is no more Indian problem," he insisted. "We all become white men when we accept the goals of the national culture."

See Norman Whitten, Jr., "Etnocidio ecuatoriano y etnogénesis indígena: la resurgencia amazónica ante el colonialismo andino," *América Indígena*, Vol. 39, No. 3, 1979, p. 538; originally published as IWGIA Document 23, 1976. For further discussion of official attitudes towards Indians during these years, consult William T. Vickers, "Indian Policy in Amazonian Ecuador," in Schminck and Wood, eds., *Frontier Expansion in Amazonia*, pp. 14-15. More recent analysis can be found in Lucy Ruiz' book, *Amazonia ecuatoriana. Escenario y actores del 2000*, Quito: EcoCiencia-Comité Ecuatoriano de la UICN, 2000, p. 52. Other sources are listed in the bibliography.

³⁷ William T. Vickers and Jorge Uquillas, among others, have provided extensive accounts of land conflicts between settlers and native groups during these years. For two examples, see William T. Vickers, "Informe preliminar acerca de las culturas siona, secoya y cofan para la Comisión Interinstitucional de INCRAE, IERAC, y Dirección de Desarrollo Forestal. Proyecto de Relimitación de Territorios Nativos," Miami, 1980 (unpublished manuscript); Jorge E. Uquillas, "Informe para la delimitación de territorios nativos siona secoya, cofán y huaorani," Quito: Ministerio de Agricultura y Ganadería, Comisión Asesora Interinstitucional, 1982, pp. 5-18. Another excellent description can be found in Jorge Uquillas, "La tenencia de la tierra en la Amazonía ecuatoriana," in Teodoro Bustamante et al., *Retos de la Amazonia*, Quito: ILDIS and Abya-Yala, 1993, pp. 61-94.

their own hunting and gardening strategies to survive in an empty, harsh environment. Recent historical and archaeological research suggests that this account is largely wrong.³⁸

Along the upper Napo River, for example, large urban settlements and their hinterlands survived until a generation after the Spanish conquest in 1542.³⁹ Apparently, these societies were destroyed by epidemic disease and other depredations brought by European conquerors. Survivors shifted territories, adopted simpler technologies and subsistence practices, and formed new ethnicities (mostly speaking Quichua as a *lingua franca*) over the ensuing four hundred years.

By the time oil was discovered in 1967, indigenous populations in the northern *Oriente* had experienced renewed decline for nearly half a century. What do we know about these trends for the Cofán, Siona-Secoya, and the Huaorani and their responses to colonization?

The Cofán

When first encountered by Spanish explorers, the Cofán inhabited the flanks of Mount Cayambe, probably along the upper Aguarico River. Like their neighbors, they lived in localized "clans," numbering several hundred people and led by a headman.⁴⁰ The historian Linda Newson estimates their pre-contact population at around 15,000, but many were soon enslaved or fled to more remote areas:

The Cofán, Coronado, and Omagua-Yété located nearest the sierra experienced more intense contact with Spaniards during the early colonial period. Some were allocated in encomiendas, large numbers were enslaved, and others were brought under missionary control, although not for extended periods. In the 1620s, maybe 500 were under control of the encomenderos at Alcalá del Rio and another 500 in the Jesuit mission of San Juan de los Omagua. Nothing is known of the numbers existing in the surrounding region, but the fact that slave raiders were looking further afield to the Omagua, Abijira [Huaorani] and Encabellado [Siona] suggests that local Cofán and Coronado populations must have been exhausted or at least fairly small.⁴¹

By 1611, Newson says, perhaps only 6,500 Cofán survived.⁴² In 1630, she writes, "of the estimated 28,000 Cofán, Coronado, and Omagua-Yété existing at the time of the Spanish conquest, perhaps only 4,000 remained."⁴³ By 1700, the three groups totaled around 2,000.⁴⁴

Spanish missionary efforts among the Cofán began in the 1590s, when Fr. Pedro Ordóñez de Cevallos managed to settle 4,000 Indians in eight villages along the Aguarico River.⁴⁵ But these efforts were abruptly abandoned in 1611.⁴⁶ Thereafter, throughout the eighteenth and early nineteenth centuries, the Cofán received only occasional visits from Franciscan missionaries, based upriver in Colombia.⁴⁷ In 1896,

³⁸ For examples of this revised analysis, see various essays in William Balée, ed., *Advances in Historical Ecology*, New York, Columbia University Press, 2003; David Cleary, "Towards an Environmental History of the Amazon: From Prehistory to the Nineteenth Century," *Latin American Research Review*, Vol. 36, No. 1, 2001, pp. 65-93.

³⁹ Linda A Newson, *Life and Death in Early Colonial Ecuador*, Norman and London, University of Oklahoma Press, 1995; also Trujillo, "Colonización" and Jorge Trujillo, *Enigmas Amazónicos*, Quito: in press.

⁴⁰ Newson, *Life and Death*, p. 83-84.

⁴¹ Newson, *Life and Death*, p. 332.

⁴² Newson, *Life and Death*, p. 84.

⁴³ Newson, *Life and Death*, p. 332.

⁴⁴ Newson, *Life and Death*, p. 333.

⁴⁵ Newson, *Life and Death*, p. 325.

⁴⁶ Robinson, *Toward an Understanding*, p. 25; Newson, *Life and Death*, p. 325-26.

⁴⁷ Robinson, *Toward an Understanding*, pp. 27-32.

Capuchin friars (a suborder of the Franciscans) reappeared along the Aguarico. They built missions and reinitiated their earlier policy of "reducing" Cofán and other groups to mission stations. But this venture ended abruptly with the measles epidemic of 1923.⁴⁸

Cofán territory lay relatively far from centers of rubber and *quina* collection, and the group escaped many of the abuses that took place farther east.⁴⁹ Nonetheless, rubber traders -- probably from Colombia -- occasionally showed up to demand raw rubber in exchange for tools and other things.⁵⁰

In a recent ethnographic atlas of Ecuador, Alba Moya sums up the impact of these events on the Cofán:

In any case, the a'i [Cofán] faced a demographic disaster during the rubber boom, due primarily to relocation of their children and young people in [Capuchin] schools, where they were exposed to diseases, especially measles, smallpox and respiratory infections. Terrified by the result, particularly a measles epidemic in 1923, the Cofán abandoned the town of San Miguel el Nuevo, founded in 1918 at the mouth of the Río Teteye, and fled once again to isolated areas. Most of them went to live along the Aguarico and other remote spots on the Río San Miguel and Guamués.⁵¹

In 1947, a foreign visitor counted 517 Cofán on the Ecuadorian side of the border.⁵² Most of them resided in small, scattered settlements along the Aguarico and San Miguel Rivers and their tributaries. Others inhabited the Colombian side as far north as the Guamués. In both countries, they lived like their neighbors: hunting, gardening, and harvesting a series of forest areas that yielded other key products.

In 1955, the Ecuadorian Cofán faced a different sort of intrusion, one involving American Protestant missionaries. After surveying various potential bases in the area, the Summer Institute of Linguistics (SIL) sent Bub and Bobbie Borman to live in Dureno (also spelled "Doreno").⁵³ Like the Siona-Secoya, virtually all of the Cofán soon became Protestant converts.

