

MAPPING AND ANALYZING ECOLOGICAL DISTRIBUTION CONFLICTS IN ANDEAN COUNTRIES¹

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Abstract

The extractive sector is increasingly important in the GDP and export basket of the four Andean countries under study (ACs) (Colombia, Ecuador, Peru and Bolivia). The analysis of an updated inventory of 296 environmental conflicts in the EJAtlas for these four countries reaches the following conclusions: extractivism causes environmental conflicts related to mining, fossil fuels, hydropower and biomass; indigenous, Afro-descendant and peasant communities are the most affected; behind the conflicts, there are not only environmental impacts but also social impacts that concern livelihoods, land deprivation and work insecurity, and also loss of cultural practices and cultural identity; most of the forms of collective action used in protests are peaceful, most notably petitions, street marches, media activism, lawsuits, while States and companies criminalize activists and are often violent (with about 75 cases in which there are deaths or disappearance of environmental defenders); socio-environmental movements (that sometimes include environmental NGOs) have achieved relative success, stopping 59 of the 296 conflict-generating projects and giving birth to new forms of resistance. While successfully stopping single projects cannot be construed as a general critique of economic growth, such attempts are congruent with post-development, community-centric, ecologically-balanced and culturally-sensitive Andean visions such as *buen vivir* or *sumak kawsay*. They are also congruent with policy proposals put forward from a post-economic growth perspective such as “leaving unburnable fuels in the ground” and “resource extraction caps”.

Keywords: Political Ecology; Materials Flow Analysis; Environmental conflicts; Environmental racism; Post-Extractivism; Post-Growth.

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1. INTRODUCTION

Our purpose is to reach conclusions from the analysis of many cases of environmental conflicts in the Andean countries in a framework of comparative, statistical political ecology drawing from three main concepts in ecological economics: “social metabolism”, “ecological distribution conflicts” and “valuation languages”. We delve beneath the surface manifestations of environmental conflicts related to mineral ores, hydroelectric dams, public infrastructures, biomass or fossil fuels extraction in order to uncover their material causes in the growth and changes in the social metabolism accompanied by changes in public policies and trends of the world economy. In Latin America (LA) and the Andean countries (ACs), a process known as reprimarization or neo-extractivism has grown in the last decades (Acosta-Medina, 2011, Azamar, 2017; Gudynas, 2009, 2010, 2013; Lander, 2014; Nadal, 2009; Slipak, 2013; Vallejo, 2010). As a consequence, there have been increased collective disputes over territorial rights, pollution and loss of ecosystems services.

Ecological distribution conflicts is a type of social conflicts not co-terminous with economic distribution conflicts on salaries vs. profits, land rents, prices of agricultural products, interest rates paid by debtors to creditors. In Ecological Distribution Conflicts (Martinez-Alier 1995, Martinez-Alier and O’Connor 1996), which is being distributed are the burdens of pollution and the access to natural resources and ecosystem services. Complaints on ecological distribution are often expressed in valuation languages (Martinez-Alier 2002) different from economic compensation for damages. Thus, in gold mining in Latin America complaints against water grabbing and water pollution are often expressed in the grassroots aphorism *El agua vale más que el oro*, meaning “water is more valuable than gold”. What is meant is not that 1 kg of water is

more expensive in money terms than 1 kg of gold but that water is more valuable than gold in other standards of value.

Primary specialization has generated a large literature in LA on the accumulation of capital based on the exploitation of natural resources, which has been denoted by various terms, including reprimarization, deindustrialization, extractivism and neo-extractivism. Reprimarization is understood as the reorientation of an economy's resources or productive profile towards predominantly primary-extractive activities with reduced added economic value (Slipak, 2014).

Reprimarization rejects the possibility of establishing one long-term scheme for the consolidation of those productive lines in which a country could become competitive through a dynamic process (Schuldt, 1994). In the name of "comparative advantages", specialization in primary producers is promoted, increasing environmental pressures (Pérez-Rincón, 2006, 2008). The volume of exported primary products increases, and structurally their prices are low compared to imported products. As often discussed in ecological economics, there is ecologically unequal exchange (Hornborg, 1998, Pérez Rincón, 2006, Hornborg and Martinez-Alier, 2016, Samaniego et al 2017). In the present article our focus is on the local effects and struggles around "extractivism" rather than on national policies to cope with negative terms of trade.

Recently, several authors note that from the 1990s on, AC and South America as a whole deepened the trend towards an extractivist or neo-extractivist model (Gudynas, 2009, 2013; Svampa, 2012; Acosta-Espinosa, 2012), applied by both "neoliberal" governments (such as in Colombia and Peru) and by "nationalist-popular governments" (such as those of Ecuador and Bolivia). The term "extractivism" can refer to all types of economic activities involving the

extraction of natural resources (Gudynas, 2013), including sectors such as mining, forestry, fisheries, the agro-industrial sector and infrastructure projects. Some activities transform the environment moderately, whereas others alter it beyond ecological and social thresholds (Sarmiento et al. 2017). In Ecuador and Bolivia there was a progressive “neo-extractivism” (Gudynas, 2009), allowing for a more active role of the State through greater control over natural resources and the benefits of their extraction. These activities finance social programs, ensuring new sources of social legitimacy and situating extractivism as an essential means for combating poverty and promoting “development”. However, many of the pathologies of traditional or neo-liberal extractivism (as in Colombia and Peru) are maintained in progressive neo-extractivism.

Regardless of their name, economic activities linked to the extraction and commercialization of natural resources with little added value and emphasizing the external market are linked to large social and environmental unpaid liabilities. As argued elsewhere in this issue (Abulut et al, 2018) the common ground that conjoins post-growth (or degrowth) and environmental justice is not merely a call for a reduction in social metabolism. It is also the pursuit of internal and international socio-ecological justice. Communities living at the commodity extraction frontiers lose ways and means of life, social networks, cultural structures and their customary rights over the common goods upon which they depend, and they complain accordingly in an “environmentalism of the poor and the indigenous” (Martinez-Alier, 2002). The expansion of the frontier often includes territories with great wealth in ecosystem services such as *páramos*, wetlands, tropical forests, mangroves, etc., which is why many environmental groups and institutions seek to defend those territories.

Externalities (which are more accurately seen as systematic “cost-shifting”, Kapp, 1950) are generated by changes in land use, the introduction of new extractive activities, changes in production technologies, the expansion of economic frontiers. This process contradicts the property rights, usufructs, activities pursuant to which these geographical spaces have been used by the local communities which become victims of the “coloniality of power” (Quijano, A., M. Ennis, 2000) and of “environmental racism” (Bullard, 1983, 1990).

Such conflicts can be seen as the manifestation of social contradictions in the human-nature relationship between two or more actors (communities, national private companies, foreign companies, non-governmental organization or the State) because of human activity that modifies the conditions of a place in terms of use of the environment. Such changes generate nonconformities that are manifested through vocabularies of protest or repertoires of collective actions of rejection such as marches, blockades, lawsuits, petitions to the authorities, etc.

The mobilized groups put forward different arguments that seek the conservation or preservation of nature and also the conservation of ethical, cultural and aesthetic values in their relationship with the natural environment, and the consideration of the environment as a provider of livelihoods for communities. In well known cases in Colombia and Ecuador, local indigenous communities (the U’Wa, the Sarayaku) anticipated the calls to “leave oil in the soil” or, equivalently, to leave the “unburnable fuels” underground. This became public policy for six years in Ecuador with the Yasuni ITT proposal, 2007-2013 (Vallejo et al, 2015). As we shall see below, there are currently many attempts in AC to stop mining and hydropower projects, and also oil palm plantations. Environmental conflicts lose their local character, generating a vast global movement for environmental justice (and for a less unsustainable economy) through participation

in networks that seek to visibilize and resist on broader territorial scales (Scheidel et al, 2018; Martinez-Alier, Temper, Del Bene, & Scheidel, 2016; Temper, Del Bene, & Martinez-Alier, 2015; Pérez-Rincón et al, 2018) developing a whole new vocabulary of environmental justice (Martinez-Alier et al, 2014). The EJAtlas itself (see below) is a product of this global movement for environmental justice and seeks to support it.

This article aims mainly to characterize the conflicts in the AC region, focusing on four countries only (Colombia, Ecuador, Peru and Bolivia). It is structured as follows. After this introduction, the methodology used to identify the extractivist process is presented in both chrematistic (monetary) and metabolic terms; evidence of conflicts will then be drawn from the EJAtlas for the four Andean economies studied. Then, the results of the analysis of conflicts, the discussion and the conclusions are presented.

2. MATERIALS AND METHODS

For the analysis of productive specialization and environmental conflicts in ACs, both quantitative and qualitative methodologies were used. Two major activities were performed: the construction of a database that includes economic and metabolic flow information and the inventory of environmental conflicts in the region.

