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Sitting on a ticking bomb? A political ecological analysis of conservation conflicts in the Alto Nangaritza Valley, Ecuador

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Abstract

The Alto Nangaritza Valley in southeastern Ecuador constitutes one of the most important hotspots of biodiversity worldwide. Concerns about the exploitation of natural resources in this area have led to the creation of different types of conservation areas and policies during the last 30 years. These territorially-based conservation measures have provoked a series of conflicts between the conservation advocates and the Ecuadorian authorities on one side, and the local population who relies on the exploitation of natural resources on the other side. We analyze these conservation conflicts from a political ecological point of view, beginning with an introduction to the historical context, and then we consider the role of changing national development and spatial transformation priorities in these conflicts. Finally, in the face of the neoextractivist path that Ecuador has taken, we advocate even power relations between resource extraction and conservation policies.

Zusammenfassung

Das Nangaritza-Tal im Südosten Ecuadors ist einer der wichtigsten Hotspots der Biodiversität weltweit. Der Artenreichtum und die Sorge über die Ausbeutung der natürlichen Ressourcen führten dort in den letzten 30 Jahren zur Einrichtung zahlreicher Naturschutzgebiete mit unterschiedlichen Schutzstrategien. Wie in anderen Teilen der Welt, haben diese Schutzmaßnahmen zu Konflikten zwischen den Befürwortern des Naturschutzes und den Behörden einerseits und der von der Nutzung dieser Ressourcen abhängigen Bevölkerung andererseits geführt. Wir analysieren die Entwicklung dieser territorialen Naturschutzkonflikte aus der Sicht der Politischen Ökologie, beginnend mit einem Blick auf den historischen Kontext und die Identifizierung unterschiedlicher Schutzgebietstypen. Anschließend erörtern wir den Einfluss wechselnder nationaler Prioritäten auf die räumliche Planung und Entwicklung und deren Auswirkungen auf vergangene, gegenwärtige und zukünftige Naturschutzkonflikte. In Anbetracht der neoextraktivistischen Politik der ecuadorianischen Regierung plädieren wir für ausgeglichene Machtverhältnisse zwischen der Politik der Ressourcennutzung einerseits und der Naturschutzpolitik andererseits.

Keywords Conservation, conflicts, Ecuador, Political Ecology, neoextractivism

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1. Introduction

During the last 30 years, the Alto Nangaritza valley in southeastern Ecuador has become an important region for interventions of national environmental agencies as well as conservationist non-governmental organizations (NGOs). This is a consequence of its very high biological diversity and strategic location along the Peruvian border, combined with the threat of mining activities, colonization, and deforestation. Changing policies and a large number of actors with different interests have motivated a series of intricate political, environmental, and socio-economic conflicts (cf. *Burgmaier* 2013; *Eguiguren Ríofrío* 2013; *Gerique* 2011). A violent riot against the establishment of a conservation area required an extensive negotiation and mediation process (cf. *Dumas* 2006; *Jiménez* 2010). This incident (cf. Ch. 4.2) showed the importance for a successful territorially-based conservation of understanding local past conflicts and monitoring latent disputes. As pointed out by *Mathevet* et al. (2015: 1), the origins of conservation problems often lie in deep-rooted, non-visible, historical conflicts, claims, and changes in resource use and control over the resources.

In this article, we analyze territorially-based conservation conflicts in the Alto Nangaritza from the perspective of political ecology. First, we give a brief overview about the political ecology of territorially-based conservation and extractivism in Ecuador. Then, we present our research methodology, introducing the analysis instruments developed by conflict management practitioners. Afterwards, we describe the area of study, actors, and resource extraction, including historical events relevant to understanding human-environmental processes. In the third section, we analyze local past and present conflicts derived from territorially-based conservation and discuss the influence of changing state-led development priorities in these struggles. Finally, after estimation of future conflicts and in the face of the neoextractivist path that Ecuador has taken, we advocate even power relations between resource extraction and conservation policies.

2. Theoretical background and research methods

2.1 A political ecological approach to territorially-based conservation and extractivism

According to the political ecological discourse, the environment is an arena where a set of social actors compete for access to and control of natural resources (cf. *Bryant* and *Bailey* 1997). Consequently, conflicts can emerge because actors have different uses for resources or want to manage them in different ways; hence, they follow different interests (*FAO* 2000: 1; *Krings* 2007: 82). A key question of political ecology asks which actors and/or groups of actors are involved in a conflict. Following *Blaikie* and *Brookfield* (1987), we distinguish between place-based actors living in an area where the conflict takes place, and non-place-based national and international actors outside the conflict area.

Nature conservation has always been a central field in political ecology. According to *Neumann* (2015: 391), there are four reasons for this: (1) the impressive increase in the number, area, and variety of protected areas worldwide during the second half of the 20th century, (2) the increase in number and types of institutions involved and their growing political and economic resources, (3) the social and political conflicts among these institutions and other actors as a result of the creation of conservation areas, and (4) the varied set of political ecology inquiries that these conflicts generate. Direct regulation, or "command and control," is the most common instrument to protect nature. It includes laws and regulations and conserves nature through the establishment of bans, land use zoning and protected areas. These "state-led processes of spatial demarcation for the purposes of controlling and regulating people and nature," have been called territorialization (cf. *Neumann* 2015: 392 and literature within). *Vaccaro* et al. (2013: 256) coined the term "territorially-based conservation" for state policies regarding the creation of protected areas. These policies are thus a typical focus of resource conflicts; when powerful social and institutional actors declare a conservation area in or near an inhabited territory, they are competing with local actors for its control.

During the last decade, most political ecological research dealing with territorially-based conservation in Latin America has been conducted in the context of extractivism (cf. *Burchardt* et al. 2012; *CLACSO* 2011).

Acosta (2013: 62) defined it as those activities that remove large quantities of natural resources, especially for export. He added that extractivism has been a mechanism of colonial and neocolonial spoil and appropriation, affecting constantly the economic, social, and political life of many countries in the Global South. *Gudynas* (2009) coined the concept of neoextractivism to distinguish between an "old" form of extractivism, where transnational corporations exploit primary commodities retaining the lion's share of the profit while the state protects the model, and a "new" one where progressive governments award the state a major role in the exploitation through national enterprises or through royalties or taxes. Those governments use the revenues to achieve their goals of reducing poverty and improving social welfare, legitimizing extractive projects and their negative consequences. These become necessary to sustain benefits, even if they lead to the destruction of biodiversity, a concentration of landownership, a destructive re-configuration of vast territories, and socio-environmental conflicts (*Svampa* 2013: 119). Neoextractivism can be considered not only a national development project but also a process of spatial transformation (*Burchardt* and *Dietz* 2014: 479).