Other changes happened more slowly. In 1968, Robinson writes, the Cofán still hunted and gardened throughout their traditional territory:

Some 580 people speak and/or understand the Kofan language today. They live in extended-family households usually gathered without pattern along both sides of the rivers and tributary streams. These villages...range from 30 to 100 people living in intermarried households. In each community there is usually one shaman. There are four villages in Ecuador along the Aguarico River: Cavena, Duwino, Pusino, and Dureno, from west to east. Four other Kofan villages are located along the San Miguel which forms the boundary with Colombia: Alto San Miguel, Santa Rosa de Sucumbíos, Abusié and Cobeno. Two consist only of three households along the Colombian bank...⁵⁴

⁴⁸ Robinson, *Toward an Understanding*, pp. 31-33. Earlier epidemics had passed through in 1895, 1889, 1890 and 1901. No doubt, additional research would turn up other instances.

⁴⁹ Alba Moya, *Ethnos. Atlas etnográfico del Ecuador*, Quito: Proyecto de Educación Bilingüe, 2000, p. 110.

⁵⁰ For example, see Trujillo, "Colonización" and *Enigmas Amazónicos*.

⁵¹ Moya, *Ethnos*, p. 110. Abdón Yumbo provides an oral history account of one family's flight from epidemic and subsequent labors in rubber collecting. See Abdón Yumbo, "El pueblo a'i (cofán) del Ecuador," in José Almeida Vinuesa, ed., *Identidades indias en el Ecuador contemporáneo*, Quito: Ediciones Abya-Yala, 1995, pp. 127-28.

⁵² Robinson, *Toward an Understanding*, p. 34.

⁵³ Randall B. Borman, "Survival in a Hostile World: Cultural Change and Missionary Influence among the Cofán People of Ecuador, 1954-1994," www.cofan.org/culturechange.htm, 1996 pp. 5-6.

⁵⁴ Robinson, *Toward an Understanding*, pp. 22-23.

But within ten years, all of this was different. Settlement patterns had shifted dramatically in response to missionaries and outside homesteaders. Cofán land had become the latest domino in a line that began on the lower Napo River. At the beginning of this line, Quichua-speaking settlers from the upper Napo had been pushed out of their ancestral home by migrants from other parts of Ecuador.⁵⁵

These new settlers were reinforced by "middle-class Ecuadorian bureaucrats" who had been directed to divide "vacant" Cofán territory into 50-hectare homesteads. Faced with this challenge, according to Randall Borman (son of Bub and Bobbie),

The Cofan drew back..., first giving Amisacho, then their village at Cascales, then their hunting locations up and down the river. Doreno and Duveno went from being the most populated Cofan centers on the Aguarico to the only centers except for a handful of families in the headwaters.⁵⁶

In 1971, Robinson tried to convince the Cofán to claim a large reserve that would allow them to fish, hunt and maintain a semblance of their traditional life, even though they lived in close proximity to oil operations. According to Borman, SIL objected to this proposal as described above, "because it was unrealistic."⁵⁷ Yet migrants kept arriving, and by 1980, they had settled along almost every road and creek in the area -- stripping timber in the Cuyabeno Wildlife Reserve, fishing out the rivers with dynamite, and clearing forests to raise cattle.⁵⁸

In 1978, SIL changed its position and helped the Cofán obtain title to 9,500 hectares for Doreno and 4,500 hectares for Dovuno. By 1990, they had received total grants including 34,000 hectares. Eventually, according to Alba Moya, these grants expanded to around 110,000 hectares, a small fraction of the group's former territory.⁵⁹ According to a Cofán Website, many local people now look to ecotourism for the income that will enable them to survive as an independent ethnic group.⁶⁰

⁵⁵Scott S. Robinson, "Algunos aspectos de la colonización espontánea de las sociedades selváticas ecuatorianas," in Georg Grunberg, coord., *La situación del indígena en América del Sur*, Montevideo: Biblioteca Científica, 1972 [originally published as W. Dostal, ed., *The Situation of the Indian in South America*, Geneva: World Council of Churches, 1971]. See also Norman Whitten Jr., et al., *Amazonia ecuatoriana. La otra cara del progreso*, Quito: Ediciones Abya-Yala, 1989; Udo Oberem, *Los Quijos. Historia de la transculturación de un grupo indígena en el Oriente ecuatoriano (1538-1956)*, Madrid: Memorias del Departamento de Antropología y Etnología de América, Facultad de Filosofía y Letras, Universidad de Madrid, 1971; and Theodore Macdonald, Jr., *Ethnicity and Culture amidst New Neighbors*, Needham: Allyn and Bacon, 1999., pp. 59-80. In addition, a large body of "conflict research" is available in Ecuador.

⁵⁶ Borman, "Survival in a Hostile World," p. 11.

⁵⁷ Borman, "Survival in a Hostile World," p. 11. For a different account of these events, see Gabriela Valdivia, "The 'Amazonian Trial of the Century': Indigenous Identities, Transnational Networks, and Petroleum in Ecuador," *Alternatives* 32, 2007, pp. 41-72.

⁵⁸ Vickers, "Informe preliminary," p. 45. Another summary of these events can be found in Yumbo, "El pueblo A'I (Cofan) del Ecuador," pp. 123-56. An extremely useful account of settlement and the Cuyabeno Wildlife Reserve can be found in Paul E. Little, *Amazonia. Territorial Struggles on Perennial Frontiers*, Baltimore: Johns Hopkins, 2001, pp. 145-174.

⁵⁹ A. Moya, *Ethnos*, p. 111. Other sources give lower figures: 69,000-80,000 hectares. Currently, the Cofán hold title to 400,000 hectares, including restricted "use rights" (for hunting or other purposes) in two forest reserves. As Lucy Ruiz has pointed out, however, it is unclear whether these rights are completely secure or whether they might be modified by future park officials (see her discussion in *Amazonia*).

⁶⁰ See www.cofan.org. For a more recent description of Cofán territory, see Randall Borman, et al., eds., *Ecuador: Territorio Cofan Dureno, Rapid Biological Inventories Report 19*, Chicago: The Field Museum, 2007.

Despite the loss of land, Cofán population seems to have recovered from a period of stagnation in the mid-twentieth century. In recent years, growth rates have approached Ecuador's national average of 1.9 percent per year.⁶¹

Cofán Population Growth, 1947-2001

Year	Population	Source	Years in Interval	Growth Rate (%/yr.)
1947	517	Cooper in <i>Robinson, Toward an Understanding</i> , p. 34	--	--
1968	580	Robinson, <i>Toward an Understanding</i> , p. 22	21	0.5
1997	627	Ruiz, "El pueblo cofán"	29	0.3
1999	750	Fitton, low estimate ⁶²	31	0.6
1999	875	Fitton, middle estimate	31	1.3
1999	1,000	Fitton, upper estimate	31	1.8
2001	1,044	INEC, <i>Censo de Población y Vivienda</i>	33	1.8

Siona-Secoya

The Siona-Secoya are descended from Western Tucanoan-speaking people who traditionally lived along smaller tributaries of the Napo and Putumayo Rivers in Ecuador, Colombia and Peru.⁶³ At present, they inhabit three main villages on the Aguarico and Shushufindi Rivers. A fourth settlement is located in the Cuyabeno Wildlife Reserve.