Monetary statistics were taken from the Economic Commission for Latin America and the Caribbean (ECLAC) for the period 1990-2014. For the Material Flow database (MFA), the methodology developed by EUROSTAT (2013) was used. We worked with three extensive indicators: Direct Material Input (DMI), domestic extraction (DE) and material exports (X). The

DMI (DE + M) corresponds to all materials extracted from the national territory (DE) plus imports (M). All materials are measured in physical units of weight (Metric Tons), classifying them into biomass, mineral ores, building materials and fossil fuels. Based on the DMI, two intensive indicators were constructed: Intensity per capita (DMI /pop), which corresponds to the environmental pressure per inhabitant; and (DMI/km²), which relates the flow of materials and the land surface of the region to km² (Vallejo et al, 2011, Krausmann et al, 2015, Vallejo et al 2015).

The inventory of environmental conflicts for the ACs under study was obtained from the Atlas of Environmental Justice (www.ejatl.org), which started in 2014 with 920 cases and has reached 2500 cases worldwide by July 2018. The 296 conflicts analyzed in this article (Colombia: 122, Ecuador: 58, Peru: 76, and Bolivia: 40) were reported by researchers at Univalle (co-authors of this article) and also by various environmental NGOs, social activists, and academic groups and researchers, and collected in the EJAtlas. The process of building up the EJAtlas (filling in the 5 or 6 pages database forms, “moderating” the cases by revising the descriptions, checking the facts and sources, and in some cases updating the information) implies at least two or three days of work per case. The database forms have been filled in by teams of two or three persons with final moderation by the ICTA UAB group. The OCMAL inventory of mining conflicts of Latin America was used in the first years of this process, as also information from Oilwatch and other sources (such as Latorre et al 2015 for Ecuador, Raquel Neyra for Peru, 2017). (More details on the methodology of the EJAtlas are in Temper, Del Bene and Martinez-Alier, 2015)³.

³ An alternative way to understand the relationships between social metabolism and environmental conflicts could incorporate other, more complete methodological developments such as the Multi-scale integrated analysis of societal and ecosystem metabolism (MuSIASEM) (Giampietro, Mayumi, Ramos-Martín, 2009). On the relations between MF and Musiasem, cf. the article by Gerber and Scheidel (2018) .

Information about the conflict cases comes from public institutions, local activist groups, academics, companies' websites, and blogs, magazines and newspapers. Sources are quoted in the database forms, which are publicly available (www.ejatlas.org). The EJAtlas can be described as a large, purposive, expert-elicited sample of recent, visible, previously reported ecological distribution conflicts from around the world, with still uneven geographical coverage. The AC are well represented. Each database form contains the name and location of the conflict, a general description, and many coded variables on the commodities in question, the environmental, health and socio-economic impacts, the social actors and their forms of mobilization, and the outcomes of the conflicts. The forms also have a section on sources of information, and links to photographs and videos. The total number of environmental conflicts in the AC or in the world is of course not known. The EJAtlas is a growing incomplete inventory of relevant, conspicuous conflicts. It allows research on comparative political ecology that goes much beyond the single case study or the comparisons between two or three case studies as it is often practiced in political ecology.

Conflicts arise because of the growth and changes in the Social Metabolism, measured in this article in terms of Material Flows. Even a non-growing industrial economy would require new supplies of fossil fuels and other materials from the commodity extraction frontiers because energy is not recycled and materials are recycled only in part. The economy is not circular, it is entropic. There are therefore many resource extraction and waste disposal conflicts. Research based on the EJAtlas allows the analysis of resistance movements born from such conflicts and the networks they form across borders. The EJAtlas help to provide some answers to questions such as: Who are the social actors and victims in such conflicts, the vocabularies of protest and

the forms of mobilization and repression, the variables explaining the rates of “success” in achieving environmental justice and creating new alternatives?

3. RESULTS

3.1 ECONOMIC AND METABOLIC DYNAMICS OF ANDEAN COUNTRIES

Under the impetus of static comparative advantages and internal and external policy decisions, ACs emphasized their specialization in the production and export of natural-intensive goods. In monetary terms, and at the aggregate level of the four countries analyzed, the primary sector went from representing 64% of all exports in 1990 to 73% in 2014. This increase can be attributed partly to a decline in the share of manufactured goods, which went from representing 20% to 12%; that is, whereas additional value was once added to raw materials, now they are exported raw (CEPALSTAT, 2015).

The sectorial structure of the GDP of ACs also shows an increase in the primary sector since 1997, from 14 to 24% in 2014 (CEPALSTAT, 2015). This growth of primary GDP is attributable to the dynamics of the mining-energy sector, which changed the internal structure of the primary sector. Within the primary sector, whereas mining and energy grew its share of primary GDP from 54 to 74%, agricultural activity fell from 46 to 26%. This structural change also revealed a substantial de-industrialization process in ACs, reducing participation by the industrial sectors from 21 to 13% of GDP between 1990 and 2014 (CEPALSTAT, 2015).

In metabolic terms, Figure 1 shows the consolidated DMI of the ACs between 1970 and 2012 detailing each of the categories of domestic extraction (DE) and imports (M). In this period, the

DMI of the region increased from 342 million tons (MT) to 1,215 MT, with a growth of 3.1% annual average. Regarding the structure of the DMI, the majority is conformed by the Domestic Extraction (DE), which grew at an annual average of 3%. Although the weight of imports increased, their share remains small, from 1.7% of DMI in 1970 to 5.7% in 2012, showing the effect of the economic opening of the 1990s.

The domestic extraction (DE) of AC changed its internal structure in the period evaluated (Figure 1). The biotic sector that occupied 65% of extraction in 1970, fell to 30% in 2012. On the other hand, the abiotic sector increased its participation from 35 to 70%. The components that experienced the highest growth were minerals in general, which increased from 28 to 51%. Metallic and building materials that doubled their participation stand out, reaching 27% and 24%, respectively, in 2012; metallic materials are for export while building materials are mostly related to construction for the domestic market. The extraction of fossil fuels (oil, gas and coal) also increased from 7 to 18.5%. This is explained by the behavior of Colombia and Ecuador; the former increased extraction from 16 MT to 159 MT (coal and oil) and the second increased extraction from 1 MT to 28 MT (oil). When exports are examined, they grew at an average annual rate of 5.2%, above the growth of DMI and DE. These include fossil fuels and minerals that grew at a 7.8% and 2% annual average, respectively.

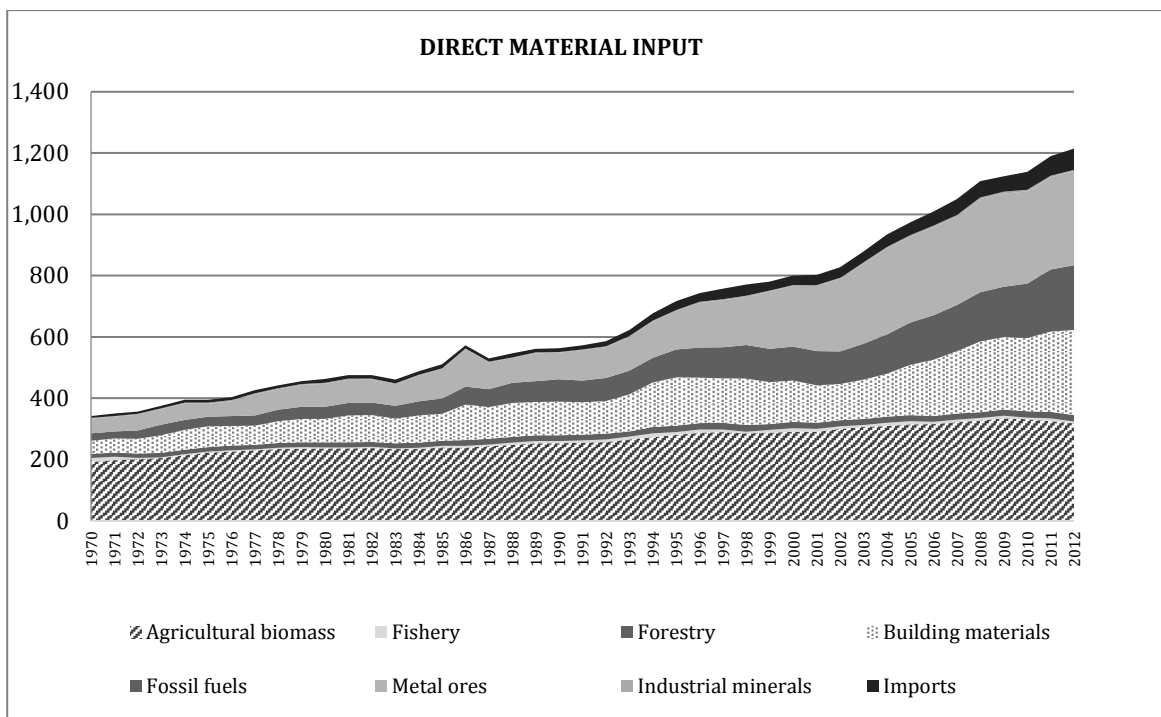


Figure 1. Direct Material Input (DMI) Four Andean countries (1970-2012)

Source: MESOCA-ANCA Project (UNIVALLE) - EJATLAS (ICTA-UAB)

There was “absolute materialization” and an increase in the scale of the Andean economies. The environmental pressures are reflected in the physical pressure on the territory (DMI/km²), which increased almost four-fold from 90.4 tons/km² to 321.2 tons/km² between 1970 and 2012. Growth occurred also with per capita material intensity (DMI/pc), which increased from 7.6 to 11.7 tons/pc.

