MULTIPLICITY AND COMPLEXITY LANDSCAPE APPROACH
PRINCIPLES ANALYSED IN THE GOVERNANCE OF GOLD MINING
AREAS IN ECUADOR

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SUMMARY

Since the beginning of the 21st century the price of gold has increased with several hundred percent; combined with the increased demand in countries such as China and India, this has turned gold mining into an attractive industry in Ecuador, as it has in all of Latin America. For the first time mining activity is considered a strategic sector by the Ecuadorian government, who considers it to have the capacity to contribute to economical resources that will be used to achieve Buen Vivir – Sumak Kawsay, Good way of living– for the Ecuadorian population. Even though Ecuador is a country without experience in large-scale gold mining exploitation, there are already twenty-five large-scale mining projects in exploration, nineteen of which have gold as their main mineral.

This master thesis analyses the governance of gold mining landscapes in Ecuador through the reference of three principles of landscape approaches to sustainable management of natural resources: multiple stakeholders, multiple functions and multiple scales. This analytical governance framework is analysed together with the concepts of valuation triads, drawn from ecological economics and landscape narratives, drawn from anthropology. The methods used in this research were the review of academic and policy documents, as well as thematic interviews and communications with experts, national government decision makers, local governmental authorities and mining activists in Ecuador.

While all identified stakeholders share the wish to have the local population of gold bearing areas achieve a ‘good way of living’, they all see the way to do this differently. Landscape narratives of tensions between the pro- and anti-mining perspectives of the National Government, local communities (activists and defenders) and ecologic organisations in Ecuador, regarding whether or not they believe mining can help the country to achieve Sumak Kawsay are detailed throughout the analysis. International actors, mining companies and international non-governmental organisations, also influence both, pro-mining and anti-mining camps, respectively. Some actors, such as academics, local communities and parish governmental authorities, cannot be generalised into these camps. Their allegiance depends on which group is more in line with their values, or which group can satisfy their individual interests better.

As they directly manage the mining sector and are in charge of Ecuadorian laws, the National Government is the dominant actor in mining and their values represent the structural level in this analysed governance. Nevertheless activist groups have substantial influence over what is done and how things are done in mining landscapes. Both groups of stakeholders do not consider or value all the functionalities and mining scales that are part of the gold areas in the country as an integrated context, nor do they consider all the stakeholders. Instead an individual approach is used were two radical mining perspectives are competing aiming at articulating each one’s respective values in gold mining landscapes in Ecuador, the focal level of this study.
PREFACE

When I started thinking about my thesis, I was determined to work on my own topic, although, to be honest, I was not sure which sector to focus on. I knew I wanted something related to associativity, cooperatives, or other approaches, which allow bringing different stakeholders together. Keeping this in mind, I tried to find an inspiring topic, which can allow me to apply what I have learnt, in my professional life afterwards. I started researching and looking at projects, programs, etc. and I encountered a ‘new’ landscape approach discourse that called my attention, as they do not look at singular spaces, but to context of landscapes.

I found out that mining is considered a competing activity of traditional activities such as agriculture, and one of the most conflicting sectors worldwide. This situation brought me into this new field, the mining sector, which has not been studied within the discourse of landscape approaches. My idea was to see if in such conflicts, different stakeholders and levels can be brought together, through bottom up and top down approaches, and make mining and other income activities complementary to each other in a sustainable way.

With this in mind, I looked up places in Africa and South America where I could make my investigation. Through my research I found out that in Ecuador, my home country, the large-scale mining industry has become a new objective for the current Ecuadorian Government. This turned out to be quite a stimulating topic for me. With these main ideas I approached some professors who could be interested to work with mining, agriculture and landscape approaches, at Wageningen UR and Humboldt University. In this process I could get in touch with Dr. Katharine Farrell, thanks to Prof. Konrad Hagedorn, and with Dr. Elisabet Rasch, thanks to Prof. Dirk Roep, both of whom I would like to thank for directing me to the right persons to guide my thesis research.

And here is my final report. It is the result of hard work and dedication, not just by me, but also by several others whose support has proven to be the decisive factor that made me reaches this goal. I would like to start by thanking my supervisor Elisabet Rasch and my co-supervisor Katharine Farrell, for all their support, criticism and for guiding me through this learning process of writing a master thesis.

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LIST OF ACRONYMS AND ABBREVIATIONS

ARCOM MINING REGULATION AND CONTROL AGENCY, ARCOM FOR AGENCIA DE REGULACIÓN Y CONTROL MINERO

ECUARUNARI INDIGENOUS MOVEMENT OF ECUADOR, ECUARUNARI FOR ECUADOR RUNAKUNAPAK RIXCHARIMUY IN KICHWA

EIA ENVIRONMENTAL IMPACT STUDIES, EIA FOR ESTUDIOS DE IMPACTO AMBIENTAL

ENAMI NATIONAL MINING COMPANY, ENAMI FOR EMPRESA NACIONAL DE MINERÍA

FLACSO LATIN AMERICAN SOCIAL SCIENCES INSTITUTE, FLACSO FOR FACULTAD LATINOAMERICANA DE CIENCIAS SOCIALES

FOA FEDERATION OF ORGANIZATIONS OF AZUAY, FOA FOR FEDERACIÓN DE ORGANIZACIONES DEL AZUAY

FUNGEOMINE FOUNDATION FOR GEOLOGICAL, MINING AND ENVIRONMENTAL RESEARCH OF ECUADOR, FUNGEOMINE FOR FUNDACIÓN PARA LA INVESTIGACIÓN GEOLOGICA, MINERA Y AMBIENTAL DEL ECUADOR

GAD DECENTRALIZED AUTONOMOUS GOVERNMENT, GAD FOR GOBIERNO AUTÓNOMO DESCENTRALIZADO

INIGEMM NATIONAL INSTITUTE OF GEOLOGICAL MINING AND METALLURGICAL RESEARCH, INIGEMM FOR INSTITUTO NACIONAL DE INVESTIGACIÓN GEOLOGICA, MINERO METALURGICO

MAE ENVIRONMENT MINISTRY, MAE FOR MINISTERIO DEL AMBIENTE DEL ECUADOR

MAGAP MINISTRY OF AGRICULTURE AND FISHERIES, MAGAP FOR MINISTERIO DE AGRICULTURA, GANADERÍA Y PESCA

MIPRO MINISTERIO DE INDUSTRIAS Y PRODUCTIVIDAD, MIPRO FOR MINISTRY OF INDUSTRY AND PRODUCTIVITY

PEN STRATEGIC NATIONAL PROJECTS, PEN FOR PROYECTOS ESTRATÉGICOS NACIONALES

PROMAS PROGRAM FOR THE WATER AND SOIL MANAGEMENT, PROMAS FOR PROGRAMA PARA EL MANEJO DEL AGUA Y DEL SUELO

SADCO SOUTH AMERICAN DEVELOPMENT COMPANY
Multiplicidad y complejidad del paisaje de la escena

Karla Rodríguez

SENAGUA
NATIONAL WATER SECRETARIAT, SENAGUA FOR SECRETARIA NACIONAL DEL AGUA

SENPLADES
NATIONAL PLANNING AND DEVELOPMENT SECRETARIAT, SENPLADES FOR SECRETARIA NACIONAL DE PLANIFICACION Y DESARROLLO

TULAS
UNIFIED TEXT OF SECONDARY ENVIRONMENTAL LEGISLATION, TULAS FOR TEXTO UNIFICADO DE LEGISLACIÓN AMBIENTAL SECUNDARIA

UNAGUA
COMMUNITY WATER SYSTEMS IN AZUAY, UNAGUA FOR UNION DE SISTEMAS COMUNITARIOS DEL AGUA EN AZUAY
1. INTRODUCTION

Landscapes are described as shared places, inhabited by people and shaped by their needs (O'Neill & Walsh, 2000; Lawrence, 2010 as cited in Sayer et al., 2013; Sayer et al., 2013). According to Görg (2007) landscapes are “social and/or cultural constructions” with diverse interpretations and multiple contrasting interests embedded in different nested systems. These interests, meanings and values that people at diverse scales give to the landscapes, have normally led to conflicts over resources (Roderick & Chavez-Tafur, 2014; O'Neill & Walsh, 2000). Scherr et al. (2012) argue that conflict over natural resources in landscapes is anticipated and is one of the key concerns in the governance of landscapes.

In the last few years planners, researchers and policymakers have argued that managing landscapes as individual geographic areas, based on sectoral approaches alone, is an inadequate and ineffective strategy to face natural resource conflicts and simultaneously meet both human and ecological global challenges (Sayer & Campbell, 2005 as cited in Sayer et al., 2013; Roderick & Chavez-Tafur, 2014; Pasiecznik et al., 2014; Reed et al., 2014; Minang et al., 2014). As landscapes are social constructions that have led to diverse conflicts within them, they cannot be treated as given facts or isolated elements according to Görg (2007), but should be studied in their entire complex dynamics. This way of thinking reflects a ‘landscape approach’, which aims at integrating policy and practice for diverse and multiple land uses, at different levels within and across various scales and balancing these uses in a sustainable and holistic way to avoid or at mitigate and limit conflicts (van Oosten, 2013; van Oosten et al., 2014; Sayer et al., 2013; Reed et al., 2014).

Through my literature review it became clear that most of the projects and investigations concerning landscape approaches in the last years are centred on agricultural and forestry issues (Fischer, J. et al., 2006; Scherr et al., 2012; Kozar, R., et al. 2014; Sayer et al., 2013, 2014, personal communication, March 2015; Ecoagriculture, 2015; Tropenbos, 2015; Reed, personal communication, March 2015; among others). Although mining is recognised as a conflicting and important activity in landscapes in some of those studies, I have observed a gap in the research regarding using the concepts of landscape approaches on the mining sector. This thesis expects to contribute to this area, and wishes to contribute to the studies of landscape approaches, as one that is more focused on mining areas.

This research analyses large-scale gold mining areas in Ecuador, which are under pressure to be expanded. The tremendous price increase of gold from US$ 260 in 2001 to US$ 1800 in 2012 has called the attention of countries worldwide, including in Latin America, to start adjusting different measures to be part of this profitable market (Sacher & Acosta, 2012; Fellet 2012, Poveda et al., 2015). Even when the price of this metal has decreased in the last three years, the gold industry is still considered attractive, as there is a strong demand, especially from Asian countries, such as China and India, and this tendency is expected to maintain (Sacher & Acosta, 2012; Fellet 2012, OCMAL, 2014, Poveda et al., 2015; Goldprice, 2015).

The Ecuadorian Government considers mining to be an alternative for the development of the country for the first time in its history (Sacher & Acosta, 2012), as it is considered to have the
economic capacity to contribute to the acquisition of ‘a good way of living’ for the population. For this reason mining is seen as a strategic sector within the framework of the Ecuadorian Constitution and within the Buen Vivir National Development Plan –translated as Sumak Kawsay in Kichwa, and 'Living well' or 'a Good way of living' in English– (SENPLADES, 2013). At this moment, twenty-five large-scale mining projects, all of which are currently in exploration stage, are being developed in Ecuador. International companies manage sixteen of them while the Ecuadorian National Mining Company (ENAMI) is in charge of the other nine. Gold is expected to be the principal mineral to be exploited in nineteen of them, and four of these projects are in advance exploration stage. These are considered the strategic mining projects in the country, and are mainly managed by international mining companies, from Canada and China. According to Sacher & Acosta (2012) these strategic mining projects are the ones that would introduce the country into a new large-scale mining development phase.

Following the presence of large-scale gold mining projects, a strong presence of activist groups opposed to these projects has emerged in the country. Mining activists claim that Sumak Kawsay will not be achieved if large-scale gold mining extraction is allowed in the country. These statement is grounded on the adverse environmental effects observed near artisanal and small scale mining in Ecuador, the negative experience with petroleum, the only large-scale extractive industry in Ecuador thus far, and the negative experiences of neighbouring countries, such as Peru, Bolivia, Chile and Colombia, with large-scale mining (OCMAL, 2014). According to OCMAL (2014) and Arellano (2015) every country in the Latin America region in which large-scale mining is present, houses strong social conflicts. With the aim to not repeat “disastrous experiences” with mining (SENPLADES, 2013) and to answer to criticism, the Ecuadorian National Government promotes ‘Sustainable mining’, where the mining activity is “responsible, ethical and fair to the state, the economy, the community, and the environment” (Ec. Constitution, 2008; Ec. mining law, 2009; SENPLADES, 2013)

Keeping the presence of these diverse and conflicting development and conservation purposes of the National Government on the one hand and mining activists in the Ecuadorian gold mining landscapes, on the other hand, in mind, I looked into ten published landscape approach principles\(^1\) to management of natural resources that aim at reconciling competing land uses (Sayer et al., 2013). Taking three out of the ten principles of landscape approaches, this research aims to answer to what extent the landscape approach principles concerning multistakeholders, multifunctions and multiscales are being considered in the Ecuadorian gold mining landscape governance. These selected principles, drawn from Sayer et al (2013), provide a general structure for the governance of gold mining landscapes. To apply this general analytical frame, the concepts of valuation triadics (Farrell, 2007; Silva-Macher and Farrell, 2014), drawn from ecological economics, and of territorial narratives (Damonte, 2011), drawn from anthropology, are used to develop representations of how

\(^1\) The ten landscape approach principles are: 1) Continual learning and adaptive management; 2) Common concern entry point; 3) Multiscales; 4) Multifunctionality; 5) Multistakeholders; 6) Negotiated and transparent change logic, 7) Clarification of rights and responsibilities; 8) Participatory and user-friendly monitoring; 9) Resilience; and 10)
the various stakeholders concerned with gold mining in Ecuador are related to the landscapes where this resource is located. Important focus is given to one of the strategic large-scale gold mining projects, namely Loma Larga, which is located in the Azuay province. As artisanal and small-scale mining lack in this area, this important mining scale perspective in the Ecuadorian discourse is brought into the analysis by looking at Ponce Enríquez, a gold extraction and mining area which is also located in Azuay.

This thesis is organised as follows: Chapter 2 describes the theoretical framework that forms the basis for this research and Chapter 3 explains the Ecuadorian mining context and the used methodology for this research. The results and discussion chapters are presented in Chapters 4, 5 and 6: Chapter 4 discusses mining in the Ecuadorian context within the Buen Vivir narrative, analyses the environmental, social and economic dimensions considered in the mining law, evaluates the different mining scales, and finally examines the dominant mining scale in the National Government context. Chapter 5 describes multifunctionality in the Loma Larga large-scale gold mining project, conflicts, and how the mining company in charge of this project is applying the “responsible mining” rhetoric in Loma Larga. Chapter 6 employs a combination of valuation triadic and landscape narratives based on analyses of the three selected landscape approach principles in former chapters. It also discusses the governance in gold mining areas in which multiple actors / multiple triadic juxtapositions are drawn. This master thesis research concludes with chapter 7 in which an answer to the main research question is given.
2. THEORETICAL FRAMEWORK

In the first section of this chapter the Governance of landscapes and the ten landscape approach principles (Sayer et al., 2013) to sustainable management of natural resources are explained. Three of the ten mentioned landscape approach principles are used to develop a framing of challenges in the governance of gold mining landscapes in Ecuador. This information will be analysed in the context of landscape narratives and valuation triadics. Therefore, the second section of this chapter describes the concepts of valuation triadics (Farrell, 2007), drawn from ecological economics, and of territorial narratives (Damonte, 2009), drawn from anthropology.