During the early colonial period, Newson writes, the Siona-Secoya (then known as "Encabellado") numbered between 6,000 and 8,000, although Jesuit missionaries (seeking to inflate their own importance as administrators) often claimed much higher figures.⁶⁴ Throughout the late nineteenth and early twentieth centuries, many Siona-Secoya worked as laborers on haciendas along the Napo and its tributaries. Even villagers who avoided the haciendas often fell victim to "debt peonage," collecting rubber and other forest products in return for metal pots, fish hooks, and other products sold at exorbitant prices.⁶⁵

⁶¹ Additional discussion of Cofán population can be found in Lucy Ruiz, "El pueblo Cofán," in Montserrat Ventura, et al., *Etnografías mínimas del Ecuador*, Quito: Ediciones Abya-Yala, 1997, pp. 642-73; Moya, *Ethnos*, pp. 103-22; and other sources. The World Bank uses 1.9% in its most recent "Country Assistance Strategy" for Ecuador (2003).

⁶² Lori J. Fitton, *Is Acculturation Healthy? Biological, Cultural, and Environmental Change Among the Cofán of Ecuador*, Columbus: Ohio State University, 1999, p. 39.

⁶³ According to Vickers, the Siona and Secoya speak two closely related dialects of a single language. Due to immigration, intermarriage and other events, they have merged into one ethnic group. With minor variations, this explanation has been accepted by other authors. See William T. Vickers, "The Jesuits and the SIL: External Policies for Ecuador's Tucanoans through Three Centuries," Soren Hvalkof and Peter Aaby, *Is God an American? An Anthropological Perspective on the Missionary Work of the Summer Institute of Linguistics*, Copenhagen: IWGIA and Survival International, 1981, pp. 51-62; "Modern Political Transformation of the Secoya" in Norman Whitten, Jr., ed., *Millennial Ecuador*: Iowa City: University of Iowa Press, 2003, pp. 46-72; and William T. Vickers, *Los sionas y secoyas*, Quito: Ediciones Abya-Yala, 1989, Ch. 3. For linguistic classification and affiliations, see Raymond G. Gordon, Jr. ed., *Ethnologue: Languages of the World*, Dallas: SIL International (Fifteenth edition), <http://www.ethnologue.com>, 2005.

⁶⁴ Newson, *Life and Death*, pp. 102-07.

⁶⁵ Vickers writes that "...the rubber boom...began around the turn of the century and petered out by the 1920s, but...left a system of debt peonage that affected some of the Secoya on the Santa Maria River until the 1940s" (Vickers, "The Jesuits and the SIL," p. 55). For other descriptions of debt slavery in these communities, see Vickers, "The Modern Political Transformation," p. 51-52 and Moya, Alba, *Ethnos*, p. 69.

The Siona-Secoya, along with other lowland indigenous groups, experienced successive waves of measles, smallpox and influenza.⁶⁶ By 1973-75, when they were visited by anthropologist William T. Vickers, their population had fallen to 374 (including two Secoya groups that had immigrated from Peru in 1941 and 1974).⁶⁷ At the end of 1982, it had recovered slightly, to 414.⁶⁸ Since then, it has risen to 750-780.⁶⁹

Before 1955, Siona-Secoya people lived in dispersed patrilineal compounds that sometimes included as many as 20 families. These settlements were led by a headman (*intipa'iki*), who also served as curer and religious leader. In that year, SIL missionaries Orville and Mary Johnson settled in one community, Cuyabeno. Over the next 15 years, they converted virtually all Siona-Secoya to evangelical Protestantism and replaced customary patterns of social organization with a new political hierarchy based on the church.⁷⁰

The Johnsons also persuaded many families to move out of dispersed compounds and settle in larger villages near SIL airstrips, such as San Pablo.⁷¹ Soon, the land around these villages could no longer support their inhabitants. But because the Indians had in effect abandoned their former territories, they could no longer claim ownership under the Agrarian Reform Law.⁷² Land rights quickly became a life-and-death issue for the Siona-Secoya. After giving up many of their traditional beliefs, ethnic identity came to rest primarily on two pillars: language and their hunting-gardening way of life.⁷³

This way of life was directly threatened in 1975, when the Ecuadorian government granted 9,850 hectares of "vacant" land within their hunting territory to a private palm oil grower, Palmeras del Ecuador. Then in

⁶⁶ An American engineer, William Hardenburg, witnessed one of these epidemics among the Siona in 1907. See W. E., Hardenburg, *The Putumayo. The Devil's Paradise*, London: T. Fisher Unwin, 1921 p. 9. Other sources describe outbreaks in 1889, 1890, 1895, 1901 and 1923. For example, see Stanfield, *Red Rubber*, pp. 79 and 90.

⁶⁷ Vickers, "The Jesuits and the SIL," pp. 51-61; and "The Modern Political Transformation," pp. 46-47.

⁶⁸ This number is given by Jorge Uquillas, who headed an Ecuadorian government team that was sent to sort out Siona-Secoya land claims. See Jorge E. Uquillas, "Indian Land Rights and Natural Resource Management in the Ecuadorian Amazon," in Theodore Macdonald, Jr., ed., *Native Peoples and Economic Development. Six Case Studies from Latin America*, Cambridge: Cultural Survival, Inc., 1985, pp. 87-103.

⁶⁹ Vickers gives 750 in "The Modern Political Transformation," p. 48. The most recent Ecuadorian census (2001) lists 780.

⁷⁰ To cite one example, the Johnsons discouraged marriage between "believers" and "non-believers." Given the complexity of Siona-Secoya kinship, this step effectively forced non-believers to choose between marrying outside their communities and converting. See Vickers, "The Jesuits and the SIL" and "The Modern Political Transformation." An autobiography of the native leader initially chosen by SIL is also available. See Celestino Piaguaje, *Écorasa*, Shushufindi: CICAME, 1994.

⁷¹ According to Uquillas, "For approximately 10 years [before 1982], the Siona-Secoya had been establishing permanent settlements along the Shushufindi, Eno and Aguarico rivers. Prior to that, they lived in widely dispersed settlements in the area between the Cuyabeno lakes and the confluence of the Cuyabeno and Aguarico rivers. The recent relocation of the Siona-Secoya was the result of pressure and suggestions from the Summer Institute of Linguistics (SIL), whose missionaries and linguists had been working with this group for several years." See his "Indian Land Rights and Natural Resource Management in the Ecuadorian Amazon," p. 92.

⁷² Uquillas, "Informe para la delimitación," pp. 5-18"; "Indian Land Rights," p. 92; Vickers, "Informe preliminar," pp. 15-34; and "The Jesuits and the SIL," p. 60.

⁷³ Uquillas makes this point in his 1985 report for Cultural Survival. Writing of the interagency task force that he coordinated, he writes that "The commission then analyzed the value which each ethnic group assigns to different natural resources and considered current use patterns of these resources. In the case of both the Siona-Secoya and the Huaorani, there was a high dependence on the tropical forest; their economy, social structure and value system were bound to the jungle habitat." See his "Indian Land Rights and Natural Resource Management in the Ecuadorian Amazon," p. 92; also Vickers, *Los sionas y secoyas*, Chs. 8-10.