In Ecuador "the extractivist drive is so intense" that the administration of President Correa supports mega-mining projects (*Gudynas* 2013: 25). Simultaneously, this government supported the introduction of "rights of nature" and the *buen vivir* or "living well," in Ecuador's new Constitution (2008). The first concept is used to describe nature as a subject with rights, while the *buen vivir* is a guiding principle used to conceive development interventions in a framework of mutual conviviality between nature and humans (cf. *Registro Oficial del Ecuador* 2008). The Objective 7 of the National Plan for Living Well (2013-2017) aims to guarantee the rights of nature and to promote the territorial environmental and global sustainability (*SENPLADES* 2013: 222). This discourse on one side and the support of neoextractivist projects on the other side show the contradictions of the governmental policies.

2.2 Research methodology

We chose a historical approach, as the past greatly influences the relations of power and possession as well as the actual use and conservation of natural resources (cf. *Mathevet* et al. 2015). The findings are based on eleven years of research in the area within the DFG Research Units 402 and 816. To procure extra information about local history, conflicts, and conservation types and policies, we analyzed scientific literature, secondary literature, and grey literature such as government publications, documents of NGOs, newspapers, and statistical yearbooks. Also, we included our own livelihood analysis carried out in Shaime, Shamatak, and Miazi in 2011 (n = 69 households, 439 inhabitants) and conducted an actor-oriented multi-level analysis in September and October 2015; due to our experience in the area, we had quick access to key experts, community leaders, and local people. We carried out semi-structured expert interviews with an officer of the Ministry of the Environment and with two experts in conservation law and indigenous affairs of the NGO Nature and Culture International. Two semi-structured group interviews followed; the first was with the president of the Association of Centros Shuar Tayunts (ACST) and community leaders of Chumpias, Napints, Shaime, Shakai, and Nayumbi. The second group interview was with representatives (n = 12) of the Mestizo Association of Autonomous Workers of Las Oquídeas (ATASMO). Finally, we interviewed individual Socio Bosque participants (n = 16) in Zurmi, Las Orquídeas, and El Pangui, a town outside the Alto Nangaritza.

In our analysis, we introduced concepts used by natural resource conflict practitioners. Our goal was to get a clearer picture of the conflict and its underlying causes. When describing conflict structure, political ecology scientists and conflict management practitioners share the same concepts. Both pay special attention to the actors involved in the struggle, the power relations between them, and the interests they follow. However, while a political ecology analysis focuses on interests, practitioners strongly differentiate between interests and positions. By focusing on underlying interests (e.g. fears, perceived needs, actual needs) rather than positions (e.g. what people say they want, a point of view that has been deliberately chosen and is being defended), what were thought to be resolution-resistant conflicts often become solvable (*Fisher* et al. 2009: 70).

We also introduced the concept of division of conflicts into stages. As pointed out by *Engel* and *Korf* (2005: 38) conflicts can emerge step by step and steadily, or develop quickly in response to significant events. When conflict is not carried out openly, yet entails potential threat, it is considered latent and refers to hidden

or undeveloped social tensions. As discrepancies intensify, the conflict becomes manifest and cannot be ignored. Manifest conflicts can escalate and become violent. The same authors stated that conflicts should be managed at the latent stage. If a conflict reaches the manifest stage, conflict parties may refuse to change their positions. A good indicator of conflict prediction is the history of past conflicts in the study area. Other aspects that provide symptoms of potential conflict are changes in land use and resource users, changes in livelihood strategies or institutions, and altered relations in the community, e.g. denial of access to information or apathy (cf. *Engel* and *Korf* 2005: 39).

3. The Setting: The Alto Nangaritza in southeastern Ecuador

3.1 A hotspot of biodiversity

In southeastern Ecuador, the Andean chains split into different mountain systems forming several mountain spurs, basins, and valleys. The Upper Nangaritza Valley (*Fig. 1*) is situated between the eastern Andean chain and an eastern outlier of the Andean system, the Cordillera del Cóndor. Elevation reaches 3120 m a.s.l. in the western area that borders the Podocarpus National Park. The lowest point is the Nangaritza River with an elevation of 860 m a.s.l., located at Las Orquídeas, a hamlet that can be considered the gate to the Alto Nangaritza (cf. *CINFA* et al. 2003 and our own measurements). The Nangaritza constitutes the main hydrological feature; it flows from south to north into the Zamora, a tributary of the Santiago River and hence, part of the Amazon Basin. The precipitation has been estimated at 2000 to 3000 mm per year; the average temperature varies between 10-20 °C in the highest areas and 20-24 °C in the lowest (*CINFA* et al. 2003: 14). According to *Neill* (2005), the lowermost geological strata along the Nangaritza are Cretaceous shales with abundant fossil ammonites overlain by limestone. The uppermost strata are sandstones, which shape spectacular tepuy-like plateaus.

As a result of this relief and diversity of parent materials and hydrologic and climatic factors, the area hosts a very high biodiversity. While plant species growing on the alluvial terraces have floristic characteristics of the Amazon region, there is a mixture of species from both tropical and montane areas above 1300 m a.s.l. The dominant tree genera of the forests on the sandstone formations at about 1000 m a.s.l corresponds to trees which, though absent from anywhere else in the Andes, are closely related to the genera in the sandstone areas of the Guiania Shield (*Neill* 2005: 21). The Cordillera del Cóndor may have the "richest flora of any similar-sized area anywhere in the New World" (*Forsyth* 1997: 12).

Abundant fauna has been discovered in the study area. *Almendáriz* et al. (2014) reported 120 species of amphibians and 59 species of reptiles, including 41 probable new species. With respect to the avifauna, *Freile* et al. (2014: 55) identified 535 bird species, including eight endemic or near endemic. According to *Boada Terán* (2013: 84), the mammalian fauna is Amazonian with some Andean elements. He found 65 species alone in the tepuy-area of Las Orquídeas and listed a total of 147 mammal species for the Cordillera del Cóndor (*Boada Terán* 2013: 80).