2.1. GOVERNANCE OF LANDSCAPES AND TEN LANDSCAPE APPROACH PRINCIPLES

Governance is “connected with transformations of the national state and shifts in the relationships between the state, economy and society” (Görg, 2007). Arts et al. (2000) argue that due to processes such as neo-liberalisation, individualisation, and decentralisation, traditional control steering by the state have become obsolete. Hence a “shift from government to governance” has appeared, also called “governance without government” (Van Kersbergen & Van Waarden 2004). In time, civil society groups and private sector actors have acquired more importance in governance on the local and global level (Wollenberg et al., 2006; Görg, 2007). This shift from more traditional state-centred government to a people-centred form of governance has been observed on the landscape level.

According to Görg (2007), landscapes are arenas of both, social production and natural-spatial conditions that defines the relationship between people with diverse values and places with multiple functions. These relationships are important for the individual and the community identity (Convery et al., 2012). Places, as well as identities, are mutually constructed and constituted (Harvey, 2001, cited in Convery et al., 2012). This construction can be understood as a ‘sense of place’ (Shamai 1991, cited in Convery et al., 2012) or ‘meaning of landscape’. Each stakeholder perceives the landscape in a different way, influenced by his or her economic, cultural, social, or ecological values. The diverse meanings given to landscapes where a multitude of perspectives, interests and power levels of stakeholders are playing have led to conflicts over resources at landscape level (O’Neill & Walsh, 2000; Minang et al., 2014; Roderick & Chavez-Tafur, 2014).

Governance based on a landscape approach deals with underlying values in a system where multiple actors pursue their interests and meanings of multifunctional landscapes (Görg, 2007; Beunen & Opdam 2011; van Oosten & Hijweege 2012; Rash, 2013). Sayer et al. (2012) says that a landscape approach requires a patient iterative process of identifying stakeholders and recognizing their concerns and aspirations, where normally the need to address conflicts over resources, and issues of trust and power is required. Governance of landscapes is also concerned with institutional arrangements, decision-making processes and policy instruments (Görg, 2007). Landscape approaches to sustainable management of resource use have existed for centuries and have been applied to various social and cultural contexts. The origin of this term lies in theories of conservation,
and a further recognition of a ‘development’ pillar has been added (Lawrence, 2010 as cited in Sayer, 2013; Sayer, 2013).

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A landscape approach to management of resources seeks to simultaneously address environmental, social, economic and political challenges (van Oosten et al., 2014). It can be used as an organising framework to reduce the complexity of the landscape and to facilitate the investigation of impact of different courses of action (Sayer et al., 2014). The use of landscape approaches has been widespread in the last years (Sayer et al., 2013; Minang et al., 2014) as reflected by two Global Landscape Forums held recently. The first one in 2013 in Poland and the second in 2014 in Peru, both organised by CIFOR, the United Nations Environment Programme (UNEP) and the United Nations Food and Agriculture Organization (FAO) (Global Landscape Forum, 2015). On top of that, numerous international initiatives and organisations from several countries around the world have embraced landscape approaches, advocating that landscapes are the key to fulfil human and environmental objectives.

Based on a meta-analysis, research and policy analysis on how social, environmental and economic objectives can best be integrated in the management of natural resources of landscapes, ten principles to landscape approaches have been developed as guidance for the process of decision-making in the governance of landscape contexts (Fisher et al., 2006; Lindenmayer et al., 2008; Sayer et al., 2013; Ros-Tonen et al., 2014).

![Figure 1: Landscape Approach principles](source:Sayer et al., 2013)

Sayer et al. (2013) have noted that natural resource conflicts often arise because of a failure to address one or more of these ten published landscape principles (Figure 1). When work in a
landscape approach it is important to consider that ‘landscapes’ provide a diverse range of values, goods, and services (principle 4), each of which is valued in different ways by diverse actors that are part of landscapes (principle 5) at diverse scales: from household to local to national and even global levels and scales (principle 3) (Minang et al., 2014).

These multi-complex relationships at the landscape level require decision-making based on transparent evidence (principle 6). This induces trust among stakeholders (principle 2 and 6) and facilitates participation on the long term (principle 8) and learning (principle 1) among them. For transparency and accessibility, a common concern entry point (principle 2) is required. All stakeholders need to be aware what are their rights, but also what are their responsibilities on resource access and land uses (principle 7). Resilience is vital since the different processes need to be sustained to obtain benefits in the longer term (principle 9). Landscape processes are dynamic: people change, as do their values, interests and priorities, thus the improvement of local learning processes for continual learning and adaptive management (principle 1) is required, as is the strengthening of the stakeholders’ capacity and ability to participate effectively and to accept various roles and responsibilities (principle 10). (Sayer et al., 2013)

Sayer et al. (2014) do not consider these ten landscape approach principles enough to solve conflicts, putting forward the need for some preconditions to be present in landscapes, such as “strong leadership, good governance, sustained long-term and facilitated processes, adequate budgets and adequate metrics for assessing progress”. However, these principles could be seen as a “menu of approaches” from which “practitioners may draw to solve problems on the ground” (Sayer et al., 2014).

I have split the principles in three categories: principle 1: 'Continual learning and adaptive management' and principle 2: 'Common concern entry point', are understood as structural conditions; principle 3: 'Multiple Scales', principle 4: 'Multifunctionality' and principle 5: 'Multiple stakeholders' focus on multiplicities and the complexity of landscapes; principle 6: 'Negotiated and transparent change logic', principle 7: 'Clarification of rights and responsibilities', principle 8: 'Participatory and user-friendly monitoring', principle 9: 'Resilience' and principle 10: 'Strengthened stakeholder capacity', focus on operationality (Sayer et al., 2013).

Based on the literature review drawn above, and keeping in mind that Governance of landscapes has to deal with different networks of functions and stakeholders that are present at different hierarchies of landscapes, I have chosen to analyse the second category of principles multiplicities and the complexity of the landscape: multi-scale (and multi-level), multifunctionality and multiple stakeholders. Through my literature review (Fischer, J. et al., 2006; Scherr et al., 2012; Kozar, R., et al. 2014; Sayer et al., 2013, 2014; Ecoagriculture, 2015; Tropenbos, 2015; among others) I have realised that these three principles are generally accepted and commonly used in academic and policy documents concerning landscape approaches concerning resource use and value conflict management. Further explanation on each selected landscape approach principle is given in the next chapters when these principles are analysed.
2.2. Valuation Triadics and Territorial Narratives

When collective action is needed from different stakeholders, as for Governance of landscapes, a conflict between individual and collective interests, values and meanings to landscapes will likely emerge (Ostrom et al., 2007). Farrell (2007) proposes that the study of environmental resource use conflicts might be advanced if value conflicts are conceptualized as the convergence of differently structured valuation triadics. This concept focuses on a single physical space, in which different stakeholders are competing to determine which values will eventually be articulated.

Farrell (2007) proposes, that, when considering what are the economic contributions of ecological phenomena, the complex system of valuation within which values are articulated by communities of humans, can be represented as hierarchical triads comprised of (1) a higher, structuring, level, or fitness landscape of institutions, which comprises the entire valuation system and defines what values can be articulated; (2) a focal level, reflecting the object of valuation, where the “act of value articulation takes place” (Farrell, 2007); and (3) a lower, functional, level, “which comprises articulated values” (Farrell, 2007). In order to flesh out the valuation triadics, the concept of territorial narratives will be used in this research.

Territorial narratives are discourses and narratives of a physical space in which physical and social variables are mixed, and each specific thematic axe narrative and discourse is constantly defined and redefined (Damonte, 2011) by different meanings, values, ideas or descriptions that social groups (sometimes made by individuals) give to a territory (landscape or place) (Rasch, 2013; Damonte, 2011). Damonte (2009) argues that territories are constructions constituted from narratives. These social constructions are generally originated to endeavour control over natural resources and the people inhabiting the areas where these resources are located (Vandergeest & Peluso, 1995 as cited in Rasch, 2013). According to Görg (2007), the analysis of this social construction is the starting point for any interdisciplinary study of environmental management questions, as this can help to improve the linkages between people and nature, addressing social and ecologic dimensions that are fully embedded in complex dynamics.

The territorial narratives provide the basis for developing the representations of the structural level, and identifying how the focal object of the territory within which gold is located, is viewed from within the respective valuation triadics, in which “adaptations arising at the focal level are shaped by structure and constrained by function” (Salthe, 1985:82–86 as cited in Farrell, 2007). Because the analysis of this thesis is based on landscape approaches, I will refer to territorial narratives as landscape narratives from now on.
3. METHODOLOGY

In the first section of this chapter a description of the context of gold mining in Ecuador, the focus point of this study, is given. Next, I detail the research objective, the main question and sub questions that this thesis expects to answer. Following, the scope of this investigation is described, in which two gold mining landscapes in Ecuador were selected as focal points of the investigation: the Loma Larga gold mining exploration project and the Ponce Enriquez gold mining extraction landscape. Afterwards, I detail the methodology used for the investigation. To finalise this chapter, ethical, limiting, as well as other considerations are described.

3.1. CONTEXT OF GOLD MINING IN ECUADOR

Gold prices have risen significantly since the turn of the century: in 2001 an ounce of gold cost around US$ 260, while it reached US$ 1,800, an almost sevenfold increase, by the end of 2011 (Goldprice, 2015). This vast increase in gold prices, and the increased demand of this mineral by countries as China and India, among others, have pushed worldwide holdings (Poveda, 2015). Gold mining has become an attractive option across South America, where governments of countries such as Ecuador, Bolivia, Brazil, Colombia, Peru, and others have been adopting different measures to promote this industry (Fellet 2012, OCMAL, 2014, Poveda et al., 2015).

Between 2004-2013, the gold production in the region has grown steadily with 33%, accounting for a yearly share of the world production of around 18% (Poveda, 2014). In the region Peru is the fifth main gold producer worldwide with a production in 2013 of 181,6 tonnes (Thomson Reuters, 2014, as cited by Poveda, 2015), and the gold production in the country has increased with 560% in the last twenty years (Gold.org, 2012). With exception of Brazil which has a internal demand of around
40% of its gold minerals, the production of gold in South America is mainly for exportation to countries such as China and India who in 2013 demanded 978.3 and 715.8 tonnes of gold respectively (Poveda, 2015). Despite a significant drop in gold prices to around $ 1.100 per ounce in recent months (Goldprice, 2015), Poveda et al. (2015) consider it plausible that the continuous demand for gold from Asia will maintain the increase of production in gold deposits and mining areas in Latin America.

Similar to the rest of Latin America, the gold mining industry is under pressure to be expanded in Ecuador. Geological studies performed by the British, Swedish and Ecuadorian Geological Surveys through the late 1990's claimed that Ecuador has tremendous potential for the discovery of new economic gold deposits (Dynasty mining, 2015). Despite still having large reserves of minerals (Wacaster, 2013), Ecuador is described as an under-explored mining country (Lundin Gold, 2015) and is not a leading worldwide producer of minerals.

In 2011, the country has listed 36.9 million ounces of gold, 72.4 million ounces of silver, 8.1 million tonnes of metallic copper, 28,471 tonnes of lead and 209,649 tonnes of zinc as potential mineral resources (Cueva and Eleyda, 2014). Metallic mining concessions such as copper, gold and silver represents 87.8% of Ecuador’s concession surface. The biggest mining potential in the country is located in the provinces of Azuay and Zamora-Chinchipe, were respectively 25% and 26.8% of these areas are under concession. Together with the provinces of Loja and Morona-Santiago they represent 66% of the concessioned surface in Ecuador (Sacher & Acosta, 2012).

At the moment, there is only artisanal and small-scale mining in Ecuador, but the current government administration in Ecuador considers the mining sector as a strategic activity for the economic model of the country (Sacher & Acosta, 2012). There are currently nine exploration projects managed by the National Mining Company (ENAMI for Empresa Nacional de Minería), in which five projects have gold as their main mineral (ENAMI, 2015). Besides that there are sixteen large-scale projects managed by international mining companies, which represent 245,621 hectares, 25% of the total concessioned surface in the country (Sacher & Acosta, 2012). Thirteen of these projects have also gold as their main mineral.

Eleven of these sixteen projects are in the initial exploration phase; and five are already in the advanced exploration phase, and are considered strategic projects for Ecuador. These strategic projects are Panantza-San Carlos, Mirador, Fruta del Norte, Rio Blanco and Loma Larga (Sacher & Acosta, 2012), from which the latter four projects have gold as their main mineral. The Ecuadorian government expects these five strategic projects to generate 4 billion dollars in the next ten years through royalties and taxes (Sacher & Acosta, 2012). Concerning the employment outlook, these

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2 LLurimagua, Tola Norte, Telimbela, El Torneado, Pacto, Huambuno, La Bonita, Rio Coungume, Rio Santiago

3 Junín, El Hito, Rio Zarza, Chaucha, Curipamba, Tres Chorreras, Condor Gold, Gold Dynasty, Zaruma, Gaby Gold, Jerusalem
projects are estimated to generate 5,600 direct jobs in their development phase (taking one to three years) and 2,315 jobs in their operation phase (taking ten to twenty years) (Sacher & Acosta, 2012).

Gold mining has a history of negative environmental and social effects in areas where this activity is developed. In Ecuador, local and national mining activist organisations have emerged and different strikes and protests against these large-scale mining projects are constantly being organised. Mining is seen as a threat to values, goods and services present in landscapes and even though not all mines in Ecuador are located in inhabited areas, the majority can be found in rural areas, where agriculture is the main source of livelihood, which creates a conflict of access to resources, such as water and land (Schneider, 2012; Cueva & Eleyda, 2014). According to Fernando Arellano (2011) all South American countries with large-scale gold mining projects have social conflicts. Looking up South America on the web page of the OCMAL (Observatory of Mining Conflicts in Latin America) 148 active conflicts can be found throughout the entire region (OCMAL, 2015). In Ecuador they name seven conflicts, five of which are because of gold mining. There are also two transboundary conflicts with Peru in the Mirador project. Nevertheless, mining is also considered to be an important activity that can help to alleviate poverty and develop the country (Schneider, 2012; Cueva & Eleyda, 2014). Mining companies and national governments in the entire South American region, and explicitly in Ecuador, claim that responsible mining contributes to the development of communities, investment in infrastructure and basic services, among others (SENPLADES, 2013; Gold.org, 2014).

3.2. RESEARCH OBJECTIVE

Landscape approaches to natural resource management have mainly been applied to agricultural and forestry topics. Although mining is recognised in these projects and investigations, a gap in this research area, using concepts of landscape approaches, is observed. As a contribution to this field in mining areas, this thesis wishes to contribute to the studies of landscape approaches to sustainable management of natural resources, as one more focused on mining areas.