1977, two settler "pre-cooperatives" – following oil roads – began to extract timber from the remaining forest (including the Cuyabeno Wildlife Reserve).⁷⁴

Despite growing encroachment by settlers, Johnson persuaded Indian leaders to apply for title to only 7,043 hectares (their original territory was estimated at 82,000 sq. km). In his view, this area would be "sufficient for a community of 'small holders' that he saw as the future of the Secoya-Siona."⁷⁵

Eventually, the Siona-Secoya followed a pattern set by other lowland indigenous groups and formed an association to petition for more land.⁷⁶ In 1989, they received title to another 32,414 hectares. According to Vickers, "The resulting communal reserve of 39,457 hectares (395 square kilometers) was substantial by the Ecuadorian standards of the day," but only a small part of their former territory.⁷⁷

Despite loss of land, population growth among the Siona-Secoya has risen since 1973 (see table). Surveys conducted in 1973 and 1982 suggest that growth rates had previously dropped to 1.1 percent per year – a dangerous level that might have been upset by small outbreaks of disease. In recent years, however, annual growth rates have risen to 2.6 percent.

Siona-Secoya Population Growth, 1973-2001

Year	Population	Source	Years in Interval	Growth Rate (%/yr.)
1973	374	Vickers, "The Jesuits and the SIL," pp. 51-61	---	--
1982	414	Uquillas, "Indian Land Rights and Natural Resource Management in the Ecuadorian Amazon," p. 92.	9	1.1
2000	750	Vickers, "The Modern Political Transformation of the Secoya," p. 48	27	2.6
2001	780	INEC, <i>Censo de Población y Vivienda</i>	28	2.6

⁷⁴ Vickers, "Informe preliminar," pp. 15-34. By 1980, uncontrolled resettlement apparently extended into the Cuyabeno Wildlife Reserve. In the same report (p. 27), Vickers writes, "The Cuyabeno Wildlife reserve has been crossed by a road between Chiritza and Tarapoa, built by the oil company CEPCO. A unit of the Ecuadorian Army Corps of Engineers is building a highway from Tarapoa to the San Miguel River and uncontrolled settlement is beginning to take place on both sides of this road (including settlement by undocumented Colombians)."

⁷⁵ The quotation is included in a personal communication received in March, 1998, from one anthropologist who later helped the Siona-Secoya apply for more land.

⁷⁶ For a useful discussion of Indian organizations and their role in protecting indigenous lands, see Theodore Macdonald Jr., Dominique Irving and L. Esther Aranda, "The Quichua of Eastern Ecuador," in Shelton H. Davis, ed., *Indigenous Views of Land and the Environment*, Washington: World Bank, 1993, pp. 11-30; also Ernesto Salazar, *An Indian Federation in Lowland Ecuador*, Copenhagen: IGWIA, Document 28, 1977.

⁷⁷ "The Modern Political Transformation," p. 56; see also his description of land titling in "Indian Policy in Amazonian Ecuador," pp. 20-22. Today, the Siona-Secoya hold nominal title to nearly 350,000 hectares, including a restricted-use area within the Cuyabeno Reserve. Like the Cofán, however, they face continual encroachment on the park by settlers and the vagaries of government policy, which raise questions about how secure such rights will ultimately be (see Ruíz, *Amazonia*).

The Huaorani

The Huaorani are perhaps the best known of Ecuador's lowland peoples, partly because they were featured in three widely-broadcast documentary films made in 1983: "Waorani: The Last People" (BBC), "Nomads of the Rain Forest" (WGBH Nova), and "Waorani" (ABC). They also became the subject of Joe Kane's popular book, *Savages* (1995), based on two long articles that had appeared in *The New Yorker* in September 1993.⁷⁸ Recently, they have been the subject of another television documentary in Ecuador, "Taromenani: el exterminio de los pueblos ocultos," released in 2007.

In the mid-19th Century (when they were first recorded), Huaorani occupied a large area of rainforest, estimated at 2 million hectares, straddling the present border between Ecuador and Peru.⁷⁹ Since 1990, they have held communal title to 680,000 hectares south of the Napo River and extending westward almost to Coca.⁸⁰

In 1999, part of their territory was included by government decree in an "untouchable zone" that also incorporates areas of Yasuní National Park and three oil blocks. This decree prohibits most activities, including oil exploration and development, within 700,000 hectares of relatively pristine forest.

Before 1960, Huaorani social organization fit within a more generalized "Amazonian settlement pattern" that was recorded by outsiders early in the twentieth century.⁸¹ Four main family groups, including sub-groups and extended families, migrated periodically within more-or-less defined hunting territories. They collected wild plants and cultivated subsistence crops (usually yucca) in "gardens" that were abandoned every few years as production declined. Their settlements of 30 to 50 people were arranged within one or two days' walk from closely related settlements. Territorial boundaries were maintained by raiding and warfare.

Jorge Trujillo explains this warlike attitude as the natural consequence of native experience during the rubber boom (1870-1920).⁸² Huaorani bands originally lived near rubber-harvesting areas in far northeastern Ecuador and thus observed first-hand the fate of other Indians who were enslaved as rubber tappers.⁸³ They successfully fought to occupy land abandoned by neighboring Záparo people who fled enslavement along the lower Napo River.

Around 1958, two young Huaorani women were converted to evangelical Protestantism by Rachel Saint, an American missionary affiliated with SIL.⁸⁶ Saint had recently established her mission in Tihueno, just outside of Huaorani territory. Less than 20 years later, 85 percent of all Huaorani (around 500 people) were living at Tihueno; only 100 were believed to occupy the rest of their traditional lands.

⁷⁸ The Huaorani continue to fascinate North American audiences. For a recent example, see Tom Forema, "Anthropologist on Living With a Remote Amazon Tribe," *National Geographic*, May 21, 2003.

⁷⁹ "Huaorani" is also frequently spelled "Waorani."

⁸⁰ In 1989, UNESCO designated Yasuní National Park as a Biosphere Reserve.

⁸¹ This account is based primarily on two books by Laura Rival: *Hijos del sol, padres del jaguar*, Quito: Ediciones Abya Yala, 1966 (doctoral dissertation, University of London) and *Trekking Through History*, New York: Columbia University Press. Other references are listed in the bibliography.

⁸² Jorge Trujillo, *Enigmas Amazónicos*; see also "Colonización en la región amazónica ecuatoriana."

⁸³ The seminal work on slavery in this region remains Roger Casement's report to the British Parliament, available in Spanish as *Putumayo. Caucho y sangre. Relación al Parlamento Inglés (1911)*, Quito: Ediciones Abya-Yala, 1985. Other excellent accounts can be found Stanfield, *Red Rubber* and Hardenburg, *Putumayo*.

Footnotes 84 and 85 have been deleted.

⁸⁶ This account is largely based primarily on David Stoll's chapter, "The Huaorani Go to Market," in his book, *Fishers of Men or Founders of Empire? The Wycliffe Bible Translators in Latin America*, London: Zed Press and Cultural Survival, 1981, pp. 278-318; and Rival, *Hijos del sol*.