3.2 Colonization processes and resource extraction in the study area

Politically, the Alto Nangaritza (*Fig. 1*) is comprised of the rural parishes (*parroquias)* of Zurmi and Nuevo Paraíso in the Nangaritza Canton of Zamora Chinchipe Province. The population of the Canton is approximately 5200 (*INEC* 2010). Most inhabitants live in and around the capital Guayzimi and in Zurmi outside the Alto Nangaritza area (*CINFA* et al. 2003: 30). In the Canton Nangaritza, around 30 percent of the population is Shuar, 60 percent Mestizo, and 10 percent Saraguro (cf. *CINFA* et al. 2003).

The Shuar are the traditional inhabitants of this area. Following the thermal differentiation by *Richter* (2003), they inhabit the *"tierra caliente"* ("hot land" below 1100 m a.s.l.). Like other Amazonian cultures, their traditional subsistence system is based on a combination of home gardens, slash and burn cultivation in forest gardens, and the extraction of resources from the forest. During the last few decades, the Shuar of the Alto Nangaritza have entered the market economy through logging, ranching, and the small-scale production of cash crops (cf. *Pohle* et al. 2010). Advised by missionaries, the Shuar transitioned during the 1960s from their traditional scattered settlement structure to new Shuar villages called *centros*, which were easier to defend from colonist invasion. They then began to establish pastures and raise cattle, as the Agrarian Reform and Colonization Acts called for forest to be cleared to demonstrate land occupation and land use as a prerequisite for titling (*de Janvry* and *Glikman* 1991: 165). Their first settlement, Shaime, was legalized in 1976.