The aim of this research is to analyse gold mining areas in Ecuador and to identify if it is possible to bring different stakeholders, functions and mining scales together in this industry despite strong conflicts. For this, I develop and juxtapose representations of valuation triads, providing detailed information regarding the diversity of stakeholder narratives concerning the landscapes in which resources, in this case the focus is on gold, are located. Based on this information, I evaluate if the governance in gold mining areas in Ecuador is considering the multiscales, multifunctionality and multistakeholders —three principles in landscape approaches to reconcile conservation and development objectives— that are present in these landscapes. In this research 'governance' takes the different leading groups of stakeholders that are involved in or are part of gold mining landscapes into account.
3.3. Research Question

To what extent are the three analysed landscape approaches principles (Sayer et al. 2013): multistakeholders, multifunctions, multiscale considered in the Ecuadorian gold mining landscape governance?

3.3.1. Sub Research Questions

- Do stakeholders consider that mining is compatible with Sumak Kawsay?
- How are the environmental, social, and economic dimensions considered in the mining law?
- Do stakeholders consider that the different mining scales can coexist in a same landscape, or is there a dominant mining scale in the National political context?
- Do stakeholders consider that different functions can coexist in the same landscape with large-scale mining?
- How do large-scale mining companies apply the ‘responsible mining’ rhetoric, the main discourse of the national government (focus on the Loma Larga project)?
- What relationships exist between and among the main stakeholders in the analysed gold mining landscapes (taking the main functions and different scales of the gold mining landscapes into account)?
- What juxtapositions of values of stakeholders can be determined? Is there a dominant system of stakeholders and functions in gold mining areas?

3.4. Scope of Investigation

As discussed at the beginning of this chapter, all large-scale gold mining projects in Ecuador are in the exploration stage. In this research I focus only on the four strategic (gold) mining projects: Loma Larga, Río Blanco, Fruta del Norte and Mirador. The reason for this is that these projects are in the advanced exploration stage and are expected to start exploitation of the deposit in the upcoming months/years. They are located in two provinces in the South of Ecuador: Azuay and Zamora Chinchipe.

The context of each named gold mining project is different. Some mining projects are located in or close to indigenous settlements, while others are in or close to rural settlements. In some of the project areas, artisanal and small-scale mining are already present, while others have no history of mining. These settings are the reason that the functions and scales of each of these projects have their own peculiarities, as do the local stakeholders. Therefore, even if the analysis of these aspects is important in this research, I will select a specific project to focus on, due to time constraints. This will allow me to make a deeper analysis of the principle of multifunctionality and of the local actors.

To make this selection objectively, a first phase of interviews, in-situ, was made (Section 3.5.). At first glance, because of gold quantities, the Fruta del Norte project, followed by the Mirador deposit
appeared to be the most representative gold mining projects. However just a few months before this field research started Kinross sold Fruta del Norte to Lundin Gold, and as new adjustments and changes were in progress, this case was not a suitable reference for this research. The second case, Mirador, is mainly considered to be a copper deposit, although important quantities of gold are present.

For this reasons, the third most representative gold mining project, Loma Larga (formerly Quimsacocha) was selected for analysis in this research. This project is located in Azuay, a province that encompasses an area of 8,309.58 square kilometers (830,958 ha) (INEN, 2010). The Loma Larga project was first considered a large-scale project, however after the mining law amendment in 2013, an additional category was added, and the Loma Larga is nowadays considered a medium-scale mining project. As regulations for this new category have not yet been defined, and as this project is still considered a large-scale project by the population, I will continue referring to this project as a large-scale mining project. Another gold mining project, Rio Blanco, is located close to the Loma Larga gold mining area, and together they are the two best-known projects of the province. Besides these, artisanal and small-scale mining activities are present in the province. The best-known area is Camilo Ponce Enriquez, where gold mining activities have taken place since the early 80s; small concentrations of artisanal and small-scale gold mining can also be found in Pucara, Sigsig, and other sectors of Azuay.

The main economic activities in the communities surrounding the project are keeping livestock and agriculture, which are small-scale and subsistence (personal/familiar use) activities. The Loma Larga project is a very typical example of large-scale mining projects in Ecuador, however artisanal and small-scale mining to compare with, are absent in the area. The perspective of artisanal and small-scale mining is however important because it is part of the Ecuadorian discourse of mining. On this basis, artisanal and small-scale mining are brought into the analysis by looking at the general context of Ecuador, with special emphasis on the Ponce Enriquez gold extraction and mining landscape.

3.5. Research Method

First, a literature review was conducted on topics concerning collaborative and participatory approaches towards addressing global challenges, integrated development approaches, landscape approaches, territorial narratives, valuation and hierarchical structures. Three of the main concepts obtained through this review were used for the conceptual framework presented in Chapter 2. On the subject of landscape approaches, different policy papers, projects and academic investigations were reviewed, as well as personal communication by email with Jeffrey Sayer and James Reed, authors of the main papers of this concept. To understand the mining context in Ecuador, study areas of this research, available secondary information (web pages, news, scientific information and policy documents) was reviewed. To complete this study, Qualitative Research was applied. The location of the field research was the provinces of Azuay and Pichincha in Ecuador.
The fieldwork took place from April 13 to May 30, 2015 in three phases: I) exploration phase, II) local level phase and III) national level phase. In total 52 in-depth interviews and personal communications with experts, decision makers (national governmental officers), a mining company, a pro-mining organisations local peasant activists, national environmental activists, and local governmental institutions, all of them related to gold mining landscapes in Ecuador. Besides I did two direct observation and held a public communication with mining authorities, all this at a National event in the area close to where the Loma Larga gold mining project is located. Table 1 shows the number of interviews, communications as well as the public participation and direct observation made within each group of stakeholders. A detailed list can be viewed in Appendix 1.

<table>
<thead>
<tr>
<th>Group of stakeholders</th>
<th>Interviews</th>
<th>Communications</th>
<th>Direct observation and public participation</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Government (decision makers)</td>
<td>6 (phases I &amp; III)</td>
<td>9 (phase III)</td>
<td>1 (phase III)</td>
<td>16</td>
</tr>
<tr>
<td>Researchers and experts</td>
<td>3 (phases II &amp; III)</td>
<td>5 (phase I)</td>
<td>-</td>
<td>8</td>
</tr>
<tr>
<td>Mining Company (INV Metals)</td>
<td>4 (phases II &amp; III)</td>
<td>1 (phase III)</td>
<td>1 (phase III)</td>
<td>6</td>
</tr>
<tr>
<td>Local Parish government authorities</td>
<td>3 (phase II)</td>
<td>-</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Local Cantonal government authorities</td>
<td>1 (phase II)</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Provincial government authorities</td>
<td>3 (phase II)</td>
<td>-</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Regional government authorities</td>
<td>2 (phase II)</td>
<td>2 (phases II &amp; III)</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>National environmental organisation</td>
<td>1 (phase III)</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Peasants mining activist organisation</td>
<td>1 (phase II)</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Pro-mining foundation</td>
<td>1 (phase III)</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Others</td>
<td>-</td>
<td>10 (phases I, II &amp; III)</td>
<td>1 (phase III)</td>
<td>11</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>25</strong></td>
<td><strong>27</strong></td>
<td><strong>3</strong></td>
<td><strong>55</strong></td>
</tr>
</tbody>
</table>

Table 1: Number of interviews, communications, direct observation and public participation within groups of stakeholders (Fieldwork-Ecuador)

Source: own elaboration

Under communications I group the conversations in which general topics of the area were contemplated, in which I was not able to control the conversation, or in which I did not have enough time to cover all the expected topics with the informant. Also added to this category are: the ten talks with the local population that I encountered and addressed in the streets in San Gerardo and Chumblin, two communities that lie in the direct influence zones of the Loma Larga project, as well
as at a public event, where I went to their stands to ask for information. Observations concerning two stakeholders participation are named direct observation, and an own participation made in a public event is named public communication. Material in the field such as pamphlets, books, unpublished papers were also collected.

The main topics of the interviews and personal communications referred to: multifunctionality in the Loma Larga project; mining scales in Ecuador (focused mainly on Ponce Enriquez and Loma Larga); involved stakeholders at international, national, regional, provincial, cantonal and local level. Furthermore questions related to the new mining law in Ecuador; the Constitution; and the Living Well National Development Plan were inquired.

From the 55 interviews, communications, direct observation and a public participation 30 were recorded with explicit permission from the interviewees and two because it was a public. Five exploration stage communications, communication with five people in the parishes and three telephone and Skype communications were not recorded. I did also not record twelve of the interviewees because they preferred not to be recorded. In all cases, notes were taken. The recorded interviews and communications add up to approximately 22 hours of recording. In order to organise the data, thematic content analysis was made, for which I used the software for qualitative research ‘ATLAS.TI’. With this software the recordings of the interviews were coded, in which I transcribed some of the required data to fulfill the objectives of this research. Upon which this information was classified into themes and the information of different actors was triangulated and consequently used to write the following chapters.

First phase of fieldwork

In the first phase, five communications were made with academics, a national government representative and a mining lawyer. This stage was useful to delimit the mining zone or project on which I put the focus during the field research (Section 3.4.). These communications also helped to improve the methodology, and the framework of topics to ask future interviewees, and it allowed me to get contact details of people with whom I would have interviews later. Because of the nature and objectives of this investigation, the snowball sampling method and the judgmental or purposive sampling method were used in the next phases.

Second phase of fieldwork

The second stage of interviews and communications focused on analysing the Loma Larga project and the Ponce Enriquez gold mining landscapes, both of them located in the Azuay province. Therefore the location in this phase was Cuenca (capital of Azuay). I have interviewed local community activist leaders, parish, cantonal and provincial governmental authorities, and expert academics from the Azuay and Cuenca Universities. I also went to the influence zones of the Loma Larga mining project: San Gerardo, Chumblin and Victoria del Portete, where I had around five informal communications with local people in the parishes and talked with the social workers of the mining company in charge of this project. A Skype communication with William Sacher from FLACSO,
and a telephone communication with the Director of Social Responsibility of the mining company, with office in Quito, were also done in this phase. This period helped me to have a better understanding of the mining law, Constitution, policies, the difference between small- and large-scale mining, new mining regulations, mining investigations, main arguments of the involved actors in favour of and against mining, functions at the Loma Larga and Ponce Enriquez areas, and other aspects that are explained in the subsequent chapters.

Third phase of fieldwork

On the basis of the first and second stages of fieldwork, a third stage started. In the third stage I focused mainly on the national level. The location of my stay in this stage of investigation was Quito, the capital of Ecuador, as the head offices at National level are located here. In this phase I interviewed two mining experts from FLACSO (Latin American Social Sciences Institute, FLACSO for Facultad Latinoamericana de Ciencias Sociales), a representative of FUNGEOMINE (Foundation for Geological, Mining and Environmental Research of Ecuador, FUNGEOMINE for Fundación para la Investigación Geológica, Minera y Ambiental del Ecuador), decision makers from the National Government and the mining company in charge of the Loma Larga mining project. In this stage I also attended an event in the Azuay province, as all the national authorities (president, vice-president, ministers, among others mining decision makers) were present. This event took place close to the Loma Larga project, in the canton of Giron. In that meeting I conducted some communications with the Vice-president of Ecuador and the Minister of Mining, as it was difficult to have an interview with the latter in his office in Quito. I have also observed the public participation of local actors towards mining authorities, and I have publicly participated by asking a few questions to the representatives of the mining sector. During this day I have also had five communications with three local people at the event, who work on social projects with the INV Metals mining company, and with one representatives of the MAGAP (Ministry of Agriculture and Fisheries, MAGAP for Ministerio de Agricultura, Ganadería y Pesca).

3.6. ETHICAL CONSIDERATIONS

The author bases her ethical considerations for this research on the Wageningen University Code of Conduct approved by the Executive Board of Wageningen UR on September 2008. This considers scrupulousness, reliability, verifiability, impartiality and independence principles and best practices. The Wageningen University plagiarism policy as mentioned in the Student Charter 2014-2015 (2.8 Students and copyright, p. 24-25, and 5.3.3. Fraud and plagiarism, p. 56-47) and its Appendices (Article 33h, p.117) is also contemplated.

3.7. OTHER CONSIDERATIONS AND LIMITATIONS

A limitation of the field investigation was that there were no Ecuadorian Institutions to guide and support my research in Ecuador, as it would have limited the access to some stakeholders, due to the nature of mining. Concerning the interviews, the process of getting them was sometimes long. In most of the cases I first asked for an interview by email, followed by a phone call when I did not receive a reply within two to five days. Another strategy when I did not receive a reply was ‘cold
visits’ (without appointment) which worked out in some of the cases. In the third stage of interviews, the national level, it was more difficult to get appointments than in the previous stages due to bureaucratic processes that took longer. Generally the main authorities were contacted (either by email, visit, or telephone) around one and three weeks in advance of the interview, upon which they agreed to an interview or delegated it to somebody else. In some cases I did not receive a reply, in which case I also resorted to cold visits. However at the national level I was mostly required to leave personal letters asking for an interview, sometimes accompanied by a letter from the university.

It was also possible to ask questions to the ministries of mining, environment, strategic sectors, hydrocarbons, and other representatives of the mining sector together at a public event, though not all of my questions were answered, but with the note that they could reply in a further personal interview or email. With some stakeholders at the National level, such as with the former president of the National Assembly, appointments could not be made during the time reserved for fieldwork, therefore some interviews have not been possible to conduct.

Because of the large number of stakeholders, I attempted to talk to at least one representative of each sector, and to balance the participation of people in favour and against mining to give an equal valuation to both parts. However, as one of the main aims of this thesis was to analyse the Governance of gold mining areas, and as the governance in this sector in Ecuador is mainly managed by the National Government, most interviews were made at this level. Still many other mining actors can be lacking, principally on the mining activist side, and the most important hiatus is found in the lack of opinions of the inhabitants from the communities.

Concerning to the collected information, some of the information I detailed in this thesis, particularly when related to technical issues, is lined to what interviewees said and not to my own academic research on those topics. Because of time restraints in this investigation, it was also not possible to analyse all the different information in detail. The goal to use those statements is to compare and group landscape narratives of stakeholders. This information will be analysed, as will the different discourses and domains that stakeholders use to defend their ‘positions’. This material will help to answer the questions of this investigation

As a final remark and consideration for readers, I would like to add that in the text the official (Spanish and Kichwa) acronyms and abbreviations are used for Institutions and organisations in Ecuador (See: Table of acronyms and abbreviations).
4. MINING IN THE ECUADORIAN CONTEXT

This chapter is divided in five main sections. First, mining is examined based on the Constitution, and within the framework of the Ecuadorian Buen Vivir National Development Plan. This is explained from two landscape narratives: the mining narrative within the Ecuadorian National Government context to achieve Buen Vivir; and the incompatibility of mining narrative, as activists see it, within the framework of Buen Vivir. Second, the current Ecuadorian mining law and the mining development framework are detailed. Afterwards, I explain environmental, social and economic dimensions considered in landscape governance, within the mining law framework. The fourth section relates the current artisanal, small, and (medium and) large-scale gold mining situations. To complete this chapter the mining scales and the three named dimensions are analysed from a valuation triadic perspective.

This chapter answers three sub-research questions: Do stakeholders consider that mining is compatible with Sumak Kawsay? How are the environmental, social, and economic dimensions considered in the mining law? Do stakeholders consider that the different mining scales can coexist in a same landscape or is there a dominant mining scale in the National political context?