3.2 THE CHARACTERIZATION OF ECOLOGICAL DISTRIBUTION CONFLICTS IN ANDEAN COUNTRIES

As of May 2017, 296 conflicts were reported in the EJAtlas for the ACs studied: 122 in Colombia,

58 in Ecuador, 76 in Peru and 40 in Bolivia (see Figure 2) which is roughly in proportion to the respective populations. Environmental conflicts are characterized according to the following topics: metabolic sectors, social impacts, affected groups, forms of mobilization, the repertoire of actions deployed in conflicts, and the outcomes of conflicts, including triumphs of environmental justice.

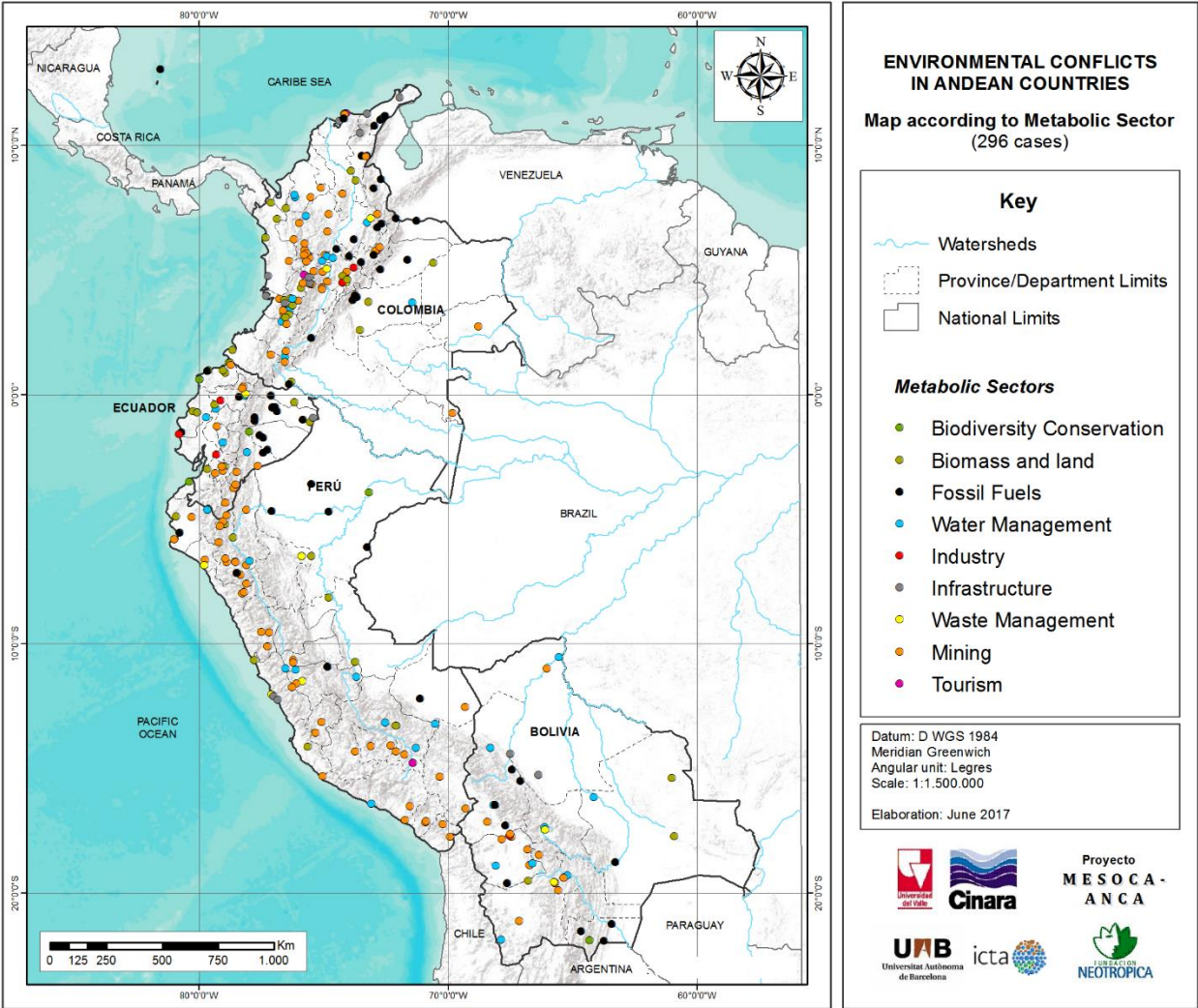


Figure 2. Map of environmental conflicts in the Andean countries

Source: MESOCA-ANCA Project (UNIVALLE) - EJATLAS (ICTA-UAB)

3.2.1 Metabolic sectors generate conflicts

When analyzing conflicts according to the metabolic sectors (Figure 3), we see that 37% of such conflicts relate to mining (111 cases). This sector is the largest generator of conflicts in Peru, Colombia and Bolivia, where they account for 58, 34 and 33%, respectively, of total reported conflicts. In Ecuador, mining is the third most common source of environmental conflicts, causing 21% of the reported cases (Figure 4), likely to grow in the next years. In Peru, large mining projects such as Yanacocha and Conga (gold mines), and Antamina, Tía María, Las Bambas (copper) stand out as generators of environmental conflict. In Colombia, mining conflict is expressed over legal, large-scale and foreign-owned mining (promoted since the end of the 1990s) and also on illegal mining in various areas that is prosecuted by the authorities⁴. In Bolivia, the conflicts of San Bartolomé and San Cristóbal in the department of Potosí are notable. These conflicts have even resulted in the relocation of municipalities despite the fact that they are cultural heritage areas, similarly to Cerro de Pasco in Peru.

⁴ The conflicts due to illegal mining are also present in Peru. For instance, there are severe socio-environmental impacts in the regions of Madre de Dios, Cusco, and Puno due to illegal alluvial mining (gold). These impacts increases radically after the construction of the IIRSA South highway that connects Brazil and Peru.

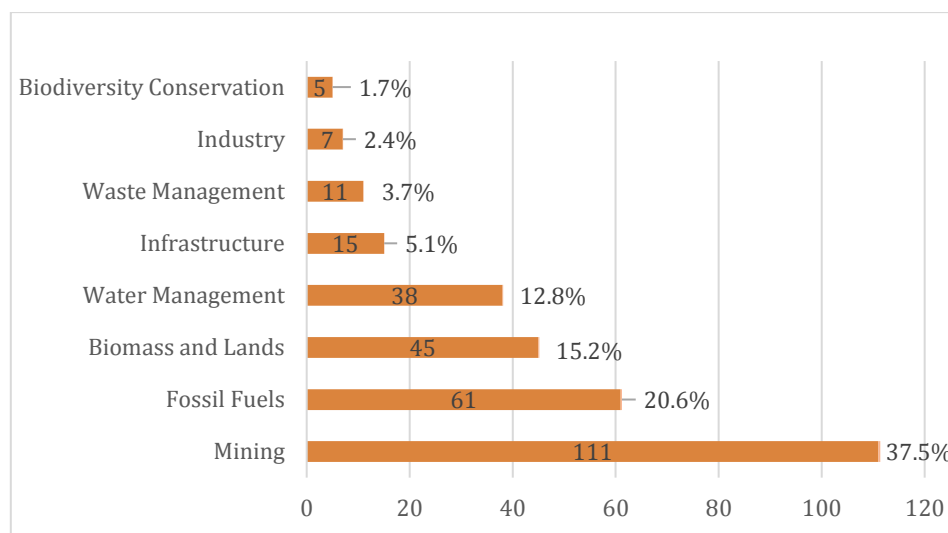


Figure 3. Environmental conflicts according to metabolic sector

Source: MESOCA-ANCA Project (UNIVALLE) - EJATLAS (ICTA-UAB)

The extraction of fossil fuels has become the second most conflict-generating activity (Figure 3), explaining 21% of the cases (61). In Ecuador, Bolivia and Colombia, this sector is responsible for 28, 23 and 23% of cases, respectively (Figure 4)⁵. In Ecuador, there are many conflicts associated with this sector, generated by both multinationals and the state oil company (Petroecuador). We highlight the notable cases of pollution produced by Texaco-Chevron and the opening of the Eleventh Oil Round by the Ecuadorian government in 2012. In Bolivia, oil explorations located in or near protected areas such as Aguajare and Pilon de Lajas are noteworthy. In Colombia, fossil fuel conflicts are related to oil and coal, such as the exploration of oil in the territory of the U'wa indigenous community and the large scale open cast extraction and railway transport of

⁵ Although proportionally, there are many more projects of metal ores extraction (copper, gold, zinc, etc.) compared to fossil fuels extraction ones in Peru, the extraction of fossil fuels is also critical in this country (see: Orta-Martinez and Finer, 2010). The magnitude of socio-environmental impacts are huge considering the area of influence and the vulnerability of indigenous people, as well as the biodiversity in the Amazon.

nearly 80 million tons of coal per year by El Cerrejón in La Guajira and by Drummond in Cesar which strongly impact the environment of the country's Atlantic Coast.