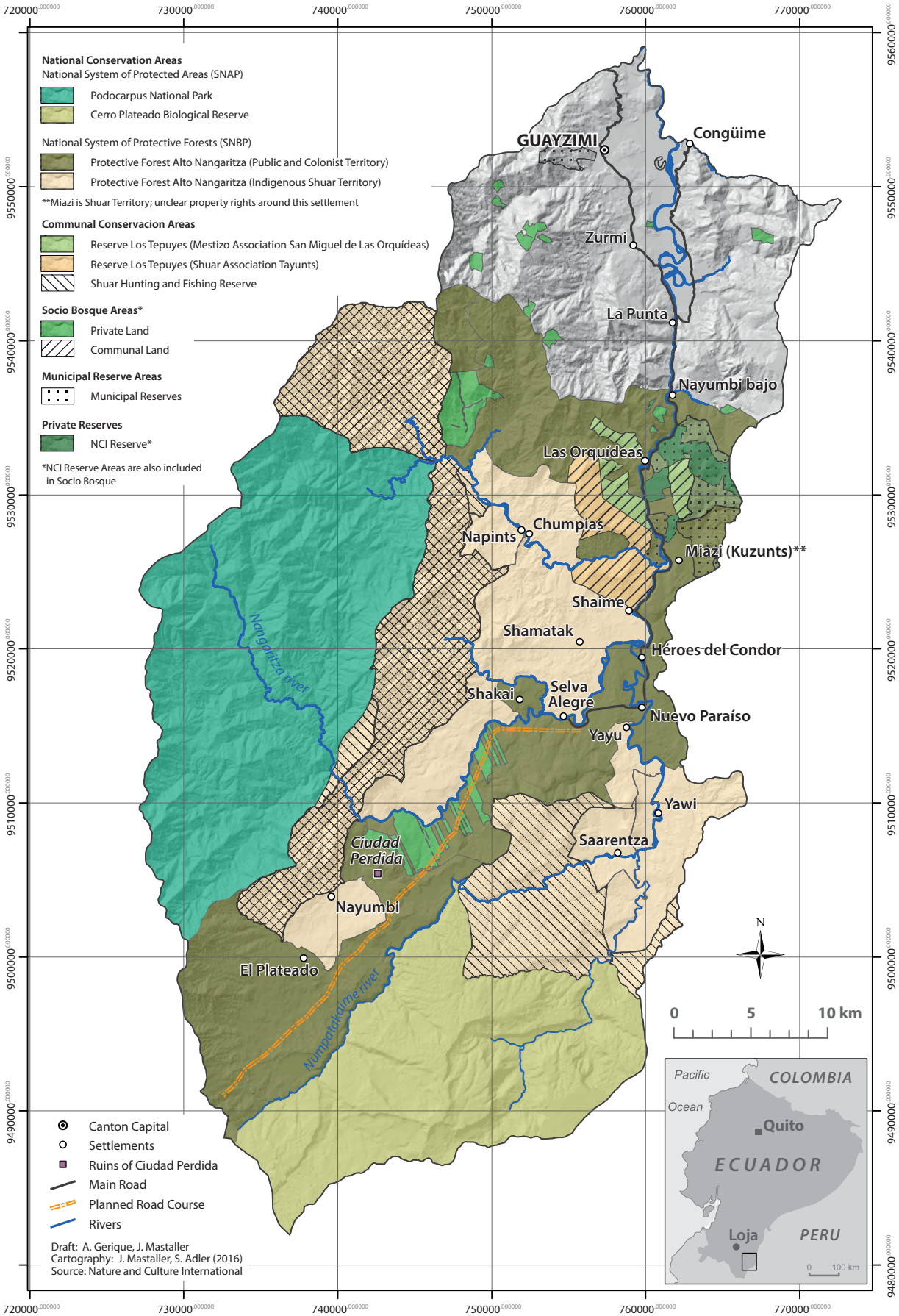

Fig. 1 The Alto Nangaritza and its conservation areas. Source: Own elaboration

The Spaniards began the colonization of this territory in 1541. After a short cohabitation with the Shuar, the scarcity of human resources and a Shuar rebellion ended with the abandonment of the Spanish settlements (*Arias Benavides* 2004: 80). The remains of *Ciudad Perdida* (lost city) are witness of those times. During the next three centuries, the area remained practically isolated. It was not until the first decades of the 20th century that Mestizo adventurers explored the region searching for gold (cf. *Serrano Calderón de Ayala* 1995). The defeat of Ecuador during the Ecuadorian-Peruvian war of 1941 transformed the Alto Nangaritza into an international border zone between both countries. In the following decades, Mestizo settlers from southwestern Ecuador moved into the area and invaded Shuar territory through spontaneous colonization. Besides working in cultivation and raising cattle, the Mestizo newcomers were timber loggers or worked as middlemen between the Shuar and merchants. The Colonization Acts of 1954 and 1977, the Agrarian Reforms of 1964 and 1973, and state-led programs such as PREDESUR increased the arrival of settlers, as they promoted grants of public land to colonists and agricultural production (cf. *de Janvry* and *Glikman* 1991). A severe drought in 1968 in southwestern Ecuador accelerated this process (*Hocquenghem* 2004: 40). In the 1980s, some Saraguro families settled in the area to raise cattle. The Saraguros are a Quechua indigenous group from the highlands or *tierra fría* ("cold land" 2200 - 3800 m a.s.l., cf. *Richter* 2003) of the Loja Province, where the cultivation of corn and cattle ranching is a major part of their economy. Most of them live raising cattle in the Mestizo-Saraguro settlement of Nuevo Paraíso or in Nuevo San Lucas, close to Las Orquídeas. A few families live in the Centro Shuar Miazi, where they are fully integrated.

In 1981 and 1995, brief armed conflicts took place between Ecuador and Peru. After the definitive peace agreement of 1998, the Ecuadorian Government promoted infrastructure in the Alto Nangaritza (*Jiménez* 2010: 22). In 2002, a road to Las Orquídeas was constructed; until then the Nangaritza River had been the transportation route. As in other Amazonian regions (cf. *Gray* et al. 2008; *Coy* and *Neuburger* 2008), the road enabled the extraction of commodities such as agricultural products, timber, and silica sand for the national markets. In 2015, the road reached Selva Alegre, a Shuar settlement.

The extraction of gold from the auriferous sands of the Alto Nangaritza banks has been marginal until today. In 2006, the first serious attempt at gold prospecting failed due to the resistance of the Shuar, who took arms to expel trespassing miners (*Gerique* 2011: 42). In 2008, Ecuador's new constitution declared mining as a strategic sector, and in 2009, a new mining law was passed to allow the Government to control mining more directly and to increase the shares of profit for investment in social policies (*Sacher* and *Acosta* 2012). This law supports mega mining projects run by international companies to the detriment of local artisanal miners and allows for the exploitation of natural resources in conservation areas if the government declares the project strategic (cf. *Eguiguren Ríofrío* and *Jiménez Lozano* 2011). In 2010, in Congüime, a settlement north of the Alto Nangaritza (*Fig. 1*), the police and military forces moved illegal miners away who had leased land from the Shuar inhabitants. Currently, some small companies are exploiting these gold sands legally. Moreover, two strategic mining projects take place in Zamora Chinchipe Province. One of them, the Chinese-run Mirador project, is well advanced. It also lies in Shuar territory, less than 80 km away from the study area. The Mining Act was modified in 2013 to accelerate the environmental impact assessment of such strategic projects (*Registro Oficial del Ecuador* 2013: 1).

4. A political ecological analysis of territorially-based conservation policies and conflicts

4.1 The history of nature conservation in the Alto Nangaritza

Nature conservation did not become a central issue in public policy intervention in Ecuador until the mid-1990s. With the creation of the Ministry of the Environment in 1996, a series of laws and policies were developed through the framework of global environmental agendas, including the Convention on Biological Diversity, the Agenda 21, and the Kyoto Protocol (*Estrella* et al. 2005). Legal instruments and action plans to implement biodiversity conservation followed, such as the Act of Forestry and Conservation of Natural Areas and Wildlife (1999), the Strategy for Sustainable Forest Development (2000), the first National Strategy of Biodiversity (2001-2010), and the National Strategy on Climate Change (2006).

In this context, nature conservation in southern Ecuador did not gain relevance until 1997, when the Embassy of the Netherlands launched the Podocarpus Program, an

action plan to support buffer zones around the Podocarpus National Park (PNP), which had been established in 1982 and still was the only National Park in southern Ecuador. The Podocarpus Program recommended the establishment of a protective forest in the Alto Nangaritza to prevent an influx of Mestizo and Saraguro colonists and mining companies. The Protective Forests (bosques protectores) are dedicated to the conservation of water sources, soils, flora, and fauna, and allow certain uses such as sustainable agriculture and the use of forest resources (*Pilco* et al. 2008). The Protective Forest Alto Nangaritza (PFAN) was established in 2002 through the support of the Programa Podocarpus, the Association of Centros Shuar Tayunts (ACST) – which represented the Shuar *centros* of the Alto Nangaritza, the regional NGO Arco Iris, and the Municipality of the Canton Nangaritza (*FEPNASH-ZCH* et al. 2008: 4). This decision led to a major conflict that was resolved through the revision of the PFAN borders and the involvement of local actors in nature conservation through the establishment of the Colonist–Shuar Los Tepuyes Reserve, which was created in a contested area between both groups (cf. Ch. 4.2).

In 2007, UNESCO officially declared the Biosphere Reserve Podocarpus-El Cóndor (BRPC) after a process initiated by regional and national authorities, with the support of the Universities of Loja and Nature and Culture International (NCI), a U.S.-based conservation NGO with offices in southern Ecuador (*FEPNASH-ZCH* et al. 2008: 11). Biosphere reserves promote solutions reconciling the conservation of biodiversity with its sustainable use and logistic support; they are subject to state legislation and incorporate the existing national conservation categories, combining core areas with zones where sustainable development is fostered by local people (cf. *UNESCO* 2016). The Biosphere Reserve included the National Park as its core area and the Protective Forest as a buffer zone. The second core area is the Biological Reserve Cerro Plateado (BRCP), established in 2010 by the Ecuadorian authorities, and located in the outermost section of the Alto Nangaritza (*Registro Oficial del Ecuador* 2010).

In 2008, the National System of Protected Areas (Sistema Nacional de Áreas Protegidas, SNAP) was reorganized. Until then, it included only state owned natural areas such as National Parks and Biological Reserves. Since then, they are one of four subsystems. The newly added subsystems are: areas declared by local and regional governments, community based conservation areas, and private conservation areas. Until now, only a few local government reserves have been registered (none of them in the Alto Nangaritza), while the last two subsystems exist only in theory. Protective forests are not included in the SNAP (SNAP n.d).