By 1976, however, it became clear that Tihueno could no longer support the large population that lived there. Food was short, epidemics occurred frequently, and the Huaorani had become totally dependent on foreign missionaries. SIL decided to relocate most Huaorani to 25 settlements along major rivers within a 67,000-hectare “Protectorate” (essentially, a reservation) that the Ecuadorian government had placed under their administration. Thereafter, missionaries provided motorized canoes, shotguns and fishing gear, which the Indians have used to intensify their hunting and agriculture.

At present, the Huaorani face intense pressure from settlers who have occupied large parts of their traditional territory. Following the *Vía Auca* and other roads that the government ordered oil companies to construct, these migrants have deforested large areas and have settled illegally on Huaorani land.

Simultaneously, timber companies use these roads to transport old-growth trees that have been illegally harvested in protected areas – despite government and private efforts to stop them. Often, the two trends converge: homesteaders find that their crops fail within three or four years (because Amazonian soils are often infertile) and must cut illegal timber to survive.⁸⁷

The Huaorani reacted to these threats in various ways. They killed uninvited settlers and other intruders. In 1993, they signed an agreement with the oil company Maxus (which operated within their territory) to control “spontaneous immigration” along a 145-km road that had been built into their reserve. They formed a political organization, ONHAE, that has lobbied for protection from external threats.

Today, the Huaorani remain dispersed among 32 settlements. Their population appears to have risen significantly since 1958 and has now reached a growth rate of 2.2 percent per year.

Huaorani Population Growth, 1958-2001

Year	Population	Source	Years in Interval	Growth Rate (%/yr.)
1958	600	SIL cited in Rival, <i>Trekking</i> , p. 16	--	--
1980	658	SIL cited in Rival, <i>Trekking</i> , p. 16	22	0.4
1982	715	SIL cited in Rival, <i>Trekking</i> , p. 16	24	0.7
1990	1,200	Rival, <i>Trekking</i> , p. 16	32	2.2
1993	1,000	CONFENIAE	35	1.5
1999	2,200	CODENPE, "Diagnóstico de la Nacionalidad Huaorani," http://www.codenpe.gov.ec/waorani.htm	41	3.2
2001	1,534	INEC, <i>Censo de Población y Vivienda</i>	43	2.2

⁸⁷ In 1990, the Huaorani received communal title to 680,000 hectares of rain forest, by far the largest native grant in Ecuador. In 1999, portions of their territory were incorporated by ministerial decree into an “intangible zone” that includes parts of the Yasuní National Park and three petroleum blocks. The decree prohibits most development within 700,000 hectares of relatively untouched forest. Nonetheless, Warren writes, “By 1995, encroachment onto Waorani lands was out of control. The networks of roads had grown, opening up some seven million hectares of Waorani territory to speculators and colonists.”

A genocide that wasn't: the Teteté

The Teteté provide a final example of how allegations of genocide continue to dominate public discussion of petroleum development in the Ecuadorian Amazon. Unmentioned in earlier court filings or legal documents, the Teteté first emerged as alleged victims of oil company genocide in 1995 and are now often cited as victims.⁸⁸ Who were these people and why did they “disappear”?

Located between Cofán territory and the Colombian border, Teteté communities were first identified by Catholic missionaries in 1913. By the early 1960s, according to an unpublished report by the anthropologist Jorge Trujillo, perhaps 25 Teteté survived.⁸⁹

Three further contacts have been confirmed. In 1966, two Catholic missionaries visited a Teteté hamlet, where they found only two old men and a woman. In the early 1970s, an SIL linguist travelled to the same site – located about ten minutes by helicopter from the Cofán village of Dureno – and determined that the Teteté language was related to Siona. Finally, SIL missionary Orville Johnson, who lived with the Siona-Secoya, made a brief visit in 1973.

What happened to the Teteté? Definitive ethno-historical research remains to be completed, but it seems reasonable to conclude that they fit into a broader western Amazonian pattern that has been described by Trujillo and other scholars.

During the 1940s, a string of *haciendas* opened up along the Napo River employing Quichua-speaking laborers recruited from nearby villages. As these *haciendas* failed in the 1950s and 1960s, their former laborers often remained and adopted subsistence hunting and production strategies. Joined in the 1960s by other Quichua-speakers from Pastaza Province, such people formed new “native communities” that expanded northward into Cofán and Teteté territory.⁹⁰ Many of these communities subsequently received legal recognition and land grants from the Ecuadorian government.

According to Quichua residents, the Teteté initially responded with direct attacks.⁹¹ But by the mid-1960s, such raids had become an historical memory, not a daily threat. Most likely, Teteté households had abandoned their besieged communities and opted to join the Quichua-speaking majority, where they became indistinguishable from other lowland groups.

In this respect, the Teteté resembled the Záparo and other ethnic groups that had been pushed out of the northern Napo region and formed new (generally Quichua-speaking) communities elsewhere.⁹² This

⁸⁸ As far as we can tell, a Teteté “sub-narrative” was developed in parallel with the Texaco lawsuit, beginning with an article by Chris Jochnick entitled “Amazon Oil Offensive,” published in *Multinational Monitor* (Vol. XVI, Nos. 1-2, January-February, 1995): “A 1987 study by the Ecuadorian government warned that oil development led by Texaco had placed the local indigenous groups ‘at the edge of extinction as a distinct people.’ Indeed, at least one group, the Tetetes, has completely disappeared in the wake of Texaco's activities” (p. 3). See Richard Cabrera, “Respuestas a las observaciones realizadas por los Demandantes,” Nueva Loja, December 2, 2008, pp. 24 and following.

⁸⁹ Cited in Paul E. Little, *Amazonia. Territorial Struggles and Perennial Frontiers*, Baltimore: Johns Hopkins University Press, 2001, p. 55.

⁹⁰ For a discussion of these trends, see Muratorio, *Grandfather Alonso*, and Rudel and Horowitz, *Tropical Deforestation*.

⁹¹ One account of these raids is given in Vicariato Apostólico de Aguarico [compiled by Fr. Miguel Angel Cabodevilla], *Memorias de Frontera. Misioneros en el Río Aguarico (1954-1984)*, Quito: CICAME, 1989, p. 23.

⁹² For an overview of this process, see Jonathan D. Hill, “Indigenous Peoples and the Rise of Independent Nation States,” in Frank Salomon and Stuart B. Schwartz, *The Cambridge History of Native Peoples of the Americas. Volume III. South America, Part 2*, Cambridge: Cambridge University Press, 1999, pp. 704-764. Also, Little, *Amazonia*.

hypothesis is reinforced by recalling common social practices among nearby groups: until recently the Siona-Secoya, Cofán, and Huaorani all preserved elaborate marriage rules that eliminated most prospective partners. As native communities became smaller and more scattered, such rules posed an almost insurmountable obstacle to ethnic survival.

Under these circumstances, it is reasonable to assume that young Teteté men began to marry neighboring Quichua women who were exempt from restrictive marriage rules – a common practice today in Huaorani communities. As their children were born, they apparently took up Quichua as their preferred language, although timely linguistic investigations a generation ago might have shown that such households were in fact bilingual.