4.1. MINING IN THE ECUADORIAN NATIONAL CONTEXT AND WITHIN THE BUEN VIVIR NARRATIVE

This section details the compatibility between the mining, the Buen Vivir and the responsible mining narratives. Following the presidential election of Rafael Correa in 2007, the Ecuadorian National Assembly approved a new Ecuadorian Constitution in 2008. This Constitution is backed up by a Popular Consultation in 2007 and a referendum in 2008. According to the Ecuadorian Constitution, mining resources, as well as all non-renewable natural resources are an “inalienable, imprescriptible and indefeasible property of the State” (Ec. Constitution, Art. 1, 317 and 408). These resources are considered ‘Strategic Sectors’, as they have economic, social, political and/or environmental influence (Ec. Constitution, Art. 313) to develop the country.

Buen Vivir is a good way of living has become an important term in the narratives and discourses used in the Ecuadorian mining governance. In this section I first explain the mining narrative within the Ecuadorian National Government context to achieve Buen Vivir. Afterwards, I discuss the different elements used to build the narrative on the incompatibility between mining and Buen Vivir for activist groups. The narratives in this section and in the next sections, in which I present landscape narratives, statements made by interviewees are referenced by the position and/or organisation that these stakeholders belong to. More information concerning the participant, such as her/his name, kind of communication, date, phase of fieldwork and location where the communication took place are available in Appendix 1. Only when I do not name specific actor positions or the organisation they belong to, or I have not introduced them yet in the previous sections, a footnote is used for reference.
4.1.1. The responsible mining narrative within the Ecuadorian National Government context to achieve Buen Vivir

The pro-mining territorial narrative focuses on the function of the natural (gold) mining resources in Ecuador as a source of development within the perspective of Buen Vivir. A key element in this mining narrative is that mining and Buen Vivir are compatible. To merge these two elements the Ecuadorian Government ensures that a Responsible mining will be made in the country and different objectives, strategies and goals have been established in the Buen Vivir National Development Plan.

The sustainable or responsible mining rhetoric emerged as the Global Mining Initiative in 1998, when nine of the largest mining companies associated aiming at improving the environmental and social standards of the mining industry in a transition to a ‘sustainable development’ (Rasch, 2013). The National Government in Ecuador, in line with this conception, promotes a responsible scheme of mining in the country. According to the Vice-president of Ecuador responsible mining is definitely possible, and he states that mining will be legalized and regulated, giving a great value to the importance of technology. The regularization and control of miners, as well as technology, would guarantee that there is no possibility to contaminate the environment, and mining is done with “the highest possible environmental quality standards”. FUNGOMINE, INV Metals representatives, and National Government institutions noted that the technology that can now be found in the mining sector did not exist twenty years ago, and “companies are aware of social responsibility” now, aspects that were not considered in previous mines.

The Buen Vivir National plan (SENPLADES, 2013) states that public investments in “highly profitable projects in Strategic sectors, as mining, are prioritized, as these are considered to contribute to the creation of a sustainable economic system for Ecuador. Besides that, the royalties of these activities, including mining, are expected to contribute to public investments in basic infrastructure (“more schools, more hospitals, and more highways”) that are still lacking in many places in Ecuador, and to investments in social protection, in knowledge and in technology, research and innovation, among others (SENPLADES, 2013).

When analysing the central elements considered within the Buen Vivir National Development Plan on (gold) mining, the aim for artisanal and small-scale mining is to repair, remediate and regulate current mining areas after environmental contamination for which the Government should invest in the influenced areas to improve the quality of life of its people. The plan highlights that this should be done mainly in Ponce Enriquez, Zaruma-Portovelo, Nambija and northern Esmeraldas. Another element is the industrialisation through technology transfer, implementation of selective processes (that are currently being imported), production of intermediate and final goods in the country, and

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training of local capacities. On top of that, management processes are expected to be strengthened and the production structure of the metal mining industry, especially in the southern zone of Ecuador should be a priority, and it should be diversified to develop new productive activities to improve production capacity in these areas (SENPLADES, 2013).

When analysing large-scale mining in the Buen Vivir National Development Plan, the main points are reflected in the 11th objective, which looks at transforming the mining production structure. One of the central government’s strategies for this is the promotion of strategic national projects in the country, including the five already named mining projects. Another strategy in this sector is to move beyond the focus on extraction (as was the case in the ‘petroleum age’), to this end the Buen Vivir plan expects to identify the economic, social and environmental effects of mining, especially in fragile ecosystem areas, such as in the paramos5 (SENPLADES, 2013).

One of Ecuador’s goals that is also stated in the Buen Vivir plan is to “identify mineral resource availability in 100.0% of the nation’s territory” by 2017. According to the director of INIGEMM, less than 5% of the Ecuadorian territory has as yet been explored, and currently INIGEMM’s main task is to investigate mineral zones that have not been studied before. This collected information will be an input for possible mineral exploration projects, and it will, according to the Buen Vivir plan, help to prevent speculations on the international market, for which the lack of mining reserve quantification can give space. This is particularly common with gold, as this mineral has the capacity to be used as an economic reserve, and as a result companies with gold mining concessions have the possibility to make profits without having to exploit these concessions. To avoid this gold speculation, the National government has created financial instruments such as “gold transactions, derivatives and financial futures, and flow securitizations” (For more information see Buen Vivir Plan 2013-2017 complete version).

All these plans are used as a basis for the “responsible mining [to] be done in Ecuador”6 According to the Mining Minister people, other than the mining activist leaders and the group of people they move, are not against mining, instead:

“[T]hey are active people, people who want to be integrated, people who have the perspective when the project is going to be developed, and how they are going to benefit of it, how they can be part of the decision in which projects will be invested, among others”

The Mining Minister of Ecuador refers to indigenous groups when he makes reference to Sumak Kawsay and mining. He says to have communicated with the ‘Shuar adulta’ community and in his understanding what they want, is to be integrated with mining projects and to “generate their own projects from their own cosmovision”. Sumak Kawsay, in this pro-mining perspective refers to have

5 “A paramo is the high, tropical, montane vegetation above the continuous timberline. It is the ecosystem of the regions above the continuous forest line, yet below the permanent snowline” (Baruch, 1984).

access to basic services and infrastructure. The reasons some people might not have this access, could, in the opinion of a pro-mining organisation, be because they prefer their way of living, or they got accustomed to live in that way, but it might also respond to these people always having lived ‘poor’ and “not [knowing] that there is, [for instance], a bed in which they can sleep”.

Sumak Kawsay means “happy life” according to the Ecuadorian Buen Vivir Plan 2013-2017 (SENPLADES, 2013): it promotes a sustainable and collective pursuit of happiness, and an improvement of the quality of life. The term is also related to the permanency of cultural and environmental diversity, and “harmony, equality, equity and solidarity”. The Buen Vivir plan also posits the ‘need’ for development and economic growth (which is said to be desirable in a society), always respecting the principle of placing “people [and nature] over capital” (SENPLADES, 2013), considering a plurinational country (Ec. Constitution, Art. 1) and recognising the rights of nature (Ec. Constitution, Art. 71).

4.1.2. THE MINING INCOMPATIBILITY NARRATIVE WITHIN THE FRAMEWORK OF BUIEN VIVIR

“This discourse of progress and modernity” used by the Ecuadorian Government to develop mining “convinces and attracts people”.

The former president of the National Assembly of Ecuador, Sacher and mining activists are highly skeptical about the possibility of sustainable mining in Ecuador. They wonder, “How Ecuador is going to be the only place where mining is going to be made without contamination?”

“Mining concessions are like ‘micro-countries’ where the sovereign is the company”.

William Sacher says that in every country where there is mining, including the ones where mining is cited as an example, such as Canada, it has not been ‘responsible mining’. Canada, according to him, has more than 10,000 abandoned mines that have contaminated the hydrographical and surface networks, and he mentions that problems, accidents and breaching of abandoned dikes are common. He points out that despite the goals of governments, including Ecuador, international actors are involved in the mining sector, and they are not easy to supervise and control, as they act at transnational levels, that go further than what national levels can control. According to him, and the INV Metals mining company, the National State does not give a model and method for the operationalisation of the mining sector, and as large-scale mining is new in Ecuador, he believes that there are no specialized technicians in the country who can do that at this moment.

7 Sacher W., personal Communication, May 18, 2015
8 Perez C., personal communication, April 20, 2015; Sacher W., personal communication, May 18, 2015; Chicaiza G., personal communication, May 28, 2015
9 Sacher W., personal Communication, May 18, 2015
In this section I examine the mining incompatibility narrative. This narrative focuses on the natural resource importance to maintain the spiritual and traditional customs of peasants and indigenous within their own networks and landscapes, as these elements are considered by activists to be keys to achieve Buen Vivir.

Acción Ecológica also refers to the indigenous community of the Shuar (as did the Mining Minister) and this organisation says that for them Sumak Kawsay is having: “waterfalls, so they can take a shower; yucca to make chicha; a hammock [to rest]; [a] territory where they can hunt”, and for a peasant, Sumak Kawsay is “to continue with agriculture [and livestock] that allows them to feed themselves [food sovereignty]”. They consider that for an indigenous or for a peasant Buen Vivir implies to “have the possibility to stay with their own networks, affirmed in their identity and activities”, which is not possible with mining. Therefore, stakeholders against mining claim that Sumak Kawsay and mining are incompatible. Below these narrative elements are examined:

Sumak Kawsay does not teach us to use “knife machines [to] hurt our Mother Earth’s bowels”, rather it necessitates a “deep respect to [her], our Mother Earth”.

A first element that appears in the narrative of stakeholders against mining, on the compatibility of this activity and Sumak Kawsay, is a spiritual and traditional sense given to nature. Nature is considered to have life and when for instance mining or another activity that “hurts” nature is performed, the communities will receive the negative consequences of doing so, as it will be present in the environment and in society. Therefore, in this conception, Sumak Kawsay is not achieved, if mining is made in a landscape.

Another of the elements that contributes to this narrative is that indigenous and peasants live from the land and water, and it is argued that these elements are not considered by the National Government when they allow mining projects to enter their territories. An even harsher statement made by two mining activist organisation representatives is that the government despises the knowledge of Indigenous people and criminalizes the social protest.

There is no space on this planet for that unsustainable model of an ‘urbanized world’.11

Health, education, housing, among other basic services are also key elements of this narrative. Acción Ecológica claims that “the obligation of the Central State [is] to respect other ways of life”, as

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10 “[T]he communion between the human beings; fraternity and prosperity of human beings and the deep respect we must have for Mother Earth; it is to breed back and forth, from the human being to Mother Earth and from Mother Earth to breed their children; and to breed the human being, this must be based on various principles of complementarity, responsibility, […], comprehensiveness and all that is sustained in the collective community work; everything belongs to everyone, no individualism, no selfishness. Everything is handled holistically, fully based on the cosmogenesis, cosmovision and cosmo-living, where we do not think selfishly, but in a conception, intergenerational and intragenerational” (Perez C., personal communication, April 20, 2015)

11 Chicaiza G., personal communication, May 28, 2015
these ‘basic services’ that the National Government wants to construct are no priority for the entire population or in all areas. For instance they say that indigenous and peasants have their own ways of life. It is also argued that when these ‘modern’ systems from the Central government are installed in rural areas, this might create a belief of inferiority of traditional customs, native languages, rituals and traditional medicine, while an ‘urban life’ idea is installed in the people’s minds, thus *Sumak Kawsay* once more is not achieved within the population, causing a permanent rejection to the indigenous and ‘non-modern’, according to the standards of the ‘society’.

If the different elements of the two first described narratives are considered, a strong debate on the meaning and values given to *Buen Vivir* is noted. These narratives represent the more functional arguments used by the Ecuadorian National Government and the ones used by activist groups to defend the values they give to (gold) mining landscapes. These arguments are also the ones who support the functionality narrative detailed in Section 5.2.1. Most of their arguments are based on a territorial narrative of a “globalised world” versus “our own world, rejoicing in our traditions”. It can be possible that a point exists where globalisation can be present, without allowing its features to change the essence and traditions of the different people. But, that point (if it exists) will depend on the values and meanings that each individual gives to landscapes within the “*Buen Vivir*” framework.

### 4.2. The Ecuadorian Mining Law and the Mining Development Plan

In 2008, in the process of the development of a new Constitution for Ecuador, the Ecuadorian National Constituent Assembly also launched a series of regulations (mandates). One of these regulations was the Mining Mandate (N.6, promulgated in 2008), which aimed at regulating the mining activity, arguing that the legal framework was insufficient and disrespected. Among the main declarations of this Mining Mandate were the extinction without economic compensation of all the mining concessions that were not investing in the country, did not have Environmental Impact Studies, had pending obligations with the State, or were located in protected areas. A period of 180 days was given to implement a new legal body for mining, as a new public mining company (current ENAMI), which would intervene in all the phases of mining. During that time, all concession granting activities and procedures and all the works in metallic mining concessions were suspended (except the ones in exploitation) (National Constituent Assembly, 2008).

After the Mining Mandate, the new mining law was promulgated in 2009, followed by an amendment to this law in 2013. Since then, the structure to manage the mining sector is composed by the responsible mining institution; the Mining Regulation and Control Agency (ARCOM for *Agencia de Regulación y Control Minero*); the National Institute of Geological, Mining and Metallurgical Research (INIGEMM for *Instituto Nacional de Investigación Geológico Minero Metalúrgico*); the National Mining Company (ENAMI for *Empresa Nacional Minera*); and the Municipal governments in their corresponding spheres of competence (Art. 5, Mining Law 2009). Before 2015 the responsible mining institution was the Ministry of Non-Renewable Resources, but since February 2015 a new governing body, the Ministry of Mining, was created for the mining industry.
One of the main tasks of the (new) Mining Ministry is to develop a mining development plan, which ministry development plan, such as mining has to be coordinated with the National Planning and Development Secretariat (SENPLADES for Secretaría Nacional De Planificación Y Desarrollo).

Among the tools to achieve Buen Vivir, an organised plan of the country in regions, provinces, cantons and rural parishes is established. A Decentralized Autonomous Government (GAD for Gobierno Autónomo Decentralizado) is assigned to each region, province, canton and rural parish in the country (Art. 242, 251, 252, 253 and 255, Constitution). These different levels of government are coordinated by SENPLADES (Art. 279, Constitutions), along with its nine regional Zonal Agendas. In an interview with a spatial planning analyst from SENPLADES (National office) it was said that the main task of each GAD is to develop their own territorial plan with specific objectives and indicators based on their needs and within the framework of the National Plan of Buen Vivir. As a strategy to bring different stakeholders at different levels of government together in mining zones, the Strategic National Projects (PEN for Proyectos Estratégicos Nacionales) must be made. A spatial management analyst of SENPLADES says that PENs are expected to become specific development (mining) plans for each parish and/or canton, influenced directly by mining projects, and this refers to how the generated rent by the Strategic projects inside the territory is redistributed in order to achieve Buen Vivir for the population.