In the same year, Socio Bosque was launched as a governmental forest conservation program, and part of the Ecuadorian REDD+ strategy. The program's specific objective is to support climate change mitigation through forest conservation and poverty alleviation. This is accomplished by providing payments per hectare to individuals, as well as indigenous and local communities, in exchange for their commitment to protect forests for at least 20 years (*de Koening* et al. 2011). The forest remains in communal or private hands, yet is subject to the program's conservation requirements. For the purposes of this study, we consider Socio Bosque to be a mixed governmental and private conservation category. In the Alto Nangaritza, the first individuals signed an agreement with Socio Bosque in 2009. The Shuar Association (ACST) and the Association of Autonomous Workers of Las Orquídeas (ATASMO), registered the Los Tepuyes Reserve in Socio Bosque in 2014. Two-thirds of the Shuar Hunting and Fishing Reserve (20,000 ha) were also registered. In 2013, the NGO NCI created a series of small nature reserves in the Alto Nangaritza as part of a future faunal corridor to protect highly endangered riparian vegetation and fauna. These conservation areas have also been registered in Socio Bosque. In the same year, the Municipality of Nangaritza declared Municipal Reserves to protect water sources and water courses (*Registro Oficial del Ecuador* 2013: 12). The NCI conservation areas also belong to these reserves. As shown in *Figure 1*, conservation policies resulted in a complex mosaic of overlaying categories of nature reserves managed by many actors: national and local authorities, local communities, NGOs, and individuals. *Table 1* identifies their main characteristics.

4.2 Conservation types and conflicts

Political ecological literature divides the historical evolution of the territorially-based conservation policies into three types: "fortress conservation," different forms of "co-management conservation," and "neoliberal conservation" (*Vaccaro* et al. 2013: 256 and literature within). The first type requires a "strict spatial segregation of human and non-human" (*Neumann* 2015: 392). "Co-management conservation" emerges because of the failure of the first type; in other words, it rejects the idea of people-free parks

and adopts policies that accept human use and habitation inside protected areas, and entails a co-managed governance involving local actors. An increased disenchantment with the results of the latter (cf. *Rudel* 2005: 165) opened the door to "neoliberal conservation." It assumes a market-dominated "quasi-fortress" model of policy, and includes the concentration of capital, science, and political power in private hands (*Vaccaro* et al. 2013: 257). Although these policies emerged in different moments, they can coexist in time or succeed each other depending on the decisions of the protected area management.

The establishment of the Podocarpus National Park (PNP) in 1982 was a typical example of "fortress conservation" policy. The lack of communication between conservation authorities and local population did not provoke any conflicts in this sector of the National Park, as no competition for land or resources existed: this area has apparently never been inhabited due to its mountainous character, rough climatic conditions, and very limited accessibility. In contrast, the declaration of the Protective Forest Alto Nangaritza (PFAN) in 2002 provoked the most significant conservation conflict in the area. In March 2004, Mestizo colonists revolted against the PFAN and kidnapped a group of environmentalists of the NGO Arco Iris. They were locked up in the primary school of Las Orquídeas for three days together with the Shuar president of the ACST, who was kidnapped on his way back from a meeting. The mediation of the priest of Guayzimi was not successful, hence tension and concern mounted until the arrival of the governor of Zamora Chinchipe with a large police contingent, who negotiated a peaceful end to the revolt. All parties composed and signed an agreement; the environmentalists were liberated after agreeing to conduct no further studies or workshops in the area. For their part, authorities agreed to make all necessary arrangements to revoke the declaration of the Alto Nangaritza as a Protective Forest (cf. *Dumas* 2006).

Table 1 An overview of the different types of conservation categories in the Canton Nangaritza. Source: Own elaboration

	Name of the reserve	Established	Total area (ha)	Land property rights	Restrictions and uses
Government Areas	Podocarpus National Park (PNP)	1982	38,968 (of a total 144,993)	Public, belongs to SNAP*	IUCN Category II, restricted to scientific and touristic uses
	Biological Reserve Cerro Plateado (BRCP)	2010	26,114.5	Public, belongs to SNAP*	IUCN Category Ia, restricted uses
	Protective Forest Alto Nangaritza (PFAN)	2002 modified in 2006	128,867 105,887	Public, private and communal	IUCN Category VI, conservation and sustainable agricultural and forest uses
Mixed	Socio Bosque Areas	2009	23,735.2 (3,735.2 are individual titles)	Private and communal	Restricted uses according to governmental Socio Bosque Program focused on forest protection
Non-government areas	Los Tepuyes Reserve	2014	2,745 (Shuar) 1,486 (Mestizo)	Communal**	Conservation, nature tourism and scientific uses
	Shuar Hunting and Fishing Reserves	2005	30,500	Communal**	Hunting and fishing allowed (only Shuar)
	Municipal Conservation Areas of the Canton Nangaritza	2013	5,032	Public and private**	Water management, reforestation and research activities allowed
	NCI Private Conservation Areas	2013	1,164	Private**	Conservation, nature tourism and scientific uses

* SNAP: Sistema Nacional de Áreas Protegidas, National System of Protected Areas. Conservation areas owned and managed by the State.

** Although these reserves are fully operational, none of these areas have been included in the SNAP until today.

We have omitted the UNESCO Biosphere Reserve Podocarpus-El Cóndor as Biosphere Reserves are not a management category in their own right, but an international designation (cf. *Bridgewater* et al. 1996). Data sources: Naturaleza y Cultura Internacional (personal communication 2016), *Registro Oficial del Ecuador* 2013: 14, SNAP n.d.