Conflicts over biomass and land are also relevant. In the four countries studied, this sector generates 15% of the cases (45) analyzed. In Ecuador, they represent 24%; in Colombia, they represent 16%; in Peru, they represent 12%; and in Bolivia, they represent 8% (Figure 4). Biomass conflicts are primarily related to agro-export sectors: in Ecuador, they involve forest plantations (pine by the Profafor company and eucalyptus by the Eucapacific company), shrimp (in the provinces of Esmeraldas and Manabí), and flowers (in Pichincha). In Colombia, there are intensive monocultures of oil palm (in the Pacific and Atlantic coasts and Los Llanos in the East), cane for the production of sugar and ethanol (Valle del Cauca), forest plantations (Southwest) and wood exploitation (Chocó). A similar dynamic occurs in Peru, with the cultivation of oil palm in the Amazon (Loreto and Ucayali) and crops for export in Ica. In Bolivia, the intensive cultivation of quinoa in the departments of Oruro and Potosí and of soy in Santa Cruz are highlighted.

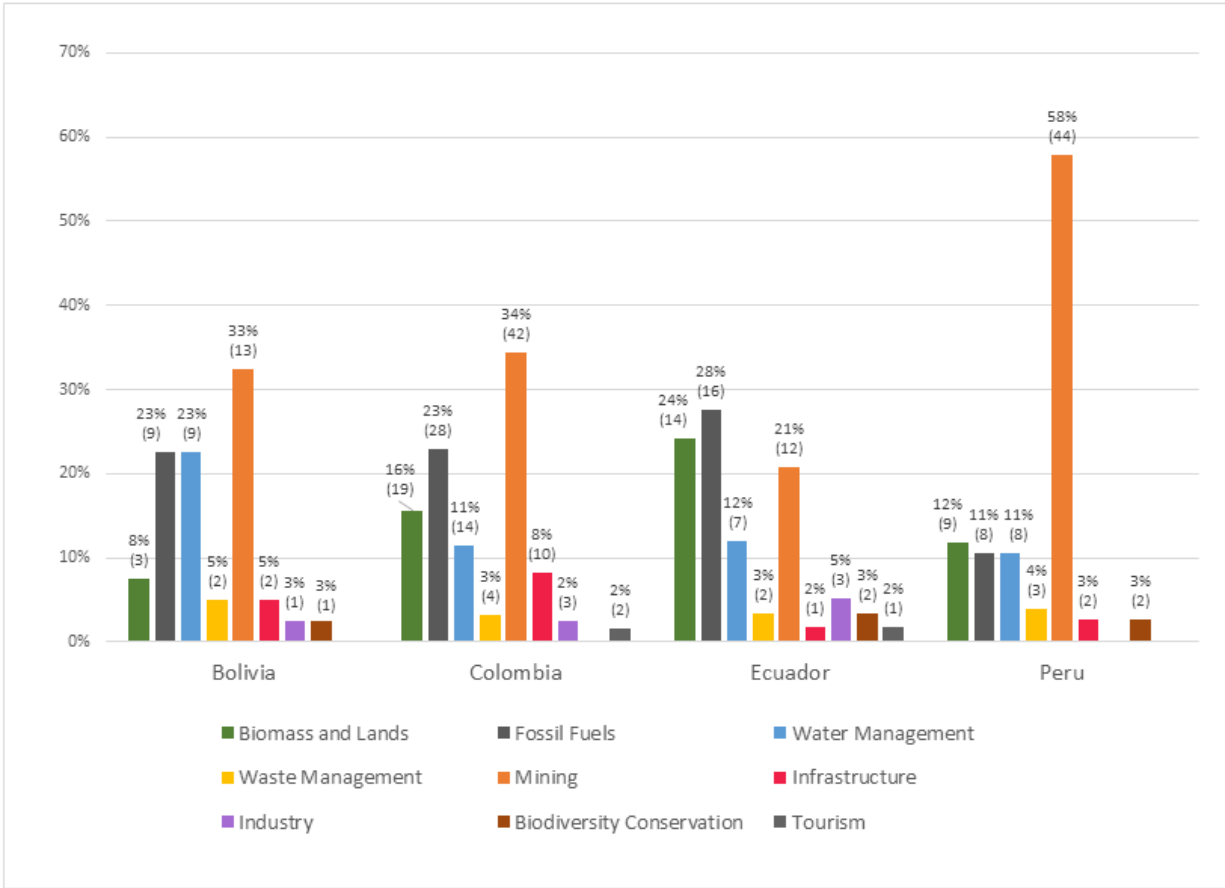


Figure 4. Environmental conflicts by country according to metabolic sector, Andean Region

Source: MESOCA-ANCA Project (UNIVALLE) - EJATLAS (ICTA-UAB)

Although material flow analysis leaves aside hydroelectric power, and also water as a material, there are important conflicts on water use and management, representing 13% (38) of cases (Figure 3)⁶. Worldwide, many water conflicts arise from the growth of hydropower (Del Bene et al, 2018). The generation of hydropower has increased in the four countries analyzed by 11% annual average, going from 16,974 MW in 1970 to 110,475 MW in 2016. In Colombia from

⁶ Notice that water flows are not included in MFA, because they are one or two orders of magnitude larger than the MF. Notice also that a parallel Accounting of Energy Flows can and should be done to have a full picture of the Social Metabolism, but it is not done here for the sake of brevity. Production of electricity from coal, oil and natural gas is anyway indirectly reflected in the Material Flows, but not the electricity from water power (nor from wind power, or photovoltaic). There are many conflicts in AC because of hydroelectricity and also a few from wind energy - which are expressed as conflicts on land grabbing or land acquisition.

9.028 MW to 55.985, in Peru from 5.035 to 31.81, in Ecuador from 474 MW a 20.848 MW. In Bolivia it had a small decrease from 2.437 to 1.812 MW, perhaps explained by the rapid growth of natural gas extraction as a substitute source of energy (Source: OLADE-sieLAC, <http://sielac.olade.org/consultas/tablero-evolucion-energeticos-flujos.aspx?or=605&ss=2&v=3>).

Water conflicts are very relevant in Bolivia, where water is responsible for 23% of the country's recorded conflicts. In Ecuador, Colombia and Peru, water is involved in approximately 12% of cases, largely because of the construction of new dams to generate energy. The most noteworthy water conflicts in Bolivia include the Water War in Cochabamba and the El Bala (Chepete) and Cachuela Esperanza hydroelectric plants, the largest of conflictive projects for export of electricity to Brazil; in Ecuador, the Baba Project, Hidrotambo, Rio Grande and Daule Peripa; in Colombia, El Quimbo, Urrá, Hidrosogamoso and Hidroituango and an important conflict for the construction of a supply system on the Pance River for the city of Cali (Pérez-Rincón et al, 2014); and the dams on the Ocoña River, Sallca Pucará, and Santa Teresa II in Peru (Pérez-Rincón et al, 2018).

Other sectors, such as infrastructure, generate 5% (15) of the inventoried conflicts, where Colombia stands out with its construction of roads and ports for export. The waste management sector creates only 4% (11) of the total reported conflicts. These relate in particular to the location and management of landfills and, in the case of Peru, to mineral processing plants. Other industry represents only 2% (7) of the registered conflicts, with the production of cement and meat products.

3.2.2 Social impacts

Environmental conflicts arise when a new economic activity interrupts the practices established in a territory, implying effects on resources, the ecosystem and the livelihoods and cultural parameters of the local populations. According to the EJAtlas, social impacts were identified according to the categories shown in Figure 5, which can be classified into material, immaterial, violent and other. One single conflictive project can have different events. The first group includes the deterioration of livelihoods, which is the primary cause of conflict (present in 245 of the 296 cases); the dispossession of land as a secondary effect (174 cases), along with the loss of food sovereignty (in 127 conflicts). Among the intangible impacts, the loss of cultural practices stands out, which is present in 198 of the 296 cases, along with the loss of cultural identity (100 cases). The impacts associated with violence and human rights are also significant: displacement (159 cases), human rights violations (154), militarization (119) and violence (115). To a lesser extent, other types of impacts have been recorded, including corruption (139), specific impacts on women (82) and alcoholism and prostitution (52).