Concerning the mining sector Development Plan Javier Córdova, Minister of Mining in Ecuador (personal communication, May 30, 2015) put forth that this has been already written (by an international consultancy company), however a valuation of this by the Ecuadorian governmental institutions is still required. Once it is completely ready, it should be approved and then it will be published (expected in a few months). This plan will cover artisanal, small, medium and large-scale mining at different stages. The mining scales are classified based on production volumes that the mining activity produces12 (Reformatory Organic Law to the Mining Law, 2013). Concerning the mining stages, the mining law recognises exploration (which includes prospection, initial or advanced exploration) and Exploitation (which includes beneficiation, smelting, commercialization and mining closing)13. In each mining phase the Ecuadorian Government is responsible for applying

12 To be considered artisanal metallic mining a maximum of 10 tonnes per day can be produced in underground mining and 120 m³ in alluvial mining. In small-scale mining a maximum of 300 tonnes can be produced per day in underground mining, 1000 tonnes per day in opencast, and 1500 m³ per day in alluvial mining. For medium scale the production ranges from 301 to 1000 tonnes per day in underground mining; from 1001 to 2000 tonnes per day for opencast mining; and from 1501 to 3000 m³ per day for alluvial mining. Activities will be considered large-scale mining when the production volumes exceed the established limits of medium-scale mining (Mining law, 2009).

13 a) Prospecting: searching for indications of mineralized areas; b.) Exploration: determining the size and shape of the deposit, as well as the content and quality of the mineral therein. The exploration may be initial or advanced, and also includes an economic evaluation of the deposit, its technical feasibility and the design for its exploitation; c.) Exploitation: includes the set of operations, mining works and labor required for the preparation and development of the deposit and the extraction and transportation of the minerals; e.) Beneficiation: consists of a set of physical, chemical and/or metallurgical processes to which the exploited minerals are subjected in order to improve their useful content or metallic percentage; f.) Smelting: comprises the process of melting minerals, concentrates or precipitates in order to separate the metallic products desired from the accompanying minerals; g.) Refining: consists of the process of converting metallic products into high-purity metals; h.) Commercialization, which consists of the buying and selling of minerals or the signing of other contracts regarding the negotiation of
measures to avoid negative environmental impacts to guarantee the right of people to a healthy environment and the right of nature to be respected (Ec. Constitution, Art. 14, 72, 396, 397).

4.3. ENVIRONMENTAL, SOCIAL AND ECONOMIC DIMENSIONS OF THE ECUADORIAN MINING LAW

Landscape approaches to manage natural resource conflicts look at bringing the environmental, social and economic dimensions together. These three pillars are analysed in this section based on the Mining law and on the perspectives of interviewed stakeholders.

4.3.1. THE ENVIRONMENTAL DIMENSION IN THE MINING LAW AND RELATED POINTS OF VIEW OF STAKEHOLDERS

In order to understand the different measures that the mining law considers, special attention is given to the permits to develop mining activities, their approbation, environmental audits and the control of the mining activities. The normal process is said to be: first the Ministry of Mines will grant a permit in exchange for a notarized oath document by a concessionaire, stating that his/her mining activities will not affect other areas. Following this, the process goes to the Environmental Ministry (MAE for Ministerio del Ambiente del Ecuador). The owners of mining concessions must prepare and submit an environmental impact document or an Environmental Impact Study (EIA) for Estudio de Impacto Ambiental to MAE. As an attachment to the EIA, the miner must also present the

any product resulting from mining activities; and, i.) Mine Closure: consists of the termination of mining activities and the subsequent dismantling of the facilities used in any of the above-mentioned stages, [...] including environmental remediation in accordance with the closure plan duly approved by the competent environmental authority. (Ec. Mining Law, Art. 27)

14 “... roads, public infrastructure, enabled ports, sea beaches and seabed; telecommunication networks; military installations; oil infrastructure; aeronautical facilities; or electrical infrastructure networks; or archaeological, natural and cultural heritage remains” (Ec. Mining Law, Art. 26)

15 EIAs are seen as formal processes to predict environmental consequences of a development project, and they obtained formal status with the enactment of the National Environmental Policy Act (NEPA) of 1969 of the United States (Eccleston, 2008).

16 In the initial exploration phase in large (and medium) scale mining an online registration has to be submitted and an administrative authorization is given by MAE, as this phase is considered an activity of low environmental impact. In the case of artisanal mining, an online registration also has to be done, but in this case miners get a license for exploitation, because artisanal mining is conceptualised as a mining livelihood activity. In the advanced exploration phase of large (and medium) scale mining an environmental declaration is required. In exploitation and subsequent phases EIAs are required. They have to be modified or updated depending on the results. According to an interview with the Environmental Ministry (also in Ec. Mining Law, Art. 78), the exploration and exploitation can be done at the same time in small mining. Hence an environmental document, either an EIA or an environmental declaratory depending of the material to exploit must be presented for this phase. In the case of gold an EIA is required.
authorization of SENAGUA that testifies that water quality is under permissible limits (Ec. Mining Law, Art. 26, Art. 78, Art. 79). Based on these documents, MAE will grant environmental licenses to miners once they verify and validate the information they received.

When it comes to controlling mining activities, each public institution has its own control department or control institution: the Mining Ministry works together with ARCOM, and in the same way, MAE and SENAGUA have their own control departments. The Mining Ministry (personal communication, May 30, 2015) says that each of these institutions has to enforce the rules with observations, administrative acts, sanctions, including the revocation of the environmental license.

One of the controlling measures the MAE asks of the miners is to do an environmental audit one year after the issuing of the environmental license, and every two years afterwards. Mrs Tul, an Environmental Specialist of MAE (personal communication, May 21, 2015) says that once MAE receives the results of the environmental audit, they verify the results by sending usually two technicians in the field for 1 to 3 days depending on the project and the mining stage before approving the audit. In a public communication with Mónica Hidalgo, vice-minister of MAE (May 30, 2015), it is said that another way to control is to compare and measure the water, air and soil reports of laboratories of mining companies, who must share these results with MAE, who checks the results based on the “specific normative parameters for the mining sector, which are contemplated in the TULAS” (Unified Text of Secondary Environmental Legislation, TULAS for Texto Unificado de Legislación Ambiental Secundaria).

Opinions differ over the trustworthiness of control measures such as the EIA and other environmental documents. National Governmental Institutions, such as MAE, claim that the control they do and the results they get are authentic and reliable, as, even if the consulting companies and laboratories that make the EIA and the environmental audit are hired by the mining company, any company doing these studies must be registered at MAE and the laboratories must be registered at the Ecuadorian Accreditation Service. Besides that it is said that these consulting firms cannot have a direct relationship with the mining company and different consultancy companies must do the EIA and the audit. MAE also explains they have budget programs and action plans, where functionaries of MAE directly scrutinise mining projects (Tul P, personal communication, May 21, 2015).

According to Gloria Chicaiza, Coordinator of the Mining Department in Acción Ecológica (personal communication, May 28, 2015) there is however a difference between “what the Environmental Ministry says and […] what happens in situ”, as serious environmental investigations are not being done. Acción Ecológica says to have reviewed the EIA of one of the large-scale mining projects, namely Mirador, and found out that there is insufficient information to guarantee basic environmental issues. For instance, she claims that the Mirador project is located in a delicate zone, close to a river, and the EIA does not report if the water is going to flood or not in the exploitation stage. Besides that, it is said that there is no information about the site of the mine, instead “the information presented is 30 km further away”.

Gloria Chicaiza, together with Carlos Perez, President of two mining activist organisations in the area of Loma Larga (ECUARUNARI and UNAGUA) (personal communication, April 20, 2015) argues that
international and national environmental standards are not enough to avoid the mining contamination, pointing out that these standards are considered points stating until what level contamination is acceptable, and "even those are never respected" according to her. Mrs Chicaiza (personal communication, May 28, 2015) and William Sacher, a French recognised international researcher who is an academic at FLACSO in Ecuador (personal communication, May 18, 2015) says that mining would not be a profitable business if the National Government would consider all the remediation costs that mining implies.

Mining companies, particularly INV Metals disagree with this. Fernando Carrión, Director of Social Responsibility of INV Metals (personal communication, May 27, 2015) says that even with all the processes of prevention, rehabilitation and remediation to the environment, the mining business is profitable. He adds that the environmental process is not an option, this is law, and no negotiations can be made there. In the mining law, it is stated that upon termination of mining operations the area must be revegetated and reforested (Ec. Mining law, Art. 80 in concordance with Ec. Constitution, Art. 409). MAE mentions that mining companies are required to provide general information concerning the execution of the closing stage in every mining stage in the EIA. Closing mines can be progressive and does not have to wait until the end of the mining operation (Tul P, personal communication, May 21, 2015).

It should be noted that the mining law gives no specific guidelines of what exactly should be done in some of their articles. As a consequence it still leaves a vast space for interpretation by the persons who have to apply this law. MAE, as the main institution that controls mining in environmental terms, seems to be trusting towards all the information given by mining companies. Despite all the measures taken by MAE, consultancy companies and laboratories that are hired by a mining company, might however present results that are affected or biased in favour of their client (expecting future work for the same company or within their network). Therefore environmental investigations should be made, also by the MAE, otherwise a monitoring and controlling system that allows them to follow up the different procedures, that apparently at this moment has not been developed. As a final observation it can be seen that the parameters or permissible limits that are given in the TULAS, are general ones for all activities, meaning that Ecuador does not currently have specific permissible limits for mining activities.

4.3.2. THE SOCIAL DIMENSION IN THE MINING LAW AND RELATED POINTS OF VIEW OF STAKEHOLDERS

In this section, I look into how social participation of mining projects is contemplated within the mining law. This process is a stepping-stone to create trust among the communities towards the mining project. Sayer et al. (2013) calls trust one of the first steps in avoiding or managing conflicts. The social participation process is a part of the Environmental Impact Studies (EIA) that mining companies have to present.
In Ecuador legal figures of previous consent of communities affected by mining projects appear to be non-existent. The objective of the social participation process looks at informing the population that a mining project will be developed in their area and to receive comments concerning possible inconsistencies between what is happening in the area and the information of the EIA, or suggestions how to make mining better without affecting the interests of the locals. According to the Art. 89 (Ec. Mining Law) the aim of these participation and consultation processes is to consider and to incorporate the community’s criteria into the social and environmental management of mining projects.

There is a special consultation process (Ec. mining law, Art. 90) and other social participation processes stated in executive orders and ministerial agreements. In any case, the final decision over whether exploitation is done or not in an area will depend on the higher instance of the Ecuadorian State (Ec. Mining Law, Art. 22; Ec. Executive Order 1040). This instance has to decide in function of ‘national interest’, i.e. looking at the benefits for the entire Ecuadorian population, as the non-renewable natural resources belong to the State (Ec. Constitution, Art. 1 & 408), and not to a particular community.

Once the EIA is finished, it is the obligation of mining companies to communicate its results to the influence zones of mining projects. The social participation is usually done through a public assembly that lasts around one day. This participation process has to be done by a consulting company accredited by MAE, which must be hired by the Mining Company (Ministerial Agreement 066-MAE). Before the public assembly, the news that this social participation process will take place in the area has to be spread. Seven days before the assembly, and seven days after, a centre for public participation has to be available in the mining project’s influenced areas. In this centre the local population has access to studies and information concerning the mining project. During this entire process, comments of communities must be looked into.

Once these procedures have finished, MAE revises all the generated information and “if everything is in order” (Tul P, personal communication, May 21, 2015), the social process is approved and it is annexed to the EIA given by the mining company. If the previous process is not considered enough by communities of the mining project’s influenced zones, they could ask for an extension of the social process.

The received comments are reviewed by MAE based on the Ministerial Agreement 001-MAE and Art. 14 of the Ec. Constitution. Angela Quiche, Coordinator of the Unit of the National Bureau of Environmental Control of MAE (personal communication, May 21, 2015) says that for this reason not everything that communities ask for (or say) will be considered afterwards. MAE also claims that they normally receive denounces of communities because ‘compensations’ (agreements between

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17 “right of the population to live in a healthy and ecologically balanced environment that guarantees sustainability and the good way of living (Sumak Kawsay)... Environmental conservation, the protection of ecosystems, biodiversity and the integrity of the country’s genetic assets, the prevention of environmental damage, and the recovery of degraded natural spaces are declared matters of public interest”.
communities and miners) have not been kept. Once MAE receives denounces, they verify them and a “long process” to check the received denounces starts (MAE analyses what have been the effects, reviews information and agreements, and asks for extra information if this is required).

According to Fernando Valencia, Director of the Mining Engineering School of Azuay University (personal communication, April 20, 2015), an effective citizen participation process is lacking, and he also makes reference that the meetings are more often than not without results, and that people get tired of this. If we analyse all those situations, the long procedures that MAE referred to, and the fact that the population cannot decide over their own territory whether a mining project is done there or not, they can lead to conflicts in influenced zones and resistance of the population towards mining projects in their areas, as many of them can feel that their rights have been violated, and this has already let to social protest concerning the application of mining laws in the environmental and social dimensions.

Carlos Iglesias, a spatial analyst of SENPLADES (personal communication, May 26, 2015) says that in 2012 there were aggressions from some activist groups towards public officials and people from the consultancy company who were doing the EIAs in the sector of Loma Larga (Iglesias C. personal communication, may 26, 2015). Activist representatives confirm that these “aggressions” have been made, and they also cite they have destroyed mining camps, for instance in the Mirador project, allegedly because “mining companies have trespassed and entered their territories with force to make investigations”18 (Perez C., personal communication, April 20, 2015; Chicaiza G., personal communication, may 28, 2015).

Concerning the easement rights of the mining law (Ec. Mining Law, Art. 15, 59, 60 & Art. 100-105), activists consider them a dispossession of land and a matter of concern, as normally old people are said to be the ones expropriated, and they criticise that aspects like what these people who have always lived their lives with the traditional land activities as agriculture and livestock, can do, do not seem to be considered when this “right” is applied (Chicaiza G., personal communication, may 28, 2015; Sacher, W., personal communication, may 18, 2015). In the case of the EIAs, activist groups consider that they contain inconsistencies and do not tell the whole truth; as a consequence, they claim that the socialization processes misinform communities to avoid social conflicts19.

All these circumstances are said to make people feel impotence and according to Gloria Chicaiza (personal interview, mayo 28, 2015) “they have learnt that when they do fact activities [strikes, protests, closing roads...], they are listened to”. Although the conformation of citizen watchdogs is allowed if communities want to monitor and enforce accountability for environmental management (Ec. Mining Law, Art 23; Ec. Executive Order 1040), activist organisations consider that when they

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18 “of course there is violence”

19 “This makes that the population and nature are in danger” (Chicaiza G., personal communication, May 28, 2015).
become citizen watchdogs, they work and help mining companies to exploit (Chicaiza G., personal communication, May 28, 2015).

The two positions between the National Government and activist groups make the social process quite challenging. On the one hand, the National Government considers that the decision if there is mining or not should not only be based on the wishes of the local communities where the gold resource is located, as they are not going to be the only ones to receive benefits, instead mining as an activity that is going to benefit the entire Ecuadorian population because of taxes and royalties that the government can receive. On the other hand, activists claim that mining will affect the local population negatively, and therefore the communities affected by these projects should decide over the land. In any case, the trust that landscapes approaches talk about, which is only possible when there is transparency in the process, but also negotiation and clarification of rights and responsibilities (Sayer et. al, 2013), is still lacking in these social processes.