The conflict was finally resolved thanks to a mediation process led by the Ecuadorian NGO Futuro Latinoamericano, specialized in conflict resolution, and the regional office of the Ministry of the Environment, along with an expert of the German Development Service DED (*Dumas* 2006: 29). Settlers who had occupied land inside the protective forest before 2002 had their land titles legalized. Two Shuar hunting and fishing reserves (30,500 ha) and one communal forest reserve were created inside the new protective forest (128,867 ha). The Shuar Hunting and Fishing Reserves are under communal management and are for Shuar use only. The Colonist-Shuar Reserve Los Tepuyes was divided into two areas: one (1,486 ha) managed by the Association of Autonomous Workers of Las Orquídeas (ATASMO) and the other (2,745 ha) by the Association of Centros Shuar Tayunts (ACST). Since then, the reserve has increased local interest in nature conservation and improved the Shuar-Mestizo inter-ethnic relations by dissipating distrust and clarifying ownership boundaries (*Photo 1* and *2*). In 2014 the Ministry of the Environment assigned the property rights of these areas to the associations. Because of the negotiation process, the positions and interests of Shuar and Mestizo settlers gradually aligned with land legalization.

The Cerro Plateado Biological Reserve was the result of a process that started in 2002 with the management plan of the PFAN by the Ministry of the Environment and the NGO Arco Iris. In 2008, when the situation in the Alto Nangaritza normalized, these actors informed the Shuar of their intention to create a state conservation reserve in this area. The Shuar considered the area ancestral land and opposed the motion; with the support of the NGO NCI, they countered by proposing an indigenous communal natural area, a legal concept foreseen in Ecuadorian conservation law (cf. *ACST* and *FEPNASH-ZCH* 2008). After a series of meetings with all parties, national authorities finally declared the area a biological reserve under the unique management of the Ministry of the Environment. This new example of "fortress conservation" and of uneven power relations increased the Shuar's lack of trust in the environmental authorities.

The Socio Bosque Program is a "neoliberal conservation" instrument, as is based on the commodification of forests inside a specific area. In the Alto Nangaritza, the program was accepted quickly. Officers of the Ministry of the Environment visited the area to promote the program and to help complete the registration forms. During the interviews, we witnessed a high level of support among participants. The Shuar centros on the left bank of the Nangaritza River joined the program to obtain benefits from the protection of their forests. In a meeting with leaders of these centros, the few complaints revolved around the low level of incentives per hectare and especially the lack of training in how to deal with bureaucracy, and financial control. On the contrary, the centros on the right bank refused the program and created their own association, apparently influenced by the conflict between the Ecuadorian indigenous movement and President Correa's administration, based on their fear of losing control over the land again. We detected more latent conflicts related to Socio Bosque.

Photo 1 and *2 Two signs as a symbol of change. The first one shows the opposition of the Mestizo settlers of Las Orquídeas to the establishment of the Protective Forest Alto Nangaritza in 2005 ("The people and Las Orquídeas say NO to the Protective Forest"). The second one was put up in 2007. It invites visitors to the Colono-Shuar Conservation Area of Los Tepuyes and is signed by the local Mestizo and the Shuar associations and the Ecuadorian Ministry of the Environment. Source: Adapted from Gerique 2011: 253*

Some colonists who did not participate complained about an increase in the population of jaguars due to the abandonment of agriculture in farms that had been registered in the program. A real basis for this assertion is improbable; however, it should not be taken lightly, as jaguars play an important role in the collective imagination of cattle ranchers (cf. *Zimmermann* et al. 2005). Another conflict that emerged was related to a group of non-place-based Mestizos who own land in the Alto Nangaritza but do not live there. These landowners formed a cooperative to speculate with land, as the arrival of the road will most likely raise their property values. This group has basically entered the program for profit. They complained about a struggle with neighboring landowners who allegedly steal timber from their properties. Local Mestizo colonists suggested that cooperative members were extracting the timber illegally. More recently, late payments of Socio Bosque incentives due to insufficient financial liquidity of the State are provoking unrest among the participants.

4.3 The underlying reasons for past, present, and future struggles

Following the guidelines of the *FAO* (2000: 6), we identified a set of reasons for past and present conflicts:
(1) Poor identification and inadequate consultation of stakeholders took place during the declaration of the Protective Forest Alto Nangaritza (PFAN). As *Jiménez* (2010: 24) remarked, only local leaders were informed by the non-place-based actors, who assumed that the leaders' approval was equivalent to the support of all the inhabitants.
(2) Conservation policies were imposed without the participation of local actors. The decision regarding the establishment of the Protective Forest was made far away from the affected area. The process showed a lack of active and sustained participation that led to uncertainty and distrust among local actors, especially among the colonists. In the case of the Biological Reserve (BRCP), the NGO Arco Iris and the conservation authorities did not make the same mistakes as in the first case, but identified stakeholders among the Shuar and involved them in the process. However, they acted on their own, rejected the idea of a co-managed Indigenous Conservation Area and forced the weaker party to accept the decision. The exclusion of the Shuar from the management of the BRCP revived a latent conflict between the Shuar on one side, and the conservation authorities and the NGO Arco Iris on the other side. *Burgmaier (*2013: 98) described the situation as a conflict due to "decision making patterns." In contrast, NCI has gained the trust of local inhabitants by acting *in situ* in the Alto Nangaritza, and by supporting the locals instead of assisting a non-place-based actor such as the Ministry of the Environment.
(3) There was very poor information sharing between non-place-based actors and place-based actors. In the case of the Protective Forest (PFAN), neither the Ecuadorian authorities nor the environmentalists sufficiently informed the Shuar and the colonists about the declaration and its consequences.
(4) In the case of the declaration of the PFAN, a lack of harmony and coordination between Ecuadorian law and legal procedures made the situation worse. As in other cases, the PFAN stimulated a demand for clarifying property limits and borders of the conservation area (cf. *Pohle* et al. 2010: 500 ff.). Local colonists claiming land titles encountered a problem: until the declaration of the PFAN, the National Institution of Agrarian Development (INDA) had been responsible for entitlement; after the declaration, entitlement was the legal jurisdiction of the Ministry of the Environment, because the Ministry was responsible for entitlement in protected areas and national forest patrimony. The jurisdiction problems forced many colonists to restart the process to legalize their land (*Jiménez* 2010: 22).
(5) The limited *in situ* control and monitoring capacity of Socio Bosque coordinators has sharpened mistrust between local and outsider colonists. Complaints by Mestizo and Shuar community leaders concerning the Socio Bosque bureaucracy suggest a latent conflict for the same reason.
(6) There was a lack of information and of effective mechanisms for anticipating conflicts during the establishment of the conservation areas. In the case of the Protective Forest Alto Nangaritza (PFAN), the situation coincided with a second conflict, namely the struggle for land between Shuar and colonists. The Shuar supported the PFAN as a barrier against colonists who were invading their domains (*Gerique* 2011: 42). They began to demarcate land as ancestral territory, reducing the area which settlers considered "empty" for colonization (*Jiménez* 2010: 22). These setbacks and the new formal limitations for frontier expansion and timber extraction generated fear among the colonists about their future, especially among those who did not have land titles. They kidnapped individuals of a group who they considered to have endangered their livelihoods, in order to send a signal to authorities and force the situation to change.