In any case, by 1973, only three elderly Teteté had been encountered for several years. Their kinsmen had apparently moved elsewhere or joined the Quichua majority before oil development began.

Native populations: What do we know?

Historical evidence and rising population figures contradict the claim that genocide, or anything like it, has occurred among native groups in the *Oriente* since oil production began. On the contrary, three long-term trends can be identified:

- During the colonial period (1542-1824), indigenous groups in Ecuador suffered the same demographic collapse that occurred throughout native America. Perhaps 6.8 million people lived in the Amazon Basin before Spanish and Portuguese settlers arrived; little more than 10 percent of this number survived into the seventeenth century.⁹³
- Since 1950, native populations throughout the Amazon have begun to recover. As geographers Kendra McSweeney and Shahna Arps have recently observed, “after widespread and catastrophic population declines in the early to mid-twentieth century, indigenous populations in lowland Latin America appear to be experiencing a common era of remarkably rapid growth.”⁹⁴ This trend coincides with a significant increase in American (and sometimes European) missionaries, who provided medical care in remote communities.
- Native populations in the *Oriente* have grown at approximately the same pace as other Ecuadorians. In some ways, they also seem to be better off than communities elsewhere in the Amazon. According to Teodoro Bustamante and his collaborators, for example, infant mortality and malnutrition in petroleum-producing municipalities remain lower than other Amazonian areas and about equal to the rest of Ecuador – despite a relative lack of health facilities.⁹⁵ Roads and highways seem to be the critical factor: inhabitants

⁹³For a discussion of Amazonian populations, see Pierre and Françoise Grenard, “Equatorial America,” in Serge Bahuchet, ed., *The Situation of Indigenous Peoples in Tropical Forests*, Brussels: Centre d'Anthropologie Culturelle, Université Libre de Bruxelles and Paris: Laboratoire de Langues et Civilisations à Tradition Orale, Centre National de la Recherche Scientifique, Paris, <http://lucy.ukc.ac.uk/Sonja/RF/Ukpr/Report.htm>, 2000.

⁹⁴Kendra McSweeney and Shahna Arps, “A ‘Demographic Turnaround’: The Rapid Growth of Indigenous Populations in Lowland Latin America,” *Latin American Research Review*, Vol. 40, No. 1, 2005, p. 19.

⁹⁵Teodoro Bustamante, *Detrás de la cortina de humo*, Quito: FLACSO y Petroecuador, 2007, pp. 27-28: “Es necesario indicar que en materia de salud, hay resultados muy divergentes. En los que respecta a indicadores de cobertura y servicios en salud, los promedios amazónicos sí son inferiores al promedio país, y con mayor énfasis precisamente en las provincias petroleras, sin embargo, los datos de mortalidad infantil y desnutrición reflejan condiciones similares al promedio nacional.” For an extensive survey of health

of remote communities often carry sick relatives to the nearest roadway, where they board a bus to Coca or Lago Agrio for treatment. Oil development has thus been a two-sided coin, bringing improvements as well as new difficulties.

International campaigns against oil development

As we have shown, two major elements of the “standard narrative” about oil development, which have been repeated by attorneys and other advocates in the current lawsuit against Chevron, are incorrect. Deforestation has happened not because of petroleum production *per se*, but instead because of government policies favoring agriculture and “national integration.” Likewise, indigenous populations in the *Oriente* have not been the victims of genocide in recent decades. Rather, they have followed the same patterns of decline and growth as other native communities throughout the Amazon Basin.

So the question remains: Why has the standard narrative been widely accepted by researchers, journalists, lawyers and others? In particular, why have academic researchers, with access to the same census and population data analyzed here, not set the record straight?

The importance of this question should not be underestimated. Beginning in the early 1980s, serious doubts were raised about the sustainability of Amazonian resettlement efforts and their impact on native peoples. Inappropriate land use, fragile soils, absence of extension services, bureaucratic torpor or malfeasance, overlapping jurisdictions, lack of surveyors -- all of these problems were identified and raised by development specialists, including the World Bank.⁹⁶

Before these questions were answered, however, other events intervened. In 1986, Conoco signed an exploration agreement with the Ecuadorian government for Block 16, which included intact rainforest, parts of the Yasuní National Park, and ancestral homelands of the Huaorani. Ecuadorian environmental groups, including Acción Ecológica, Fundación Natura and CORDAVI, formed an anti-Conoco coalition to fight oil development in this area. They quickly recruited major U.S. allies: the Sierra Club and the Sierra Club Legal Defense Fund, the Natural Resources Defense Council (NRDC) and the Rainforest Action Network (RAN).

After sending a critical letter to Conoco in 1986, RAN issued its first “action alert” against the company in 1988. The following year, it launched a high-visibility campaign in the U.S., with support from key Ecuadorian activists. Initially, RAN and its allies focused on protecting the region’s flora and fauna from oil development. But they quickly discovered that this approach had little resonance outside of limited preservationist circles. Within a few months, they had expanded their campaign to cover another major component of the rainforest ecosystem: native people.

conditions in Ecuador in the late 1980s and early 1990s, see José Suárez Torres, *Medio Ambiente y Salud en Ecuador*, Quito: Fundación Natura, 1992.

⁹⁶For example, see Jorge Uquillas and Shelton H. Davis, “La cuestión territorial y ecológica entre los pueblos indígenas de la selva baja del Ecuador,” in Fundación Gaia and CEREC, *Los derechos territoriales indígenas y ecología en las selvas tropicales del América*, Bogotá: CEREC, 1992, pp. 91-112; and James Hicks, ed., *Ecuador’s Amazon Region*. Two useful collections can be found in Lucy Ruíz, *Amazonía: escanarios y conflictos*; and Bustamante et al., *Retos de la Amazonía*. In general, events in Ecuador repeated widely known experiences in Brazil. See Shelton H. Davis, *Victims of the Miracle*; New York: Cambridge University Press, 1977; Emilio Moran, *Developing the Amazon*, Bloomington: Indiana University Press, 1981; Susanna Hecht and Alexander Cockburn, *The Fate of the Forest*, London: Versa, 1989; Schmink and Wood, eds., *Frontier Expansion in Amazonia*; and the vast literature on development in the Brazilian Amazon. For broader overviews of indigenous peoples throughout the Amazon, see Pierre and Françoise Grenard, “Equatorial America,” in Bahuchet, *Indigenous Peoples*; and Piedad and Alfredo Costales, *Amazonía: Ecuador, Perú y Bolivia*, Sucúa: Mundo Shuar, 1983.

The advantages of this strategy soon became obvious. Indigenous people provided a bridge to the broader community of human rights activists and attracted additional supporters. The expanded narrative was summarized by Randy Hayes, RAN's executive director:

Unlike most of our U.S. forestlands, the tropical rainforest is inhabited. Their destruction not only raises questions of land rights and biodiversity – of monkeys, of trees. It also raises questions of people. The fate of the indigenous communities [is] deeply connected to the fate of the forest, raising profound human rights issues if their homelands are to be destroyed. If you destroy the forest, you destroy these people. In the rainforests, ecological and human rights issues are therefore deeply interlinked.⁹⁷

But problems arose immediately. Many indigenous groups – including CONFENIAE, the regional confederation of Amazon native communities – didn't want to be “preserved.” Instead, they wanted to share equitably in the benefits of development.⁹⁸ Ultimately, these conflicts – between strict environmental preservationists and advocates of native rights – became irreconcilable.