4.3.3. THE ECONOMICAL DIMENSION IN THE MINING LAW AND RELATED POINTS OF VIEW OF STAKEHOLDERS

In the economic dimension, royalties and taxes that must be paid by the mining companies at diverse scales are detailed. Concerning royalties’ payment, the mining law establishes that large-scale mining must pay 5-8% of royalties, medium mining must pay 4% and small-miners must pay 3% over their mineral sales. Additionally an income tax of 25% and 12% corresponding to Value Added Tax (VAT) as determined in the tax legislation in force, must be paid. Furthermore, 5% of utilities to workers and 10% to the State must be paid. The latter will be invested exclusively in local development projects (Mining law amendment 2013). From the royalties, 60% will be designed to the influenced areas of mining projects, to “cover basic needs and territorial or productive development” (Ec. Mining Law, Art. 93).

Two interviewee academics consider that from an economic point of view, the new mining law has improved20 compared to what it was before, and it is better than in other countries: a positive change for instance is that a contract between the State and the company must now be signed21, which might guarantee that the State will control the company (Zárate 22, personal communication, April 20, 2015; Sacher W., personal communication, May 18, 2015).

Another topic to consider in the economic dimension is the new amendment of the mining law from 2013 concerning the payment of taxes over extraordinary incomes in mining companies. This was originally established at 70%, however this law does not apply anymore since 2013. Chicaiza

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20 “before companies used to exploit and sometimes did not even pay taxes with the justification that they were giving work to people” (Zárate E., personal communication, April 20, 2015)

21 “this is not the case in every place in the world” (Sacher W., personal communication, May 18, 2015)

22 Director of the Department of Biology at Azuay University
To conclude (case study in Chapter 5), all of which have caused protests and social conflicts in the affected zones.

Diverse projects in the exploration phase (section 3.1.), such as the Loma Larga gold mining project (case study in Chapter 5), all of which have caused protests and social conflicts in the affected zones.

In Ecuador there is still no mining exploitation at these mining scales, but there are diverse projects in the exploration phase (section 3.1.), such as the Loma Larga gold mining project (case study in Chapter 5), all of which have caused protests and social conflicts in the affected zones.

This section is organised in three parts. In the first part, artisanal and small-scale gold mining are discussed, the only mining activity scales that are currently present in the country. This part also considers the projects that public companies have made in these mining zones, and I give a particular reference to one of the main gold mining areas, the canton of Ponce Enriquez. The second part looks at large-scale (and medium-scale) mining in Ecuador, according to the perspective of interviewees. In Ecuador there is still no mining exploitation at these mining scales, but there are diverse projects in the exploration phase (section 3.1.), such as the Loma Larga gold mining project (case study in Chapter 5), all of which have caused protests and social conflicts in the affected zones. To conclude this section an analysis of all the mining scales combined is given.
4.4.1. ARTISANAL AND SMALL-SCALE GOLD MINING

Gold mining is a millenary activity in Ecuador, although the experience in this field is limited to artisanal and small-scale gold mining. The first and thus far only industrial gold mining project in Ecuador was in Zaruma-Portovelo with the US-based South American Development Company (SADCO), which gained control over the district’s main gold deposits in 1897 up to 1950. Once this company left the country, the former workers of this company organised themselves in cooperatives working as small-scale independent miners (Sacher W., 2015). The experience with SADCO is of historical interest for Ecuador, as it is associated with land deposition, labour exploitation, repression of strikes, water contamination, destruction of ecosystems, and tax evasion, among others ([Tweedy et al., 2004; Vivas, 2012] as cited in Sacher W., 2015). At the beginning of the 80s, the same phenomenon of cooperation started in Nambija and Ponce Enriquez, since then these zones became districts of artisanal and small-scale mining (Sacher W., 2015).

Nowadays, artisanal and small mining can still be found in Ecuador, mainly in the sectors of Nambija, Ponce Enriquez, Zaruma-Portovelo, and also North-Esmeraldas. Mining policy documents also mention the figure of “illegal miners”. Jorge Glass, Vice-president of Ecuador (personal communication, May 30, 2015) says that the government is working on regulating them, as they did “not follow any rules”. According to Sacher (personal communication, May 18, 2015) the term “illegal miners” mainly refers to artisanal miners, considered illegal even if some of them have exploitation histories that go back more than 50 years.

In artisanal and small-scale mining different associations and cooperatives can also be found. Gustavo Flores, the director of industrial projects of the Azuay provincial government (personal communication, April 17, 2015), and Fernando Valencia (personal communication, April 20, 2015) says that one of the biggest mining cooperatives is “Liga de Oro”, although in mining production volumes this cooperative is still considered small-scale. It is located in the canton of Ponce Enriquez where gold mining is said to be the main source of income and more than 70% of the inhabitants are dedicated to mining, either directly or indirectly: miners, mine owners, product and service providers, however still high amount of poverty in these areas are said to exist (Inga R., personal communication, April 24, 2015; Flores, G., personal communication, April 20, 2015; Valencia F., personal communication, April 20, 2015).

Valencia thinks that one of the reasons that might have brought the miners of Liga de Oro together was a conflict that arose in artisanal and small-mining exploitation systems, in which miners came closer to the areas of other owners, and at one point it was no longer possible to work individually. Another reason could be the possibility to get better economical, technical and operative capacities and to have better indices of capital recuperation (Valencia F., personal communication, April 20, 2015), or it could also respond to historical reasons, as the former workers of SADCO got associated as well (Sacher, 2015).

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23 Rene Inga, Advisor of the provincial government of Azuay
“They [artisanal and small miners in Ponce Enríquez] live the day-by-day life, spend what they earn, rather than invest” (Flores G., personal communication, April 17, 2015). Gustavo Flores believes that artisanal and small scale miners do not have a business vision to invest, which could be the reason they stay poor, because in his opinion if they invest in growth, they will have more employment and with it other needs will be satisfies automatically24 (Flores G., personal communication, April 17, 2015). Notwithstanding, small miners in Ecuador are also said to have money. Edgar Pillajo, the President of FUNGEOMINE, a pro-mining organisation, but also a small-miner and a professional geologist (personal communication, May 25, 2015) says that “nobody can do mining if they are poor”, because in mining there is a considerable amount of expenditure.

Based on statistics, SENPLADES says that Ecuador hosts more artisanal miners than small-scale miners (Iglesias C., personal communication, May 26, 2015). But, it should also be considered that some people are said to ask for concessions to work in artisanal-scale mining, but are in reality working for small mining companies (Valencia F., personal communication, April 20, 2015). If we look into this situation and the lack of investment in artisanal and small mining, this might respond to the Ecuadorian tax regime, but also to the permit’s requirements that artisanal and small miners have to deliver. As artisanal mining is seen as a subsistence activity, these miners are not requested to do Environmental Impact Studies, nor pay taxes (section 4.3.1. and 4.3.3.).

Besides the economic pillar, the situation in artisanal and small mining zones is considered to be “[...] a drama” in social and environmental terms. Gloria Chicaiza (personal communication, May 28, 2015) says that to see how mining activities coexist in the same place with local people and their own businesses “[...] is something scary”25.

Academics, activists, national governmental organisations and other interviewees, all agree that artisanal and small-scale mining in Ecuador have led to high levels of environmental contamination. Besides that, they are understood as violent areas, where alcohol, in some zones prostitution, and other social consequences are thought to be common practice. In some areas, for instance the north of Esmeraldas, money laundering, murder, and guerrilla groups are also said to have been detected by National Institutions (ENAMI, personal communication, May, 19, 2015). Artisanal and small miners are said to be difficult to control and lack good technology, destroy natural resources, throw everything into the rivers, etc. (Zárate E., personal communication, April 20, 2015; Valencia F., personal communication, April 20, 2015; Lopez E.26, personal communication, May 22, 2015). Dam failures that contaminate the downstream rivers can also be seen, for example,

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24 “if you do not want people to stay poor, you have to teach them to generate businesses”

25 “It can be seen that families live in the first floor and the second floor houses prostitution, that many times comes from the same community” or “in one place food is sold and next door mercury in small bags”

26 Director of INIGEMM
the Guayas Province GAD is said to have sued the government because the degree of pollution in the area was so high that their productive agricultural and shrimp farms, which are in the lower part of Ponce Enriquez were in danger of being contaminated (Inga R., personal communication, April 24, 2015).

An additional concern in these areas is that each small miner has their own ‘machinery’ to process the gold mineral, using chemicals as mercury, considered to be one of the most impactful and contaminant components for the environment (Valencia F., personal communication, April 20, 2015). One of the projects to improve this situation for the area of Ponce Enriquez is to create an industrial mining district with artisanal and small miners. The provincial authority of Azuay is in charge of this project, which started in 2014 and is funded by the European Union (Flores G. personal communication, April 17, 2015).

In the amendment of the new law in 2013, the use of mercury has been prohibited, allowing the use of cyanide or other techniques that avoid using these chemicals instead. According to Valencia cyanide is much more environmentally manageable than any other chemical contaminant, as this element is easily neutralized with proper management (Valencia F., personal communication, April 20, 2015). In the case of cyanide, MAE says that it can only be used in processing plants that have environmental permits. Those plants work with artisanal and small-scale mining, and some small miners own their own treatment plants. It is also said that artisanal miners are prohibited to process the mining material themselves and they have to go to small-scale mining processing plants where “they do not use too much mercury, but rather flotation, cyanidation and other kinds of processes to recover gold” (Tul P., personal communication, May 21, 2015)

One of the projects in the area organised by MAE was the “Zero mercury and improvement of working conditions for small and artisanal miners” Plan, in coordination with the INIGEMM. MAE says that they have already given the “basic lines to implement in their activities”, and after this training MAE has noted that a large number of miners are applying what was taught and are aware of environmental protection (Tul P., personal communication, May 21, 2015). However, others are less optimistic, and opine that nothing has changed in mining areas in the last 10-20 years (Valencia F., personal communication, April 20, 2015). INIGEMM for instance, says that several different advices on how to improve the miners’ methodology in the different processes have already been given, however it is claimed that miners do not apply them and no changes have been noted in the way they are working (Lopez, E., personal communication, May 22, 2015).

Acción Ecológica thinks that the prohibition of mercury is not meant to protect the environment, but is instead a strategy to attack small miners in order to open up the area for big companies and medium and large-scale mining. It is said that both mercury and cyanide are contaminants. The difference lies in the fact that cyanide is used in big companies and not in small operations, as

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27 Director of the mining district project in Ponce Enriquez – Industrial Department of the provincial government of Azuay
cyanide allows to separate the gold in bigger quantities and to recover the mineral in better percentages 28 (Chicaiza G., personal communication, May 28, 2015).

Edgar Lopez, the director of INIGEMM (personal communication, May 22, 2015) says that his institution has also been involved in several of the investigations of the last years in the zones of Ponce Enriquez, Portoveo, Zaruma and Zamora (Lopez, E., personal communication, May 22, 2015). Another institution that has given training to miners is ARCOM (Iglesias, C., personal interview, May 26, 2015). Valencia, also responsible for one of the projects of INIGEMM concerning artisanal and small mining in Ponce Enriquez (which finished in 2012) says that there is a huge deficiency in the techniques that artisanal and small miners are using in the different phases of exploitation (Valencia F., personal communication, April 20, 2015).

“Mining is in a transition process and the first results will be seen in some years” (Iglesias C., personal communication, May 26, 2015).

Evidently an irrational exploitation without technical, environmental, fiscal or social considerations has existed in Ecuador (Valencia F., personal communication, April 20, 2015; Mora M., personal interview, April 20, 2015), although the country now has mining and other laws, and is trying to control this. Nevertheless interviewees in every category think that in reality, laws are not being applied. One of the reasons for this may respond to a claim of Fernando Valencia in which he states that there is no responsible intervention “if there are people who die [in the mine], [first] ARCOMM comes, and [after] other [National] institutions also go and so on, after a while everybody forgets this, and nothing changes”. Another reason can be reflected by the statements of the director of INIGEMM. He thinks that miners are already working in their own way for over 30 years, and the miners believe that what they do is right, and this is “an idea that is very difficult to change”.

Farrell (2007) says that common practices can over time lead to the loss of original knowledge. Edgar Lopez for instance says that in Zaruma-Portove, there are “millions of studies” and training programs for miners to not throw away waste into the rivers, nevertheless “this continues... they [throw away the garbage] in the evenings”. As consequence the current social practices of artisanal and small mining seem to be and might still be difficult to modify. Considering that miners do not have previous experience on doing mining, Farrell’s preposition might be understood also as, once stakeholders apply practices, new knowledge is difficult to incorporate and it is not easy to modify or adapt new systems of practice. Therefore, despite the fact that in Ecuador has new laws and other rules, what might be required is more intensive training, and monitoring, controlling and evaluating systems still need to be improved in the National Mining legal framework, but more importantly to need to be applied efficiently.

28 “Mercury separates gold for 65%, while cyanide separates it for 99,99%” (Chicaiza G., personal communication, May 28, 2015)
4.4.2. LARGE-SCALE GOLD MINING

Different mining projects can be identified in this scale (Section 3.1.). Paulino Washima, General Coordinator of Public Companies of Strategic Sectors of SENPLADES (personal communication, May 26, 2015) says that the only subscribed contract that Ecuador has at the moment is with ECSA, the mining company in charge of the Mirador mining Project. He says that this mining company has already paid 70 million dollars in anticipated royalties, because “they have taken too long in starting the exploitation activities”.

Large-scale mining is said to have long periods of development (Lopez E., personal communication, May 25, 2015). First, finding minerals is said to be a long and difficult task. The director of FUNGEOMINE (personal communication, May 25, 2015) explains that out of each 720 projects that have started exploration, one becomes a mine, after 8-10 years of investigation. In the case of Ecuador, he mentions that the investigation of the current five strategic mining projects have taken between 10 and 15 years of exploration and investigation. Second, Sacher says that large-scale mining is subject to international speculation, in which companies are connected to networks that decide whether exploitation is done or not.

Large-scale mining is said to be the main reason for mining activism in the country (Inga R., personal communication, April 22, 2015), and activists put forward that large-scale mining should not be started in Ecuador because it is inevitable that it will cause damage and affect the population. Nevertheless the presence of activism in the area also depends on other factors, such as the population around the mining project: for instance the mining project Rio Blanco is said to be more advanced than the Loma Larga mining project, both in Azuay, however protests are almost unheard of in Rio Blanco because apparently not a lot of people live there and “the level of education of the people is lower” (Inga R., personal communication, April 22, 2015) than in the zone of Loma Larga.

Along with this, Sacher (personal communication, May 18, 2015) puts forward that once large-scale mining starts in Ecuador, the tendency is that this industry will grow because the conditions in territories are ready and it is economically logical, as the area has already been conditioned for mining. For instance if there are already access roads, preparation of land, investigations and overall social acceptance, “companies know that they will not have to face social conflicts anymore”, this is an asset that mining companies want to use to get more profit.

This situation can already be seen in Ecuador, for example the project, Mirador, which started as Mirador 1, evolved into Mirador 2 and was followed by the settlement of other companies next to that project. In the case of Mirador, the mine is already being constructed, and it has been said by activists that there are already communities, which have been defrauded, displaced and dispossessed of their lands, causing big conflict in that area (Chicaiza G., personal communication, May 28, 2015).
4.4.2.1. Coexistence of large-scale mining with artisanal and small-scale mining

"Mining is seen as a revolving door"\textsuperscript{29}

On the one hand, when there is already artisanal and small-scale gold mining in an area, it is an indication that there is gold; therefore big companies could easily feel attracted to go to such an area. Acción Ecológica says this can be seen for example in the gold mining project Fruta del Norte in Zamora Chinchipe (Chicaiza G., personal communication, May 28, 2015). The mining company in charge of this project, according to Chicaiza and Sacher, invaded that landscape, already used by small miners (Sacher W., personal communication, May 18, 2015; Chicaiza G., personal communication, May 28, 2015). Some artisanal and small miners of the zone are said to still sell their gold findings to the company because they get benefit, but “if the mining company does not get benefits, they displace and criminalize the small miners and get everything” (Chicaiza G., personal communication, May 28, 2015).