It was the colonists' way to compensate for the existing power imbalance between themselves and the alliance formed by the Shuar, the conservation authorities, and conservationists. In the case of the BRCP, authorities should have considered that a full rejection of the Shuar claims would provoke conflicts in the future, especially if other motivations for conflict already existed.

Table 2 summarizes the positions and interests of the main local actors of territorially-based conservation conflicts in the Alto Nangaritza following the scheme by *Engel* and *Korf* (2005). The last column shows that open conflicts have disappeared. Nevertheless, most of them persist as latent conflicts and could be the ignition mechanism of future open dissensions or clashes. Therefore, these conflicts should be monitored.

Table 2: Main actors (including their positions and interests) of conservation conflicts in the Alto Nangaritza. Source: Own elaboration

	Actors	Positions		Interests		Conflicts	
		Past	Present	Past	Present	Past	Present and future
Place -based actors	Shuar	Yes to Protective Forest Alto Nangaritza, no to Ecological Reserve Cerro Plateado	Yes to Los Tepuyes Reserve, support of Socio Bosque	Land control, titling	Control over land, titling, financial benefits, support of national indigenous movements	Invasions, conflicts with colonists	Latent conflict with conservation authorities and Ecuadorian Government
	Local Mestizo and Saraguro colonists	No to Protective Forest Alto Nangaritza	Yes to Los Tepuyes Reserve and tourism, support of Socio Bosque	Titling	Land control, financial benefits	Open conflicts with Shuar, NGO Arco Iris, and conservation authorities	Latent conflict with outsider colonists, Socio Bosque opponents and conservation authorities
	NGOs with "in situ" presence (NCI)	Support of Shuar Indigenous Reserve	Support of Socio Bosque, creation of private reserves to protect endangered ecosystems	Biodiversity conservation through indigenous and local peoples	Biodiversity conservation through indigenous and local peoples, faunal and "cultural" corridors	No conflicts (?)	Latent conflict with Socio Bosque opponents
Non place -based actors	NGO without "in situ" presence (Arco Iris)	Support of Protective Forest Alto Nangaritza and Ecological Reserve Cerro Plateado	This NGO is not operative in the Alto Nangaritza anymore	Biodiversity conservation	This NGO is not operative in the Alto Nangaritza anymore	Open conflict with colonists, later with Shuar	This NGO is not operative in the Alto Nangaritza anymore
	Mestizo landowners not living in the Alto Nangaritza	No to Protective Forest Alto Nangaritza	Support of Socio Bosque	Land titling	Land control, speculation, timber logging	Conflicts with Shuar, NGOs (Arco Iris), and conservation authorities	Latent conflict with locals and conservation authorities
	National authorities	Creation of Protective Forest Alto Nangaritza and Biological Reserve Cerro Plateado	Support of Los Tepuyes Reserve and Socio Bosque	State policies, land control	State policies, land control	Open conflict with colonists, later latent conflict with Shuar	Latent (?) conflict with Shuar

At a regional scale, latent territorially-based conservation conflicts in the Alto Nangaritza are connected to the development of infrastructure and resource use exploitation. The road that will cross the Alto Nangaritza is the main factor affecting the area. On one hand, it will allow better integration into the regional markets. On the other hand, it will accelerate the process of landscape alteration and habitat destruction. Regional economic interests are the driving forces behind the construction, as it increases the resale value of land (*Gerique* 2011: 211). A belated but growing opposition to the road is arising among the Shuar, as they fear the arrival of new colonists to the area and a loss of control over the land. If compared to the Shuar-miners conflict of 2006, it could be possible for this emerging conflict to escalate and turn violent in the future (cf. Ch. 3.2).

At the national level, the role of changing policies affecting spatial transformation appears as a root cause of the conservation conflicts in the Alto Nangaritza. *Figure 2* illustrates these changes: until the 1950s, the area had been almost ignored by the Ecuadorian State. A low population density minimized conflicts between the Shuar and the few Mestizo settlers (cf. *Serrano Calderón de Ayala* 1995). The interest of the State in supporting colonization processes and agriculture started in the 1950s and reached its peak in the 1970s and 1980s, bringing the first major conflicts, as Shuar and colonists began to compete for land. Some Shuar retreated to remote areas, while others resigned to their land use traditions and legalized their territories (*Gerique* 2011: 46). As forest clearing was a legal prerequisite for titling, both Shuar and colonists cleared more land than they could hold under production. Conservation was not in the political agenda whatsoever. During the 1990s and the 2000s, the focus of the State's policies changed. As described in Chapter 4.1, in just a few years, the Ecuadorian State created a Ministry of the Environment, signed different international conservation treaties, formulated sustainable development strategies, programs, and laws, and supported the creation of conservation areas. As shown in this chapter, the radical reorientation and the celerity of these changes provoked new or worsened existing conflicts. The extractivist path introduced by the Correa Government during the second half of the 2000s (cf. Ch. 2.2) could be the last turn of spatial transformation policies. In the future, mining will substitute oil as the main source of revenue of Ecuador (cf. *Sacher* and *Acosta* 2012), relocating territories under extractive pressure from the north to the south of the country. Zamora Chinchipe is the Ecuadorian province with the highest percentage of concessioned land for mining, namely 23% of the total area (*Sacher* and *Acosta* 2012: 45). Prospecting rights are granted for large areas of the Alto Nangaritza, including the area of Los Tepuyes Reserve, while the Mining Act of 2013 allows for the exploitation of natural resources in conservation areas. The large-scale project Mirador is a good example of what could occur. The extremely uneven power relations between local farmers (Shuar and Mestizo) who see their livelihoods under threat on one side, and an alliance of powerful actors (the Ecuadorian State and a Chinese transnational company) on the other side, has provoked violent conflicts and divisions in Ecuadorian society. Also, the project has been very controversial due to the deficiencies in the prior consent process, the acquisition of land, and the criminalization of resistance (cf. *Svampa* 2013, *Warnaars* and *Bebbington* 2014). The Alto Nangaritza could be the setting of a similar situation, depending on the international demand for gold, financial bottlenecks in Ecuador, and the uncertain results of national and international protests by conservationist movements.