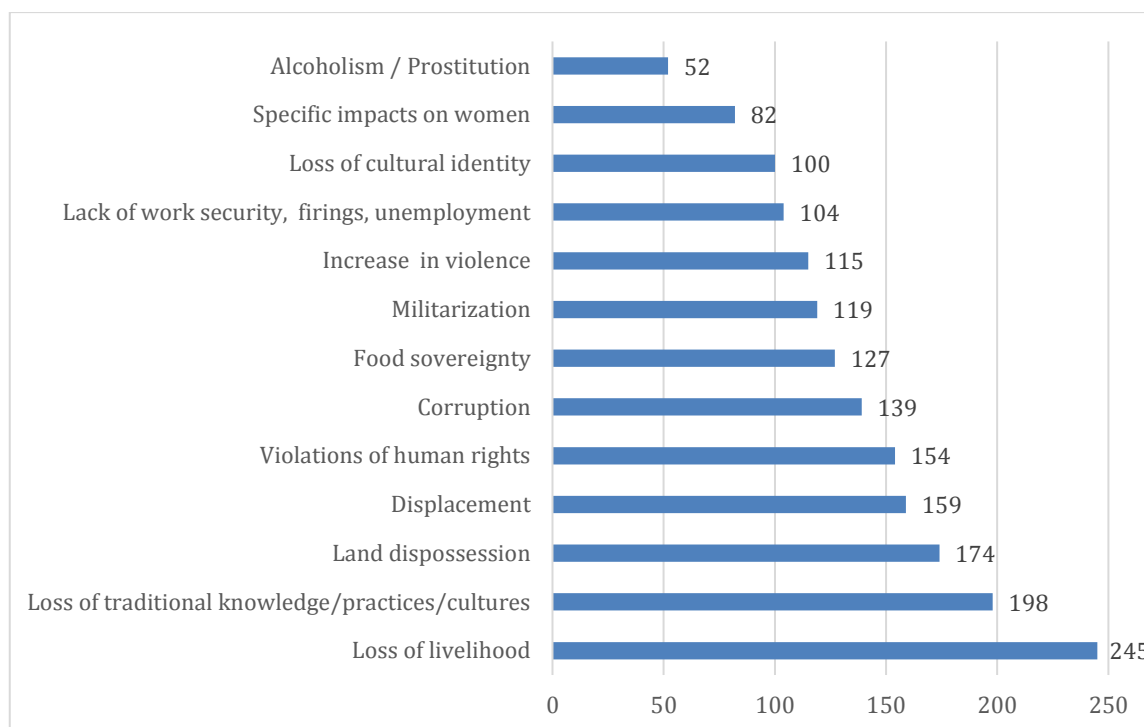


Figure 5. Main social impacts generated in conflicts

Source: MESOCA-ANCA Project (UNIVALLE) - EJATLAS (ICTA-UAB)

3.2.3 The groups affected and mobilized

The environmental and social impacts of conflict-generating activities disproportionately burden specific groups of the population. According to the EJAtlas, these groups include people that engage in specific economic activities, including peasants, fishermen, company workers, artisanal miners and shepherds. They also include ethnic groups such as indigenous communities and Afro-descendant populations; groups that are related to the place where they live, such as the urban population; and groups who engage in temporary recreational enjoyment, such as tourists.

In Figure 6, we can see the primary human groups affected. In one single conflict several groups may be affected. Peasants are present in 181 of the 296 cases analyzed⁷. The next most affected group is Indigenous communities, who are present in 162 cases. Urban inhabitants are present in 139 conflicts; the total number of people affected in this group is larger because of its population density. Much of the damage to groups living in urban areas is transferred through environmental vectors (water, air) that shift impacts from the rural to the populated centers. These groups are followed by fishermen (67), company workers (41), artisanal miners (39), Afro-descendants (36), tourists (34) and pastoralists (29).

When we consider the number of cases involving ethnic communities (indigenous and Afro-descendant), a hypothesis of “environmental racism” in the region could be put forward (Bullard, 1983, 1990). In 198 of the 296 cases of conflicts reported, either indigenous or Afro-descendant communities are affected. This is 66% of all inventoried cases, a ratio higher than for the EJAtlas as a whole and also higher than the proportion of such populations in the AC populations censuses. In Colombia, examples of affected indigenous communities include the Wayúú; the U'wa territory and the exploration of the Oxy; the Embera-Katio and the Urra dam, among others. In the case of the Afro communities, we highlight the exploitation of the forest in Bahía Solano, the exploration of hydrocarbons in San Andrés Islands, mining activity in Suárez and the Bajo Anchicayá hydroelectric plant.

⁷ In many cases, Andean peasants or “campesinos” (Quechuas, Aymaras, among others) must be included a part of the ethnic communities. Their agriculture livelihoods and cultural traditions are typically in conflict with large-scale mining projects. Moreover, there are (sometimes) discussions on the “indigenous status” of these communities in order to be included in the extractive projects (mining) consultations based on the 169 OIT Convention.

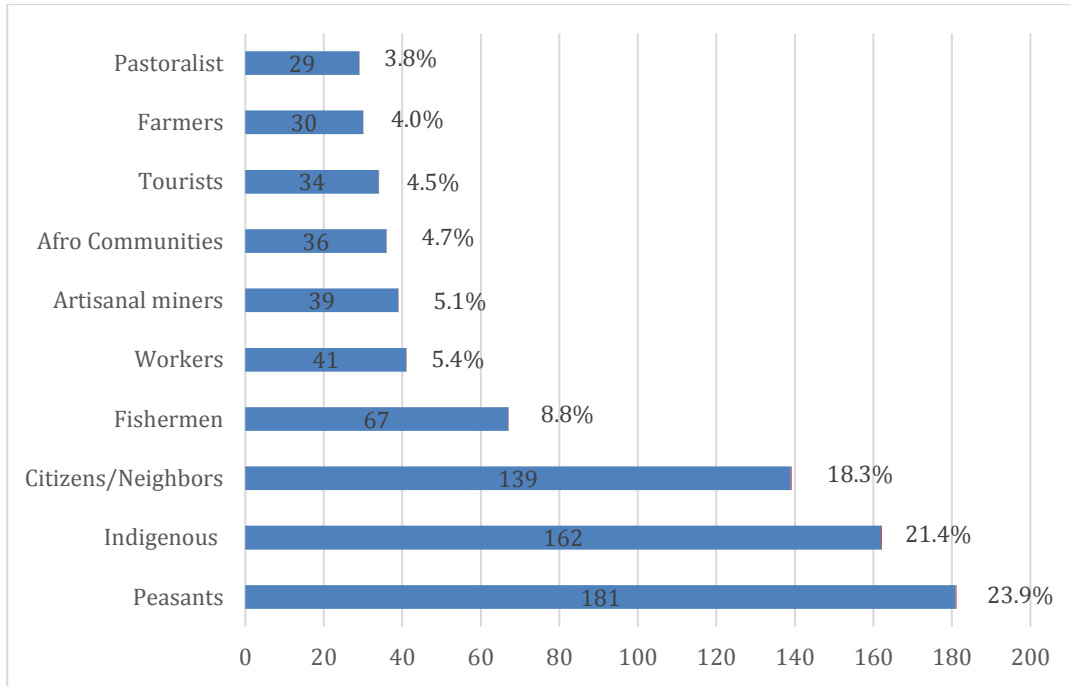


Figure 6. Main social groups affected

Source: MESOCA-ANCA Project (UNIVALLE) - EJATLAS (ICTA-UAB)

In Ecuador, the Achuar and Shuar indigenous communities are affected by the extraction of oil and there is also the issue of the Yasuní National Park, where indigenous populations such as the Tagaeri and Taromenane live in voluntary isolation. Similarly, Afro-Ecuadorian communities are affected, as in the case of shrimp farms in the Cayapas Mataje Ecological Reserve. In Peru, we see the involvement of the Achuar and Shuar indigenous communities in the oil exploration of Block 64 and deforestation for plantations in the territory of the Ashaninka community, and of course many indigenous communities affected by mining. In Bolivia the indigenous population are affected by projects such as the TIPNIS (Indigenous Territory and Isiboro Secure National Park) highway and the case of the El Bala (Chepete) hydroelectric dams in Madidi National Park, which is home to 25 indigenous communities.

3.2.4 Forms of mobilization or collective action

The complaints of the affected groups are expressed in different forms of collective action. One single conflict can exhibit different forms of mobilization. They can be classified according to whether they are rather peaceful or use some degree of violence. Another classification could be: institutional or direct action. Most collective actions are rather peaceful and include sending letters or requests to institutions (present in 228 cases); protests, strikes and demonstrations (223); activism generated through the media (211); support from NGOs (187); lawsuits (113); objections to technical studies such as the EIAs (107) and alternative proposals (106). Actions related to the use of direct action even with some degree of violence by communities that resist extractive projects are presented to a lesser extent and include the occupation of land, buildings, public spaces and blockade of roads (54 cases), along with the explicit use of violence (use or threats of using weapons, damage to property, deliberate arson or sabotage) (51) (see Figure 7).

In Colombia, the most visible resistance processes have been related to the rejection of large-scale mining, oil extraction and hydroelectric projects. In gold mining, two conflicts are most famous: on the Santurbán paramo between the communities of the metropolitan area of Bucaramanga and the South African company Greystar (now Eco-Oro); and the conflict in La Colosa between the communities of Cajamarca and Piedras (Tolima) and the South African company Anglo Gold Ashanti.