On the other hand, it is also said that if there is large-scale mining, small miners will appear, for instance to find gold from the wastes (Chicaiza G., personal communication, May 28, 2015). Cases where artisanal miners have been found behind large-scale mining areas have also been found. An example stated by the Director of the Mining Department of the cantonal government of Cuenca, Miguel Mora (personal communication, April 22, 2015) is the Rio Blanco gold mining project, which received a denounce because artisanal miners were making a road parallel to the project and “making holes without any technique, provisions or plans”. On the other side of the spectrum in the case of Rio Blanco, Acción Ecológica considers that this large-scale company invaded artisanal and small miners’ areas that were already present in the Rio Blanco area.

These different opinions, about the same fact and same place allow identifying once again how people value landscapes differently and give diverse meanings to how things are developed there. There are also different opinions concerning to small, artisanal and large-scale mining. The elements of these opinions are grounded on a comparison among the different mining scales, mainly referred to laboural conditions, use of technology and contamination level terms.

First, while the degree of contamination is high in artisanal and small-scale mining, the quantity of jobs is said to be higher than in a technologised large-scale mining\textsuperscript{30} (Perez C., personal communication, April 20, 2015; Sacher W., personal communication, May 18, 2015; Chicaiza G., personal communication, May 28, 2015). Acción Ecológica says to not be in favour of either scale as the working conditions are devastating, but because of the conflict that already exists they say to

\textsuperscript{29} Chicaiza G., personal communication, May 28, 2015

\textsuperscript{30} “Big companies place camps to show that they are doing things ‘good’”, on the contrary, “small miners are in the house, and their work includes all the family (women, children)” (Chicaiza G., personal communication, May 28, 2015)
intervene and support artisanal and small mining (Chicaiza G., personal communication, May 28, 2015). In contrast, Maria del Carmen Aleman, a social worker of the INV Metals mining company (personal communication, April 28, 2015) says that in industrial mining the laboural situation is much better than in artisanal and small mining: “There is more security, technology to minimise effort, as well as occupational health care and other services for workers”.

Another issue is the use of technology. According to INIGEMM and FUNGEOMINE, technology for every process of mining can be found nowadays, but the problem in Ecuador is that artisanal miners do not use any technology and small miners use basic machinery and systems from the 18th century. “Those systems are the ones that contaminate more” (Lopez E., personal communication, May 22, 2015; Pillajo E., personal communication, May 25, 2015). Meanwhile large-scale mining is claimed to contaminate less because they use technology (Lopez E., personal communication, May 22, 2015; Pillajo E., personal communication, May 25, 2015).

However, in terms of intensity and extensity large-scale mining is understood to be more contaminant, as it has the capacity that small-scale mining does not have, for instance they can destroy a big mountain within hours (Gloria Chicaiza, personal interview, mayo 28, 2015; Sacher W., personal communication, May 18, 2015). But, it is also important to consider that, in the case of artisanal and small mining, the accumulative processes of these activities, might result in the same impacts as large scale mining (Sacher, W., personal communication, May 18, 2015). Not enough investigations about which scale of mining has the most effects can be found (Sacher, W., personal communication, May 18, 2015).

*Can mining scales work together?*

Diverse opinions in favour and against the possibility of bringing different mining scales to work together are examined in this section. Some stakeholders consider that the different mining scales can work together, for instance sharing successful tools that have worked for some of them, considering that “their processes are the same, [and] the only thing that changes is the scale” (Valencia, F., personal communication, April 20, 2015; Pillajo E., personal communication, May 25, 2015). Also royalties from large-scale companies might be used for suitable technology transmission, as it must be considered that large- and small-scale mining are not really competing, however the fact that they are not working together could result in hindering each other’s mining operations (Zárate, E., personal communication, April 20, 2015; Valencia, F., personal communication, April 20, 2015).

SENPLADES states that agreements between the different scales are definitely possible, and legally allowed (Iglesias C., personal communication, May, 26, 2015). Some examples of this possibility are given, for instance in the case of IAMGOLD in Suriname. According to INV Metals this company has given technical assistance to small miners and they regard similar projects or associations as possible, be it for a determined time, since artisanal and small miners “do not have or apply norms”, and are “not serious when promising something” (Carrión F., personal communication, May 27, 2015).
In contrast, small and large-scale mining cannot be associated according to activists, and having scales working together would be impossible because large-scale mining is not going to accept that artisanal and small miners enter their deposit, and large-scale mining companies will only associate or help small miners if they get benefits for this (Sacher, W., personal communication, May 18, 2015; Chicaiza G., personal communication, May 28, 2015). This also comes from the logic of capitalism Sacher explains: “if you are the big one, you will eat the small ones” (Sacher, W., personal communication, May 18, 2015).

According to the Vice-president of Ecuador (Glass, J., personal communication, May 30, 2015) “it would be wonderful” if different mining scales can work together. But the reason for the classification in the mining law responds to the difference in operation between the mining scales, such as the kind and time of recovery of investments and technology, among others. Therefore, despite the fact that bringing different mining scales together in the same landscape is still questionable and while it is seen as a good possibility by different interviewees, mainly the ones in favour of mining, this is, at least at this moment, not the State's objective.

4.5. DOMINANCE SYSTEM AMONG THE MINING LAW DIMENSIONS AND MINING SCALES IN ECUADOR

In this section I detail main points (table 1) of the environmental, social and economic dimension within the mining law (Section 4.3.) as well as the mining scales (4.4.). This information is the source to assess the dominance system of the analysed dimensions and of mining scales. The latter analysis is made through a representation of valuation triadics (Farrell, 2007) from the National Government perspective.

With regards to the environmental pillar, the use of inadequate and out-dated techniques in artisanal and small-scale mining are said to be responsible for water contamination and destruction of ecosystems and natural resources. Besides that, small miners are unlikely or resistant to apply new laws and regulations, due to their long history (over 30 years) in mining activities. In the case of large-scale mining, no (big) environmental impacts have been noted in environmental terms. The main reason for this lies in the fact that at the moment gold mining exploitation projects are not yet present, and exploration activities are known as activities of relatively low impact. However, it has been mentioned that, as they use technology, the contamination will be lower than in artisanal and small-scale mining. Notwithstanding, mining activists consider that large-scale mining has the capacity to destroy nature at a higher level and in less time than artisanal and small-scale mining.

In the social pillar of artisanal and small-scale mining, the presence of alcohol, prostitutes, money laundering (in some specific cases in the North of Ecuador) and depressing working conditions among others are identified. The presence of large-scale mining in Ecuador on the other hand has brought the presence of many activist groups, as these groups insist that large-scale mining will contaminate the environment (in the case of Loma Larga main importance is given to the water),
and cause dispossession, and the (possible) destruction of social and cultural aspects, and of their traditional economic activities.

The economic dimension refers mainly to taxes and royalties. In the case of artisanal and small mining the amount of taxes and royalties that the State gets from them represents only a very small fraction of the State’s income. On the other hand, the Government of Ecuador sees large-scale mining as an alternative that, through royalties and taxes, will allow the State to have economic resources for public investments in the influenced areas of the mining projects, as well as in Ecuador in general.

<table>
<thead>
<tr>
<th>Gold mining scales</th>
<th>Artisanal scale mining</th>
<th>Small scale mining</th>
<th>(Medium and) large scale mining</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic</td>
<td>Mining taxes and royalties only represent a very small fraction of the State’s income</td>
<td>Considerable amount of income is expected because of mining taxes and royalties</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Do not invest at all and live the day by day life</td>
<td>Investment in local communities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tax evasion is common and difficult to control they pay</td>
<td>Tax havens and International speculation framework</td>
<td></td>
</tr>
<tr>
<td>Environmental</td>
<td>Inadequate and outdated techniques use.</td>
<td>Uses technology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unlikely or resistant to apply new laws and regulations</td>
<td>Destroys nature at a higher level and in less time</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Despite recent prohibition, mercury is still used in artisanal and small scale mining</td>
<td>Mercury has been replaced with cyanuric because it benefits large scale mining, though both contaminate</td>
<td></td>
</tr>
<tr>
<td>Social</td>
<td>No previous investigations</td>
<td>The projects have and give incomplete ecologic investigations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Presence of alcohol and prostitution; in some cases guerrilla groups, murder and money laundering have also been identified</td>
<td>Land dispossession</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Everyday amenities, such as stores, and family housing are often encountered in the same neighbourhood, or even building, as prostitution or illegal mercury trade</td>
<td>Community relocation and small miners are relocated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No security, occupational health care or other services for workers of artisanal and small miners</td>
<td>It is the main cause of social resistance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Relatively high quantity of jobs compared to the technologized large scale mining.</td>
<td>Repression of strikes and criminalisation of the opposition</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Their work involves the entire family (women, children), also organised through associations and cooperatives</td>
<td>There is security, technology to minimise effort, occupational health care and other services for workers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mining converts people to dependent employees. As mining is not an activity that will last forever, people will eventually forget their own activities and become miners, causing relative difficulties to convert back to their former traditional activities</td>
<td>Low capacity to offer jobs (compared to traditional activities such as agriculture and livestock, or artisanal and small mining)</td>
<td></td>
</tr>
</tbody>
</table>

Table 2: Gold mining scales and mining law dimensions from stakeholders points of views

Source: own elaboration
If the environmental, economic and social pillars and the mining scales are considered (table 1), mining at either scale represents negative consequences to the environmental and social dimensions. It is however apparent that one of the main reasons why (large-scale) mining is seen as a strategic sector for the current National Government is because of the need and interest to get economic resources which are considered to help achieve Sumak Kawsay for the Ecuadorian population. This is a challenge, because artisanal and small-scale mining, even together, in economic terms, are not going to represent the amounts that large-scale mining would represent for the National Government.

As a consequence, in economic terms, the dominant mining scale for the National Government would become large-scale mining. In social terms, considering jobs as a main variable, and also because this activity is already present in Ecuador, artisanal and small-scale miners are considered to be more important since miners and their families, and the population around them are already involved in the activity. Besides that artisanal mining is seen as a subsistence activity for families and their extinction would cause high social consequences.

Figure 4: Mining law dimension valuation triadics and mining scales from the National Government perspective
Source: own elaboration inspired on Farrell (2007)

Following the logic of valuation triadics (Farrell, 2007), a representation of the three dimensions in the mining law and mining scales from the National Government perspective is illustrated in Figure 4. It is important to consider that the mining law is managed by the National Government; therefore the economic dimension (which is their main interest) becomes without a doubt the mining law dimension valuation structure. If I look into the mining law, an important amount of articles in the mining law looks at regulating the environment pillar. The social dimension represents only a part of what the miner should present as part of the environmental plan (Section 4.3.2.). As a result, I can conclude that the structuring level in the mining law is given to the economic dimension, the
environmental dimension would become the focal level of this law (as all mining scales are said to cause negative environmental consequences) and the social dimension (appears) to represent the lower level (Functional level) in the mining law (Farrell, 2007; Buizer et al., 2011, Silva-Macher & Farrell, 2014).

Nevertheless, it is also very important to consider, once more, that there is currently no large-scale mining exploitation in Ecuador, while exploitation is present in Ecuador’s artisanal and small mining sector. The Mining Minister (Córdova J., personal communication, May 30, 2015) says that the National Government’s challenge is to develop large-scale mining, but “also to generate development and articulation, as well as to control artisanal and small-scale mining”. Although stakeholders opposed to mining still believe that the laws do not benefit artisanal and small miners, but rather the National Government, as its mining law has opened the doors for large-scale mining (Sacher W., personal communication, May 18, 2005; Chicaiza G., personal communication, May 27, 2015).
5. MULTIFUNCTIONALITY IN THE LOMA LARGA GOLD MINING PROJECT LANDSCAPE

This chapter discusses the different functionalities present in the (direct) influence zones of the Loma Larga large-scale gold mining project, located in the Azuay province. Functionality in landscapes makes reference to the diverse co-existence of ecological, economic, cultural, historical and aesthetic characteristics (Soini, 2001), which are linked to different production, social and ecological land uses and land objectives (Soini, 2001; Minang, 2014). These functions, in turn, provide commodity and non-commodity outputs, basically goods and services that are valued differently by humans and used with various purposes and different meanings to landscapes within a certain value (Soini, 2001; Wiggering, 2006).

Each function can also represent different scales, for instance in Section 4.4 the different gold mining scales, recognised in the mining law and present in Ecuadorian landscapes were determined. In the case of mining scales in the zone of Loma Larga, artisanal and small-scale mining are not present. Hence in this chapter I analyse the functions that are present in the selected landscape only with the presence of large (and medium) scale mining. As in the previous chapter, the referencing of interviewees in the narratives in this chapter are not fully detailed; instead general references to the stakeholders are given. Further information concerning the communication can be seen in Appendix 1.

This chapter is organised in two main sections: the first section describes the Loma Larga gold mining project mainly in an environmental perspective, where the multifunctionality of the Loma Larga gold mining project, in which key elements of the compatibility of the mining narrative and other functions in the same landscape are discussed from a pro- and anti-mining perspective. The second section analyses the main element of the mining narrative of the National Government (Section 4.1.) within the Buen Vivir framework, “responsible mining”, but in this case from the perspective of the INV Metals mining company. This section is more focused on the social dimension, and makes brief references to the economic dimension.

The examination of this chapter answers one sub research question: Do stakeholders consider that different functions can coexist in the same landscape with large-scale mining? How do large-scale mining companies, and the mining company in charge of the Loma Larga large-scale gold project in specific, apply the ‘responsible mining’ rhetoric, the main discourse of the national government? This chapter, together with Chapter 4, gives most of the information that will be used to answer the main research question: To what extent are the three analysed landscape approach principles (Sayer et al. 2013): multistakeholders, multifunctions and multiscale; being considered in the Ecuadorian gold mining landscape governance?
5.1. **FUNCTIONALITY IN THE DIRECT INFLUENCE ZONES OF THE LOMA LARGA GOLD MINING PROJECT**

The Loma Larga project is located in a “paramo” zone, in the Azuay Province in a zone around the Quimsacocha lagunas and 30 km southwest of Cuenca, the third-largest city in Ecuador, with a population of approximately 500,000 inhabitants (IAMGOLD Corp., 2012). This project is in its advanced exploration stages and currently belongs to INV Metals, and exploitation is expected to start in the following few years. The system of exploitation will be underground mining, with an estimated mine life expectancy of 13.25 years of production at 350,000 tonnes per year, producing concentrates that contain an average of 80,000 ounces (2.25 tonnes) of gold per year (INV Metals, 2014).