5. Ecuadorian neoextractivism on the march. All in vain?

The analysis demonstrates how a lack of involvement of local people and coordination between stakeholders during the creation of conservation areas can provoke open conservation conflicts. As the positive example of the Los Tepuyes Reserve reveals, the participation of local communities and their empowerment is critical for the success of territorially-based conservation policies. Los Tepuyes represents one of the very few examples where colonists freely decided to declare a conservation area after being fought against. Consensus between actors was built by working towards common or compatible interests and not positions. Conservation needs partnerships with and between local resource users; it is not possible to protect resources without the cooperation of local communities.

Nevertheless, the analysis shows that hidden disputes still exist in the Alto Nangaritza. Some of them are once again related to operational difficulties by the conservation authorities, such as the unrest provoked by late Socio Bosque payments and the lack of support by the Socio Bosque Program.

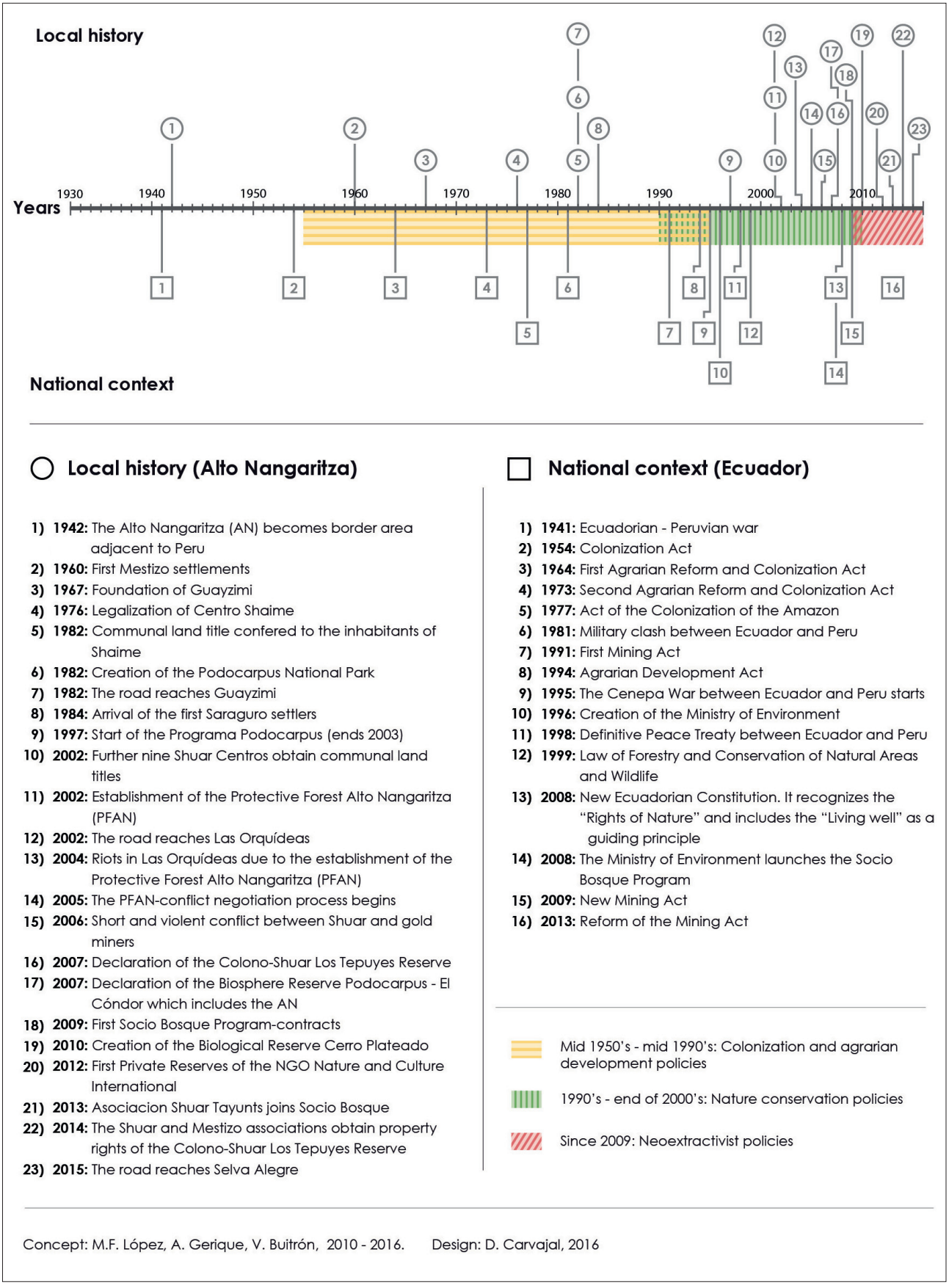

Fig. 2 Local history and national context of territorially-based conservation in the Alto Nangaritza. Source: Own elaboration

The recent opposition of the Shuar against the road holds significant conflict potential as well. These last two episodes should be monitored to prevent new open conflicts that could affect conservation in the future.

The results also show that the reorientation of national spatial transformation policies have provoked confusion and conflicts in the past. For this reason, the neoextractivist model followed by the current Ecuadorian government appears to be the most recent turn of guiding principles affecting the use of local resources and land appropriation. In southern Ecuador, this model is represented by large scale transnational mining companies. Considering recent experiences in neighboring areas and local conflict precedents, these companies pose the greatest challenge for local inhabitants and biodiversity conservation in the Alto Nangaritza. Their livelihoods and the successful conservation measures of the last decade are in great danger.

To dismantle this ticking bomb, the constitutional "rights of nature" and "living well" should discontinue being the official position of the Ecuadorian government discourse and become its official interest instead. A more honest and equal power relationship between resource extraction and conservation policies could be the first step in this direction.

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