In the field of fossil energy, the most emblematic case is the previously mentioned oil exploration in the U'wa Territory by various oil companies (Oxy, Repsol and Ecopetrol). Among the conflicts involving dams, the following are highlighted: El Quimbo Hydroelectric in Huila and

Hidroituango in Antioquia. In these disputes, the resistance generated large social mobilizations and high levels of violence. Some cases resulted in legal actions that seek to stop such activities, including the Plebiscite for the Human Right to Water, popular referenda and the generation of citizen alliances such as the movement Ríos Vivos, which defends water ecosystems.

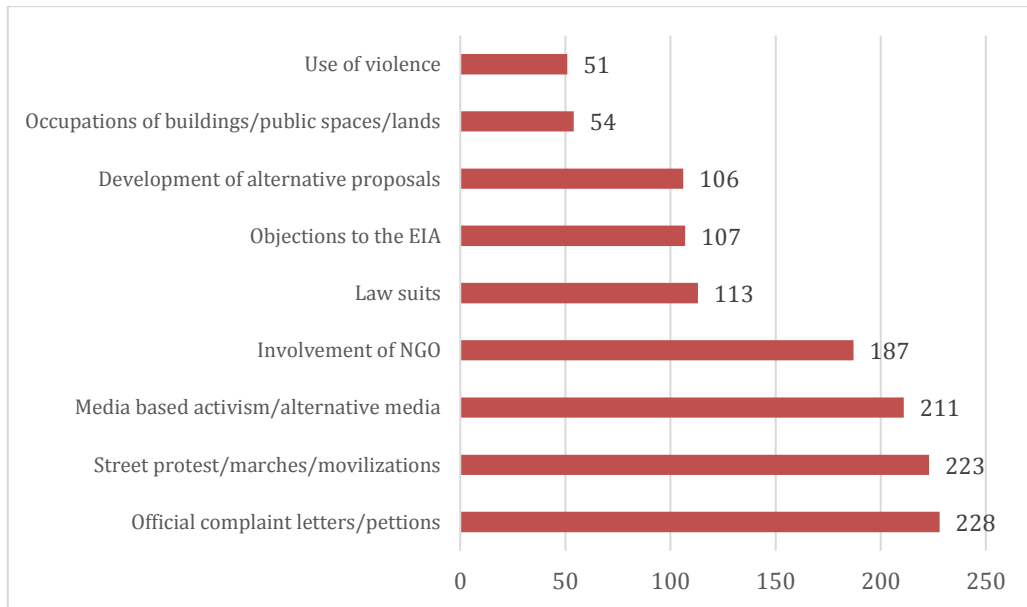


Figure 7. Forms of mobilization in environmental conflicts in Andean countries

Source: MESOCA-ANCA Project (UNIVALLE) - EJATLAS (ICTA-UAB)

In Ecuador, mobilizations in 2005 required the cancellation of a contract with Occidental Petroleum, the immediate departure of the Brazilian company Petrobras from the Yasuní National Park and the cancellation of a contract that threatened the livelihood of the community of Sarayaku (Pastaza). The Plurinational March for Water, Life and Dignity of Peoples, held in 2012, opposed mega mining. Recently, mobilizations of rejection of the XI Round Oil are notable as also against metal mining in Shuar territory and other frontiers of extraction.

The summit of social mobilization in Peru occurred in 2008 and 2009. A set of legislative decrees known as “The Law of the Jungle” was passed. These decrees would allow 60% of the Peruvian Amazon forest to be granted to multinationals or sold for biofuel plantations under the government of Alán García. The result was the widespread mobilization of the indigenous population in the affected zone (Jiménez, 2009). The protest included the blockade of roads, bridges, an airport, two oil plants and some rivers. The participants belonged to 1,250 indigenous communities. During this mobilization, there were violent clashes that left many victims on both sides (Alimonda, 2015). After more than two weeks of protests, Congress was forced to repeal the legislative decrees (Alimonda, Hoetmer, & Saavedra Celestino, 2009).

In the case of Bolivia, the most important movements have involved the privatization of water and other resources, including the 2000 Cochabamba case known as the "Water War" and the 2003 "Gas War," which generated high levels of resistance and violence.

3.2.5 Outcomes of environmental conflicts

When activities disrupt a balanced relationship between society and the environment in a specific territory, collective actions are sometimes taken by communities that are affected. Communities structure resistance mechanisms to these projects to attempt to return to their initial situation. In response to these actions, or previously, corporations that lead the development projects also act offering compensation and attempting to divide communities. In many cases, corporations are backed by the government. These outcomes are listed in Figure 8. One single conflict can have different outcomes. Mechanisms to change or stop projects include legal tools (referendums, popular actions, prior consultations, environmental and health regulations and lawsuits), technical

instruments (challenges to environmental impact studies), media activism and visibility, court decisions, and the active participation of national or international Environmental Justice Organizations, human rights institutions and control authorities. Institutional instruments are often used. On the other hand, there is also a strong tendency in ACs to resolve conflicts or community demands through state violence (less in Ecuador and Bolivia than in Peru and Colombia). The aggregate of such violent situations represents 42% of the cases. In addition, there are mechanisms that are also of concern, such as corruption, which is present in 95 of the 296 cases studied.

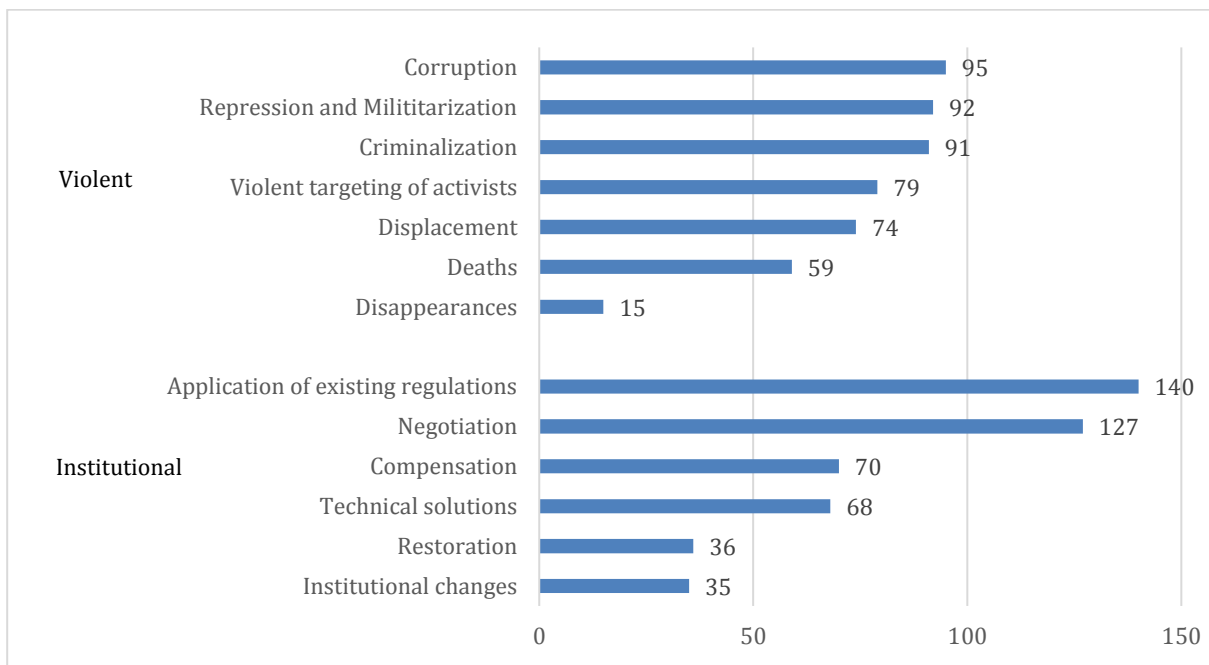


Figure 8. Outcomes of conflicts

Source: MESOCA-ANCA Project (UNIVALLE) - EJAtlas (ICTA-UAB)

(# Of events presented / Not exclusive)

Note: Actions are not exclusive; a conflict can present several of these actions simultaneously.

The *legal and institutional mechanisms* most frequently used are in the form of regulations (140 cases), negotiation (127) and compensation (70). There is a wide range of *violent solutions* to conflicts, including repression and militarization (92 cases), criminalization (91) and threats to activists (79). In 25% (74) of the cases, there are displacements of the communities; in 20% (59 cases), there are activist deaths, and in 5%, there are (15) disappearances.

Colombia is the country that most often uses violence to resolve conflicts. In this country, 47% of the actions used correspond to violent mechanisms. Peru follows, with a rate of 41%; Bolivia has a rate of 34%; and Ecuador, 31%. Thus, in Colombia, in 34% of the conflicts, there is displacement, 25% involve deaths, and 12% involve disappearances. In Peru, these figures reach 14% in displacements and a death rate similar to that of Colombia: 25%. Bolivia presents displacement situations in 38% of cases and deaths in 15%. Ecuador is the country with the lowest figures in this respect: in 10% of the cases, there are displacements, and in 7% of these cases, there are deaths. The number of cases involving deaths of environmental defenders is roughly confirmed by the reports from the NGO Global Witness (2016), which uses sources independently from the EJAtlas.