Meanwhile, in 1989, NRDC sent its own representative to Ecuador. Judith Kimerling was a former New York State assistant attorney general who had prosecuted Occidental Petroleum for its operation of the Love Canal hazardous waste sites. Her book, *Amazon Crude*, published by NRDC in 1991, summarized the case against petroleum development in Ecuador's rainforest and provided an updated environmental narrative for use against Conoco.⁹⁹

Kimerling introduced a new element – allegations of pollution – into the campaign against oil development in Ecuador:

Hundreds of oil wells generate more than 4.3 million gallons of toxic wastes every day, virtually all of which are spilled or discharged into the environment without treatment, contaminating countless streams and rivers – often the only sources of water for surrounding communities. Burning oil and gas contaminate the air, along with volatile organics that enter the air from oil-covered waste pits and roads, and unremediated spills.¹⁰⁰

Faced with unrelenting international pressure, Conoco decided to leave Ecuador in 1991. But the campaign against oil development had gained momentum. Several members of the original coalition turned their attention to Texaco, which had handed over its operations to Petroecuador in 1990. All three major campaign themes – rainforest destruction, violation of indigenous rights and pollution – played a prominent role in the lawsuit against Texaco, filed in New York in 1993.

⁹⁷ Quoted in Susan E. A. Hall, “Block 16: Environmental Groups' Perspectives – Part 1,” Harvard Business School Case N9-394-004, July 5, 1993, p. 6.

⁹⁸ A similar process took place five years later in neighboring Pastaza Province, where ARCO was developing a field known as “Block 10.” For a description, see Sixto Mendez, Jennifer Parnell and Robert Wasserstrom, “Seeking Common Ground. Petroleum and Indigenous Peoples in Ecuador's Amazon,” *Environment*, Vol. 40, No. 5, June, 1998, pp. 12-45.

⁹⁹ Kimerling, *Amazon Crude*. NRDC: New York, 1991. NRDC became the first major environmental group to understand the balance between preserving trees and protecting people. In his introduction to Kimerling's book, for example, Robert Kennedy, Jr. writes, “By far the most disturbing impacts are to the quarter million forest people, including the members of eight indigenous tribes who rely on the natural resources of the *Oriente* for their survival” (p. xi).

¹⁰⁰ Kimerling, *Amazon Crude*.

Ultimately, the anti-Conoco coalition fractured over indigenous rights and other differences. By the time Conoco decided to withdraw from Ecuador in 1991, it had split into various factions: a group that opposed all development in the rainforest, another that might reluctantly support development outside of the Yasuní Park and Huaorani Reserve, etc.¹⁰¹ Initially, Ecuadorian groups – reflecting deeper cleavages in their own society – tended to elevate forest protection over concerns for indigenous land rights. In later years, this view changed, as native rights rose to parity with forest preservation.¹⁰²

Despite their divisions, coalition members built an international base of support. In 1990, several Washington-based NGOs were contacted by COICA (the Coordinating Body of Indigenous Organizations of the Amazon) to form an alliance on environmental and social issues in the entire Amazon basin – from Brazil to the Pacific coast. Originally called the Amazon Coalition (and now the Amazon Alliance), this group continues to serve as a clearing house for various international campaigns throughout the Amazon Basin. Campaigns in Ecuador have focused almost exclusively on foreign oil companies.

Year	Target
1986-1991	Conoco
1992	Maxus (1)
1993	Texaco
1994	ARCO
1995	Maxus (2)
1997	Occidental
2000	Burlington
2000	EnCana
2001	OCP Consortium
2003	Moratorium on all future oil development

In general, these campaigns now follow an “expanded narrative” that share similar key messages:

- Oil operations pollute the environment, especially streams and rivers.
- These operations disrupt traditional native subsistence economies and cultures.
- Indigenous and community lands have been usurped.
- Petroleum operations are imposed by foreign companies without adequate consultation, participation and local involvement.

The current anti-*Texaco* campaign reflects this narrative – following a well-tested strategy and building on earlier experience.¹⁰⁴ Media coverage is similarly reflexive, with no new evidence being required to support allegations that fit the pre-determined pattern.

¹⁰¹ For a fascinating account of these events, see Hall, “Block 16: Conoco’s ‘Green’ Oil Strategy; also Christopher A. Cummings, “Oil in the Ecuadorian Rainforest: A Primer,” New York: Management Institute for Environment and Business, 1993.

¹⁰² See Fontaine and Narváez, coords., *Yasuní en el Siglo XXI*, pp. 101-109; and Fontaine, *El precio del petróleo*, pp. 283-297. According to Fontaine, this transition resulted in formation of a “united front” involving key environmental and indigenous groups. The Frente de Defensa de la Amazonía (FDA) [Amazon Defense Front] continues to coordinate many campaign activities in Ecuador and the U.S.

Footnote 103 has been deleted.

¹⁰⁴ A useful perspective is offered by Rebecca Reider in her article “Oil and Chicha: Indigenous Movements and Survival in the Ecuadorian Amazon,” *Tropical Resources Bulletin*, Vol. 24, Spring, 2005, pp. 78-85.

It is hard to determine what role these campaigns have played in corporate decision-making about investments in Ecuador. Major foreign companies there faced serious challenges: declining oil production; disagreement with Petroecuador on essential contract terms; and in at least one case, insurmountable political barriers. But the fact remains that few of them (or their successors) operate in Ecuador today.

Reflecting on the Conoco campaign, Robert Kennedy, Jr., (head of NRDC's international program) later wrote in a column published in the *Washington Post*:

American corporations with rain forest operations present an inviting target for U.S. environmental groups. Attacking them relieves our sense of powerlessness to deal with a tragedy that is largely outside our borders and beyond our control. Such attacks may also help to build solidarity with certain Third World environmental groups, for whom any success against a U.S. corporation is an important source of prestige among their constituents. (Conoco's most vociferous opponents, two Ecuadoran environmental groups, virtually ignored drilling by the Ecuadoran national oil company in nearby Yasuni National Park).

There are many times, of course, when companies deserve bashing. But platitudes will not save the world's remaining rain forests. We need a more sophisticated approach, one that will allow us to negotiate with those corporations willing to commit themselves to the highest environmental standards. The problem, after all, is not caused by U.S. corporations, but by government decisions driven by a complex cycle of debt, poverty and growing populations.¹⁰⁵

Regret that Conoco had been forced to leave – and concern that less responsible operators might represent a bad alternative – was also voiced by Ecuadorian environmental leaders and senior officials in the Environment Ministry after Kennedy wrote his column.

Conclusions

As recently as 40 years ago, Ecuador was one of the poorest nations in the Western Hemisphere. The discovery of oil near Lago Agrio in 1967 provided a unique opportunity to accelerate economic development. It also allowed the national government to realize a century-old ambition of resettling farmers from the *Sierra* and other parts of Ecuador in the Amazon Basin.