One of the main objectives expected by the communities that resist the projects is that those projects will be stopped. The halting of such projects can be called "triumphs" or "successes" of environmental justice. They allow the communities to achieve a better distribution of environmental goods and services (*distributive justice*); the "success" cases might also exhibit expanded participation in decision-making (*procedural justice*) and improved recognition of cultural identity and human rights (*recognition justice*). Thus, communities are active in all the dimensions of environmental justice described by Schlosberg (2004).

Of the 296 conflicts inventoried in ACs, 59 projects have been stopped, resulting in a success rate close to 20%, which is similar to the overall rate in the EJAtlas to date (Table 1). Systematic research on the role of social actors active in conflicts and their networks (companies, EJOs and other civil society organizations, indigenous authorities, governmental organizations and courts of law, religious groups...) will be done in another article. Suffice here to signal the presence of CENSAT in Colombia⁸, Acción Ecológica in Ecuador, Conacami (National Confederation of Communities of Peru Affected by Mining) in mining conflicts in Peru, in many “successful” and also “unsuccessful” conflicts.

Country	Total conflicts	Total cancelled projects	%	Success rate
	(a)	(b)	(b/total b)	(b/a)
Colombia	122	23	39.0%	18.9%
Ecuador	58	12	20.3%	20.7%
Peru	76	18	30.5%	23.7%
Bolivia	40	6	10.2%	15.0%
Total	296	59	100.0%	19.9%

Table 1. Reported successes of Environmental Justice in Andean Countries

Source: MESOCA-ANCA Project (UNIVALLE) - EJAtlas (ICTA-UAB)

Peru is the one which presents the highest rate of success in stopping projects (23,7%), which corresponds to 18 cases out of which stand out the following: the Minera de Santa Ana project was stopped in 2011 by social protests which included blockages in the frontier with Bolivia,

⁸ CENSAT Agua Viva, representative of Friends of the Earth in Colombia.

marches towards Lima against damage to Lake Titicaca and to Aymara socio-cultural values; the Tía María project was stopped by the community which manifested its opposition through a popular consultation in Arequipa since it was affecting the zone's water availability and agricultural production; the Tambogrande project was also stopped by another popular consultation which was the first in Latin America against gold mining. However, the most relevant achievement was the strike of the indigenous communities and road blockade which lasted over 60 days in La Bagua in Amazonia in 2009. As explained above, this ended up with large scale killing on both sides.

The next in line is Ecuador with 12 stopped projects, which reach a success rate of 20,7%. The ones which stand out are the following: the lawsuit by the people of Sarayaku before the CIDH (Interamerican Commission on Human Rights) because of the exploitation of Block 23 within their territory without previous consultation; petroleum exploitation by Chevron-Texaco in which the multinational was sentenced in court to pay for the environmental damage to the Ecuadorean Amazon populations although it has not done so; the repeated instances of resistance in Intag against copper mining since the 1990s; the case of the indigenous communities against the patenting on the properties of the *Croton lechleri* by North American pharmaceutical companies. Also, the Puerto Ebano protests against shrimp farming stand out due to damage to the mangroves.

In Colombia, the communal resistances have stopped 23 projects, reaching a success rate in our large sample of cases of 18,9%. The ones which stand out are Hacienda Las Pavas where 2.250 ha were returned to landless farmers who resisted the attacks of oil palm cultivation; the urban dwellers resistance of Bucaramanga against gold exploitation in the Santurban moor; the struggle

of the U'wa people for their territory which was threatened by pressures brought forth by oil companies and the Colombian government; and the ones achieved through participatory mechanisms such as the triumphs associated to local referendums: Piedras (Tolima), municipality which rejected the gold-mining activity in its territory in 2013, a result which was backed up in 2017 by the Cajamarca (Tolima) referendum. Both contribute to stop the implementation plans of Anglo Gold Ashanti in *La Colosa* gold mine. Tauramena (Casanare) did likewise regarding oil exploitation; and Cabrera (Cundinamarca) in February 2017 rejected the implementation of hydropower and mining projects within their territory. There is a ripple effect on popular consultations in Colombia in 2017, whose immediate cause is probably the political opportunity of the peace agreements and the stop of military action by guerrilla forces and the Army.⁹

Finally, in Bolivia there are 6 success cases, a rate of 15%. There was a triumph related to water privatization in the city of Cochabamba; while gas privatization which resulted in strong protests repressed by the armed forces leaving behind 60 killed and 200 wounded. Against mining there are also successes as is the case of the stopping the Achachucani project in Challapata.

There are then clear cases of “success” in achieving environmental justice. There are many other cases that do not reach such favourable results despite trying hard. Can they all be interpreted as examples of what has been called a potential alliance between two movements, global environmental justice and economic degrowth? (Martinez-Alier, 2012). Leaving fossil fuels and metallic minerals in the ground, stopping hydropower projects and deforestation, can be seen as

⁹ The popular consultation as a mechanism of resistance of the communities against extractivism in Colombia, has increased quite successfully in recent years. From 2011 to December 2017, 29 local initiatives were presented. Of these, 21 or were returned by regional courts or were deemed as not constitutional (for the time being) and 8 were effectively carried out with the participation of the official electoral authorities. All of them ended with rejection of mining, oil extraction or hydroelectric projects.

world relevant contributions from the Andean region to decreasing social metabolism worldwide, whatever the immediate local motivations. The protagonists might never have heard of the word “degrowth” or even of the word “ecology” but their practice if conducive to a less unsustainable world economy.

4. DISCUSSION

The ecological distribution conflicts in AC respond to the characteristics of these countries’ social metabolism. Compared to Europe, Japan, the United States or Argentina, the absence of nuclear power and nuclear conflicts is obvious, while the incidence of fossil fuels and metal mining conflicts is remarkable. Among the protagonist of such conflicts, peasant and indigenous population abound in the Andean countries (both in the uplands and in the Amazonian lowlands), often the victims of extreme racism for many centuries. In these countries, the reprimarization of their economies and the increase in “extractivism” was helped by the adoption of neoliberal policies associated to the “Washington Consensus” in the 1990s. The 1980s debt crisis had facilitated the imposition of adjustment policies, abandoning the path of industrialization started in the 1950s by CEPAL’s policies, invoking once again the traditional theory of comparative advantage so as to focus in producing and exporting commodities to the growing world market (Lander, 2014). This led economic activity towards natural resource-intensive goods, bursting into the traditional productive and cultural dynamics of the populations, giving rise to environmental conflicts throughout the AC. In the first decade of the 2000s, countries with neoliberal and also those with progressive government participated in a “commodities consensus” (Svampa, 2012, 2013, 2015).

The metabolic profile of a country or a region is defined by the structure of use of materials and energy linked to its economy (Krausmann, Fischer-Kowalski, Schandl, & Eisenmenger, 2008; Fischer-Kowalski and Haberl, 2015). This material structure is divided in the biotic and abiotic components. The first corresponds to agricultural, forest and fishing biomass, and the second one to fossil fuels, metal and non-metal mineral ores (Fischer-Kowalski, 2011: 153). When the material-energetic regime changes, society and its metabolism are altered, as well as the natural systems with which it interacts (Fischer-Kowalski, 2011).

The results found in the AC show a region with extractive patterns which obey a transition towards an urban and exporter regime, focused on the exploitation of fossil fuels, non-ferrous ores such as gold, silver, copper and zinc for the external market, as well as the extraction of building materials for urban development and the required infrastructure for the strengthening of the internal and external markets. There is also increasing pressure on the biomass resources, for tree plantations and deforestation, and monocultures for exports, thus substituting export crops for food sovereignty; the development of the infrastructure has also grown for the strengthening of external markets and to accommodate the growing urban population. These sectors are also generators of environmental impacts.

The material intensity in relation to the territory (domestic extraction per unit of surface, DE/km²) shows greater pressures in the abiotic sector than in the biotic. While the first went from 32 to 212 tons/km² (it multiplied by 6.8), the second one increased only from 58 to 91 tons/km² (multiplying itself by 1.6) between 1970 and 2012. A *test for structural break* carried out with Stata, shows that absolute materialization in terms of DE was not increasing constantly. A structural change was revealed for the region in 1999 triggering a higher level of materialization;

that is, there was an external political and economic clash which increased the rhythm of material growth. These were the policies favoring the extractive sector in the second half of the 1990s (Pérez Rincón, 2014), and the external demand.

In this perspective, “materialization” of the AC, the shift in their metabolic profile and the policies for strengthening specialization towards the energy and mining sector that occurred at the end of the nineties of the previous century, became generators of strong environmental impacts and environmental unrest. That is, 73% (216 cases) of all the reported environmental conflicts in the AC started as of the year 2000 and following years. Out of these, 63% (136 cases) were on energy and mining. Likewise, of the 172 cases of conflicts inventoried in these two sectors (Figure 2), 78% (134) were generated from the year 2000 and following years (Pérez-Rincón et al, 2018).

There is a belief that the impacts generated by the projects are essentially material. Nevertheless, the results show that many have a relation to immaterial aspects, implying conflicts of values, interests and worldviews of the actors (Martinez-Alier et al, 1998). Environmental conflicts not only imply disputes over the control of goods and resources and over the distribution of the burdens of pollution, but they overlap with the distribution of power to generate and impose certain definitions of reality (Cardoso, 2018). As pointed out by Merlinsky (2013), the conflicts have cognitive and value aspects about the environment, involving both the material and symbolic objects of the dispute. Martinez-Alier (2002) denominates this as different, incommensurable “valuation languages” which emerge in many conflicts. The inclusion in the Constitutions of two AC countries (Ecuador, Bolivia) of new post-development, post-extractivism and post-economic-growth concepts such as *buen vivir* or *sumak kawsay*, or the

notion of the “rights of nature”, are closely related to increased visibility of environmental conflicts. Such new concepts are also of political interest in Colombia and Peru, and indeed in all of Latin America (Vanhuylst and Beling, 2014). Thus the reactions in the South against the effects of “extractivism” easily find a point of confluence with notions of post-growth or degrowth coming from the North.

The different valuation languages are related to the sociocultural characteristics of affected groups, in its majority rural communities, which possess different forms to relate with the territories such as the indigenous people, afro-descendants and peasants. Notions of sacredness of nature or elements of nature are often found in such conflicts – certainly more often than “northern” notions of “voluntary simplicity”. The conflict-generating projects frequently produce violations to the right to life, health or autonomy. The loss of indigenous territorial rights, or the sacredness of elements of nature (a river, a lake), cannot be compensated by money. The lack of respect for local cultures and the disproportionate abuse of nature in indigenous territories could be called *environmental racism* (a word coming from the USA Environmental Justice movement of the 1980s) which corresponds to the fact that extractive activities or environmental impacts are located, with greater frequency, in areas where some ethnic groups dwell (Bullard, 1993, 1990). Such facts accord with current interpretations in terms of the persistence of a coloniality of power and a coloniality of knowledge (Quijano and Ennis, 2000).

In terms of social movements, the indigenous and peasant populations, and the urban poor, are the social base for the “environmentalism of the poor” (Martinez-Alier, 2002). The defense of natural resources and culture on the side of the communities is manifest in various ways. The use of internet and other communication means becomes more important, as alternative media to

inform about the development of the conflicts. This has allowed the affected groups, as pointed out by Martinez-Alier et al. (2016), to build alliances with more powerful actors who can exert influence at different scales. At a local level, there are local scientists, NGOs, sympathizing local governments, religious groups and sometimes labour unions; and at higher scales, including the international level, alliances are developed with environmental or conservationist organizations from northern countries. This constitutes a growing global movement for environmental justice.

The alliances with global actors and the increase of judicial tools or environmental justice activism (Merlinsky, 2013) have led sometimes to pacific resolutions of conflicts, after turning to new norms and institutions in order to try and find a solution to the conflicts. However, in the four AC under discussion, there have been a great number of violent outcomes against the communities such as forced displacement, repression, disappearances and deaths of environmental activists.

When environmental justice successes are achieved there are reasons for celebration outside the immediate locality in the sense that there are clear diffusion effects. The vocabulary of resistance, the methods deployed (such as public consultations, Walter and Urkidi, 2015) travel from place to place and from country to country: ripple effects in the global environmental justice movement.

However a limitation of the concept of “success” is evidenced. This is because, in practice, many of these achievements turn out to be temporary. The project can be paralyzed for some time and revive later, or it can be restarted by small companies in neighboring sites, using the strategy of renaming. Also, what can be considered as a triumph for some in a specific geographical space, can be a defeat for others in different places? Nevertheless, we must remember that

environmental conflicts are social processes and, in that perspective, they generate learning and empowerment of the communities, strengthening their capacity to resist and build more resilient and sustainable societies (Martinez-Alier et al, 2016).

5. CONCLUSIONS

Biophysical or ecological economics highlights the growth and changes in the metabolic patterns. One general conclusion is that the many conflicts reported originate from the changes in the extractive economy of the region, specialized towards the primary sector as reflected in both monetary and metabolic terms.

The four AC under study have experienced growth in the extraction of materials, and also in their export. The growth of the abiotic sector of the economy (mineral ores, fossil fuels) has been enormous. The metabolism of their economies (as measured by material flows) increased nearly four-fold between 1970 and 2012. Hydropower also increased. The current environmental liabilities around the world are a consequence of the quantity and structure of the metabolism in societies. In the AC this is evident. The impacts and the uncompensated liabilities are generators of conflicts. In some cases, economic compensation would not even be accepted. There are incommensurable values in dispute.

Martinez-Alier et al (2010) explained that ecological distribution conflicts arise from the growth and changes in the social metabolism and that such conflicts are expressed in a variety of valuation languages. We have seen how this process takes place in four AC (Colombia, Ecuador, Peru and Bolivia). We have analyzed a large sample of conflicts (roughly in proportion to the

respective population of the four countries) according to the metabolic sectors where they arise, the social impacts and affected groups, the forms of mobilization deployed in conflicts, and the triumphs of environmental justice or other outcomes of the conflicts.

A policy for sustainability and the quest for environmental justice must focus on strategies to diminish material and energetic flows, limiting the expansion of the commodity extraction frontiers and changing the metabolic patterns. Respect for valuation languages expressed by indigenous communities could help in this strategy. On the contrary, we see in all four countries a continuous march towards the “commodity extraction frontiers” driven often by external trade demands despite the many protests and even new bottom-up institutions such as the local referendums or public consultations.

The AC’s governments have wagered on increasing the energy and mining sectors and monocultures for exports, regardless of the inclination of governments towards right or left. These strategies are of a *lose-lose-lose* nature because of the environment loses, the economic loses (as prices go down because of over supply) and also the societal loses. Indebtedness increases when export prices go down, and this leads to more pressure for increasing the volume of exports and causing a further deterioration of prices (Samaniego et al, 2017). There is evidence that extractivism leads countries to a specialization trap, where growth of socio-environmental liabilities is larger than the new economic assets.

Many ecological distribution conflicts originate from the extractive dynamics of the region's economy. As we have seen, an inventory of 296 main ecological distribution conflicts contained in the EJAtlas (122 in Colombia, 58 in Ecuador, 76 in Peru and 40 in Bolivia) corroborates this

relationship. This inventory allows the following conclusions: extractivism causes many conflicts related to mining, fossil fuels, hydroelectricity, biomass and fossil energy; indigenous, Afro-descendant, indigenous and peasant communities are the most affected; behind the conflicts, there are not only environmental impacts but also significant social impacts that are both material (affecting livelihoods, land and water deprivation and work insecurity) and immaterial (loss of cultural practices and cultural identity); most of the forms of collective action used by communities are peaceful, most notably, petitions, street marches, media activism, lawsuits while States and companies are sometimes violent (with about 75 cases of death or disappearance of environmental defenders); and finally, grassroots social movements (that sometimes include environmental NGOs) have experienced relative success, stopping 20% of the 296 projects that caused conflicts.

We conclude that the post-growth perspective has a “substantial number of potential contemporary allies in the global South” (Gerber and Raina, 2018). New concepts have been developed at national scales (such as post-extractivism) which are close to post-growth or degrowth or “prosperity without growth” in rich countries in the North. In the South (and in the Andean Countries) such concepts do not arise from theoretical meditations or from the practice of small neo-rural or squatting communities (as often in the North). They are born from the livelihood struggles of large populations, which are subject to exploitation, to racism and to internal and external colonialism.

While stopping single extractivist projects cannot be construed as a general critique of economic growth, such attempts are congruent with post-development, community-centric, ecologically-balanced and culturally-sensitive Andean visions such as *buen vivir* or *sumak kawsay*. They are also congruent with policy proposals put forward from a post-economic growth perspective such as “leaving unburnable fuels in the ground” and “resource extraction caps”.

The school of anti-extractivism or post-extractivism in Latin America (Eduardo Gudynas, Maristella Svampa) might not be favourable to the use of the word degrowth for the mobilizations they are analyzing and promoting (Kallis, 2018) but they are clearly favourable to slowing down drastically the extraction and exporting of cheap commodities, i.e. “degrowth in practice” (Kallis, 2018).

Ecological distribution conflicts can be seen as reinforcing therefore the impulse towards environmentally and socially friendly economies worldwide. The strategies for sustainability can be oriented towards technical changes and appropriate public policies but they should also be oriented to support civil society movements which already exist, strengthening of communities resilience, the environmentalism of the poor and the indigenous, and the global movement for Environmental Justice, since these promote ways of life which are better balanced with the environment. Grassroots “post-extractivism” is a South American idea born or reinforced by so many ecological distribution conflicts. It is addressed to the whole world, and it is not less relevant for ecological economists than Degrowth, a Steady State Economy, or Prosperity without Growth.

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