The government demonstrated its intention to integrate this region into the rest of Ecuador through legislation and other actions that predated Texaco and Gulf's arrival in the region in 1964. Typically, it awarded property rights to farmers and ranchers who cleared at least half their homesteads. In addition to discouraging forest conservation, such laws disregarded the rights of the forests' traditional inhabitants.

Almost every scholar who has examined land-use change in the Ecuadorian Amazon agrees that deforestation occurred almost entirely because of agricultural colonization. Also, widespread homesteading throughout Amazonia (in and around centers of oil activity as well as in other areas with no oil production) required two basic conditions: a network of roads connecting areas undergoing settlement with other parts of Ecuador as well as subsidies, trade protection, and other policies favoring agricultural expansion.

¹⁰⁵ Robert F. Kennedy Jr., "Driving out Conoco disservice to rain forests," *Washington Post*, August 24, 1992.

Agricultural settlement was not a necessary or intended consequence of oil production. Final approval of all investments and projects undertaken by the industry rested in the hands of Ecuador's government, which often required petroleum companies to build roads and other infrastructure unrelated to production. As we have shown, environmental and social changes described in this paper – like oil development itself – resulted from specific, intentional government policies.

Nonetheless, advocacy groups continue to maintain that genocide and ethnocide took place in the *Oriente*. The standard narrative claims that petroleum development has degraded the rainforest environment so that native communities cannot survive there. Meanwhile, census data, anthropological research and other information show that these groups are larger and healthier than they were 50 years ago.

Without question, many native communities have been displaced by agricultural colonists and commercial farmers who now raise cattle and other crops on traditional indigenous lands. The Ecuadorian government has largely chosen to avoid addressing such issues, which would likely provoke a political maelstrom. Colonists and farmers elect a significant proportion of the Ecuadorian Congress, including representatives from the *Oriente*.

Tactically, it may be easier for advocacy groups to focus their campaigns on international companies rather than to press for fundamental changes in Ecuadorian policy or governance. But they risk repeating the Conoco experience: in an era of increased public expectations about environmental performance and social issues, responsible companies may choose to avoid the risks of doing business in Ecuador or being blamed later for conflicts that lay beyond their control. Given the country's recent attitude toward foreign investors, it is not surprising that many Western European and North American companies have recently relinquished their contracts there.

Chronology: Key Dates for Settlement in the Ecuadorian Amazon

1857 *Tax Reform Law*

Separate legal distinction of “indigenous persons” was eliminated, along with the “head tax” paid by native communities.

1875 *Vacant Land Law*¹⁰⁶

- Unused lands were declared to be national patrimony and property of the State.
- Private landowners had to prove that they were using at least 20% of their property.
- Reauthorized in 1918, 1936, 1969.

1899 *Special Law for the Oriente*

- “Put an end to forced [land] distribution, to work without a contract, and to child trafficking.”¹⁰⁷
- “The separate legal category of ‘Indian’ was eliminated and replaced by universal citizenship with rights to education and legal protection.”¹⁰⁸

1920 *Oriente Law*

- The *Oriente* was divided into provinces and cantons with governors and other civil administrators.
- First settlement regions were designated near Archidona and Tena.

1936 *Labor Code*

Various forms of uncompensated agricultural labor, including *huasipungueraje* (Indians serfs working the land without payment), were legalized with limited government regulation.

1937 *Rural Communes Law*

Huasipungueraje was abolished, and legal registration (titling) of the communal lands was begun.

1947 Highway linking Ambato, Baños and Puyo was opened (extended to Tena in 1973)

Modern agricultural expansion began along this road into the *Oriente*.¹⁰⁹ Followed by two other major roads: Loja-Zamora (1960) and Cuenca-Limón-Méndez (1970).

1964 *Agrarian Reform and Colonization Law*

- The Ecuadorian Institute for Agrarian Reform and Colonization (IERAC) was established, and the government’s first *Economic and Social Development Plan* was issued.

¹⁰⁶ Trujillo, “Colonización,” pp. 7-8.

¹⁰⁷ Fontaine, *El precio de petróleo*, p. 262.

¹⁰⁸ Fontaine, *El precio de petróleo*, p. 262.

¹⁰⁹ Fontaine, *El precio de petróleo*, p. 273.

- In the settlement zones, IERAC was authorized to grant “parcels for family farming units” and was to set maximum parcel sizes.
- IERAC was directed to create native territorial reserves and regulate the use of forests.

1964 ***Vacant Land and Colonization Law***

- The legal definition of “vacant land” was determined; it normally included all traditional indigenous territory in the Ecuadorean Amazon.
- Settlers were required to join a cooperative.
- IERAC was authorized to set the price of colonized land, to be paid over 20 years.

1969 ***Ecuadorian Military Conscription for Agricultural Settlement (CAME)***

Military conscripts were settled in the *Oriente*.

1970 ***Law Abolishing Non-Contract Agricultural Labor***

Huasipungueraje and other kinds of uncompensated agricultural labor were again abolished.

1972 ***National Culture Act***

Establishment of Ecuadorian ethnic and cultural homogeneity.

1972 “Shushufindi” Directed Colonization Project

Five government-directed settlement projects were designed for the northern *Oriente*; three of them were to be located within petroleum production areas.

1973 ***Special Law for Granting Vacant Land for Spontaneous Colonization in the Ecuadorian Oriente***

- Colonization was to be “complementary” to agrarian reform.
- Main goals: expand the country’s agricultural frontier and reduce over-population in high-density areas.
- Colonists required to occupy their land for three years and directly cultivate 25% of it.

1973 ***Agrarian Reform Law (Decree 1172)***

- Agricultural cooperatives receiving land grants required to guarantee that land would be directly cultivated by their members.
- “Individuals must directly work and cultivate the entire area within a five-year period.”
- Land grants could not be subdivided.

1974 ***General Regulation A, Agrarian Reform Law, Decree 941***

- “As soon as possible, IERAC will issue grants for land mentioned in Article 15 of this law” (rural parcels and government-owned territories).
- Primary goal was agricultural modernization as set in the “landowner initiative” (a program developed by large *hacienda* and plantation owners).
- Utilize opportunities arising from oil development to turn the northeast into an “area for receiving migration and expansion.”

1974 The CAME-3 settlement project for military conscripts and “volunteers” was undertaken at Shushufindi.

18,750 hectares were earmarked for 200 military families.

1978 ***Amazon Region Settlement Law***

- Colonization of the Amazon Region represented “an urgent national challenge.”
- INCRAE established “to carry out settlement.”
- “Colonization will be undertaken by groups of cooperatives led by the armed forces.”
- Two kinds of colonization: directed and semi-directed.
- Criteria for planning and land use.
- Respect for indigenous rights.

1979 Illiterates were granted the right to vote (enfranchising most of the rural population)

1981 ***Forestry, Natural Areas and Wildlife Preservation Law***

- Established definition of critical areas for flora and fauna.
- IERAC forbidden from selling these areas.
- The Ministry of Agriculture could grant use or management rights in national forests to cooperatives and small farmer organizations.

1982 ***General Regulations for the Agrarian Reform Law***

“Insufficient land use” defined as failure to meet a regional yield index of 50%.

1994 ***Agricultural Development Act***

IERAC replaced by INDA (National Institute for Agricultural Development), which was directed to resolve all outstanding land claims.

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