![Figure 5: Location of the Loma Larga (ex-Quimsacocha) gold mining project](image)

Initially the Quimsacocha lagunas, which provide 60% of the water used for the treatment plant of SUSTAG (of which ETAPA is in charge), which supplies water to the Cuenca canton, its surroundings and the production activities in the area, were part of the concessions that the mining company owned as part of the Loma Larga project (in that time Quimsacocha project and under control of IAMGOLD). These lagunas are part of the Yanuncay Irquis area, where a set of rivers that originate in the zone form a basin of radial drainage, which is composed of several streams that, by joining with other rivers and streams form the ‘Bermejo river’, which leads to the river Yanuncay downstream (Perez C., personal communication, April 20, 2015). A report done by ETAPA in 2008 recommended not to start mining activities in Loma Larga and other mining concessions of the area, if there is not enough scientific and reliable information and studies of the real effect that the mining activity in that zone could have, as hydrologic alterations of the basin of the Yanuncay river could affect the quantity and quality of water for the population and the activities that use the water from SUSTAG (UAIE 0036-2009 - State General Comptroller).
Although there was an offer of the Loma Larga mining company to return the 3,217 ha of its concessions in which the Quimsacocha Lagunas were located, to the State, the Quimsacocha lagunas were still owned by the mining company at the time of the ETAPA survey (Internal Auditing Unit of ETAPA, UAIE 0036-2009). Months after the publication of the ETAPA study, these 3,217 ha were reverted to the National Government (Environmental Ministerial Agreement 007), of which 2,592 ha were located in the Yanuncay river jurisdiction (Internal Auditing Unit of ETAPA, UAIE 0036-2009).

In 2012 the Environmental Ministry declared those reverted hectares as National Protected Area and it was conceded to the administration of ETAPA (Ministerial Agreement 007-MAE, 2012). In 2013 the Massif of El Cajas Biosphere Reserve, in which the lagunas are located were incorporated in the World Network of Biosphere Reserves of UNESCO. As such, the Loma Larga project used to contain more than 11,000 ha, but nowadays the project has 3 concessions that represent 8,030 ha, and they expect to have 5,000 ha when exploitation is made, as this is the law in Ecuador (Carrión F., personal communication, May 27, 2015).

In order to analyse the functions in the influenced areas around the selected mining project, I will first explain which zones are located around the Loma Larga project, which can be analysed from its two rings of influence: a direct and an indirect influence zone (Carrión F., telephone communication, April 27, 2015).

The direct influence zones includes the closest population centres and the areas which would be considered the most affected by the Loma Larga project, namely San Gerardo, Chumblin and three communities in Victoria del Portete. These parishes are located within the cantons of Giron, San Fernando and Cuenca respectively. In the case of Giron and San Fernando, the cantonal capitals are considered to be indirect influence zones, and in the case of the Cuenca canton the indirect influence zones are the remaining communities of Victoria del Portete, and the parishes of Tarqui and Baños. In figure 6 the names, surface and population data of the communities that belong to each parish of the direct influence zones, as well as the communities that belong to the indirect zones of the Victoria del Portete parish, are given.

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31 “1. Area of direct influence concerns the communities, parishes or counties that are part of the circuits or districts identified in the contracts of each of the operators of the strategic projects...” (Ec. Executive Order 1135, 2012); Senplades says that the direct influence zones of mining projects are selected based on the geographical proximity of human settlements that are clearly linked to the mining project, or might be affected because of possible liquid discharges, or location of mining camps, sandpipers, dumps, among others mining services (Iglesias C., personal communication, May 26, 2015).

32 “2. Area of indirect influence applies to the different territorial areas that comprise the circuits or districts, including the provinces where projects of strategic sectors or where the indirect influence or potential involvement can be demonstrated in either phase of the activity of the operators in charge of strategic sectors...”(Ec. Executive Order 1135, 2012)

53
In order to understand the influence on the zones of Victoria del Portete that are in the direct influence zone of the Loma Larga project, I overlay maps of the INV Metals concessions, the Loma Larga project and the Victoria del Portete parish with all its communities in figure 7. Based on this representation it can be seen that a small portion of the high part of the parish is considered as a directly affected area.
In the direct influence zones of San Gerardo, Chumblin and Victoria del Portete, the main activities are identified to be livestock and its derivatives, such as meat and dairy production, and agriculture. Inhabitants\textsuperscript{33} from the named parishes say that very few people can be considered to have livestock on a medium-scale; instead it is principally a subsistence or small-scale activity, which also counts for agriculture, which is an even smaller scale activity in the zone. Tourism in the area is currently negligible.

5.1.1. The Narrative of Functionality Compatibility in the Gold Mining Landscape of Loma Larga from Pro-Mining and Anti-Mining Perspectives

Grounded on the information of the previous section, the main identified functions in the Loma Larga area are: the ‘water supply sources’, ‘the protected natural areas’ around the project, livestock and agriculture in small-scale and for subsistence, and the large-scale gold mining project. If all these different functions are considered in the landscape of the large-scale gold mining project many controversies presented in pro-mining and anti-mining opinions can be identified.

\textsuperscript{33} Perez C., personal communication, April 20, 2015; Chacha M., personal communication, April 26, 2015; Espinosa S., personal communication, April 26, 2015; Ordoñez K., personal communication, April 28, 2015.
In this section the functionality narrative in the Loma Larga gold mining project is explained. It is defined from the possibility whether mining and other functions can coexist or not in the same landscape.

Is it possible to bring different functions in a landscape together (when large-scale mining is present)?

Pro-miners think that different functions can coexist in the same landscape, while mining opponents do not consider that mining can coexist with other functions in the same landscape. It responds to the different values and meanings that stakeholders give to landscapes and therefore to each of their functions. As basis of the different perspectives, five central elements are recognised in the functionality narrative, which is presented in a pro- and an anti-mining perspective: First, a discussion if the water sources of Quimsacocha will or will not be contaminated; Second, a comparison of mining (exploitation [when it is made]) and other traditional income activities as livestock and agriculture; Third, the possibility to develop tourism in the gold mining areas (some as alternative to mining and others together with mining); Four the relationship ‘of what might happen in the area’ in social terms when large-scale mining exploitation is made in the areas; and Five, an assessment between values, defending own values and meanings to landscapes by ‘judging’ stakeholders with opposing values.

A first element of the functionality narrative makes reference to the probability of contamination of the water of Quimsacocha because of the Loma Larga gold mining project.

In a pro-mining perspective, INV metals mentioned that activist groups started coming up in the Loma Larga zone since 2004, the year when the mining company announced the discovery of the mineral in the zone of the mining project, known in that time as Quimsacocha, which in 2013 was modified to Loma Larga, as the local population was “confusing” that the project was located in the Quimsacocha lagunas because of the name. However according to the interview with the Mining Company, the president of the Chumblin parish34 and MAE representatives, the Loma Larga project is located at a height of 3700 m, and the lagunas have an altitude of 3800-3900 m, and there is a distance of around 4 km between the two, therefore this project is said to not intersect with the above-named Protected Area.

Besides that, INV Metals staff, INIGEMM and FUNGEOMINE claim that in the last 20 years the mining technology has changed and improved strongly: they have become “more environmentally friendly, more compact, use less water, recover more material, consume less combustible, the motors are more silent”, and other improvements that will allow to do responsible mining. The Director of Social Responsibility at INV Metals says that there are even cases where mining improves the water quality. For instance, he mentions that paramo water is generally thought of as ‘good water’, which he denies by stating that this depends on many factors, such as mineral content in natural state, whether it was a forest or not and also the soil behaviour.

34 Chacha M., personal communication, April 26, 2015
The mining company mentions that they know this information from an investigation in the Paramo of Quimsacocha which showed a water pH of 3, making it unfit for human and animal consumption. The corporate responsibility manager from the mining company described that they were surprised with those results, as were the scientists of PROMAS and other people working on the hydrogeology of this project in coordination with professors from Belgium and Germany. The same stakeholders made further studies in the zone and found out that this level of pH was due to ‘hydrocarbon in natural state’, as the zone was a forest many years ago, rotting of which generated what is in principle petroleum (hydrocarbons).

Another sub-element of this first analysed component of the functionality narrative is the system of exploitation that Loma Larga will use. Valencia, from the Azuay University, said that the exploitation system in this project will be underground, and hence would affect the surface at minimal levels.

Contrary, mining opposition stakeholders\textsuperscript{35} consider it an understatement\textsuperscript{36} to say that the water in Loma Larga is not going to be affected. They think that the diverse functions in the same area are incompatible with gold mining, and they believe that if there is large-scale mining in the zone, the water sources located in Quimsacocha will be contaminated, and a consequence of this will also be that livestock and agriculture, will be eradicated. Acción Ecológica claimed that if there is mining in a paramo zone, the hydric resources would be altered because “it is a wound in the middle of the hill”. This ecologic organisation urges to consider that water is not static, but constantly moving and in hydrographic network terms, the effects are not always visible on the short term. They\textsuperscript{37} indicated that mining is like a chain, “difficult to break”, and needing continuous care “even after finalisation of its end product”. Chicaiza said that in case of gold exploitation in the paramo of Quimsacocha, quantities of filtration that are absolutely toxic will occur, because gold needs cyanide for processing.

However, as far as the processing of large-scale gold mining is concerned, all interviewed INV Metals staff have confirmed that this will be done in another area than where the project is located, although they did not give a specific place either, as they consider this to be a decision for the National Government. Notwithstanding, the specifications for this are apparently still to be still detailed. SENPLADES said that “this will probably not be done in Ecuador”, as there are no suitable gold processing plants for large-scale gold mining refining processes in the country. Sacher also said that to install gold processing plants for large-scale mining would take years, as people specialised in these issues are absent in the country. Nevertheless he considers this should not be done in Ecuador, because processing gold has an even greater impact on the environment, in his opinion, \par

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\textsuperscript{35} Perez C., personal communication, April 20, 2015; Inga R, personal communication, April 24, 2015; Sacher W., personal communication, May 28, 2015; Chicaiza G., personal communication, May 28, 2015

\textsuperscript{36} “an evil lie” (Chicaiza, G., personal communication, May 28, 2015)

\textsuperscript{37} Chicaiza G., personal communication, May 28, 2015; Sacher W., personal communication, May 18, 2015
than processing other metal ores: for instance compared to copper the mass concentration of gold in the rock is a lot lower (1 ppb \text{weight}\text{ compared to 1}\%\text{weight}), generating a lot more waste.

Concerning the system of exploitation, Acción Ecológica said that national activist groups have already ‘revealed’ the dangerous consequences of open cast to local groups. Thus, they consider the underground mining as a “strategy to spend less, and to overcome resistance” with the discourse that there will not be impacts.

A second element to the narrative of functionality is a comparison between mining and other traditional income activities in environmental terms such as land use, water use and contamination levels.

From a pro-mining perspective mining is only one additional activity in the country, and should be considered as such, as every activity (including livestock and agriculture) contaminates, and mining should not be stigmatised for being the only one, all depends on how the processes are done. For instance, when comparing land usage, the president of FUNGEOMINE and an academic from Azuay University said that there is no competition for land and space usage of mining with other functions. They illustrated this with coastal areas, where approximately 2000-4000 ha of land is used for agriculture, and mining exploitation, is only said to take about 500 ha of it. When it comes to subterranean mining, which is the case for Loma Larga, the usage is said to be around 100 ha, that are used for mining services (dams, camp pithead clarification mine, processing plant, tailings, roads).

Pillajo said that one must also consider that the use of water in mining is non-consumptive, i.e. it can be recycled, which cannot be done in other activities such as agriculture. “If the communities around the mining project want to avoid contamination the focus should be livestock”\textsuperscript{38}. The mining company considers that people who are defending nature are on the wrong path, and they are going against companies who have economic resources rather than against contamination indexes. The mining company claimed that as a “strategy of activist groups”, they use examples of artisanal, small and informal mining to compare industrial mining in which the scenarios are totally different.

In the anti-mining perspective of this second element of the functionality narrative, Sacher and Chicaiza say that, despite the lesser use of physical space than other traditional activities and its ability to partially recycle water, mining activities still pose a serious contamination risk for clean water supply compared to livestock and agriculture. According to Sacher, this is not just an issue of quantity, but also one of quality, as even when functions of landscapes are not located in the same place as mining, he comments that all the functions can be easily polluted and transmitted around. In case of exploitation, he added, the presence of (approximately) 1000 people in the area, heavy vehicles, and pitheads, among other changes in the area might also affect and contaminate the area. The latter statement is connected with the next element of this narrative.

\textsuperscript{38} (Carrión F., personal communication, May 27, 2015).
A third element of the functionality narrative relates to the influence on the economy of the communities in the zone, in the case of mining exploitation in the Loma Larga project. Pro-mining actors perceive this as a positive evolution, while anti-mining stakeholders are more reluctant. Local authorities of parishes consider the presence of a large-scale mining company to be positive. One of the main common points in their narratives is that the local population can get a job there, thus avoiding emigration to cities or international countries, which is said to be a common phenomenon in these areas. When comparing the average incomes of agriculture, livestock and mining, Pillajo notes that large-scale mining salaries are higher than those of other traditional activities, such as agriculture and livestock. Besides that, National authorities and some academics warn that our society depends on technology and materials, and on the extra income for the State that can help to develop and boost a development that can be sustainable on the long term. According to the mining company, the national government and some academics, people also want to develop their way of living, seeing better opportunities for employment, education, health and other related issues in this instance.

On the other hand, activist stakeholders believe that the economic changes caused by the presence of large-scale mining will break community and family networks in the zone. According to Acción Ecológica and FLACSO, people will abandon traditional activities such as livestock and agriculture, and will become workers for the mining company, potentially causing difficulties to return to their original profession after the mining company leaves, as they got accustomed to being dependent workers. Moreover, industrialised mining, as it they consider it not to have the capacity to offer the same amount of jobs as agriculture or livestock, will in their opinion generate inflation in the zones where it is developed, as people will start paying in function of what the mine workers, “who are a small group”, earn.

However, one should carefully consider that mining activity has a ‘life time’. After the mining company finishes their exploitation they will leave, and the company workers need to find new jobs or they need to return to their traditional activities. Additionally, (new kinds of) businesses set up based on the needs of the mining company, would probably decline once the mining company leaves, as the demand will change compared to when the company was still present. Hence, in any case, with or without mining, traditional activities (such as livestock and agriculture) and other sustainable activities should be promoted in landscapes where (gold) minerals are present.

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39 Miguel Chacha, President of the Chumblin parish, personal communication, April 26, 2015; Segundo Espinosa, Vice-president of the Chumblin parish personal communication, April 26, 2015; Karla Ordoñez, President of the San Gerardo parish personal communication, April 28, 2015

40 “...even in the exploration phase in mining. For instance in agriculture a [subsistence or small scale] farmer will earn on average 6 dollars per day, compared to 20 dollars plus food and other benefits in mining”

Nevertheless academics from the Azuay university believe that local people in the zones are still not prepared to face the presence of mining activity.

A fourth element of the functionality narrative makes reference to the development of (ecological) tourism as an alternative for or together with mining in Ecuador. Besides the traditional activities of the communities (close to the large-scale mining projects) an alternative way for developing the areas according to Alberto Acosta, the former president of the National Assembly in Ecuador as well as an internationally recognised investigator, is seen in (ecological) tourism.

In countries such as Peru, Chile and Australia, mining and tourism coexists in the same area. Pro-miners see this as a viable option for Ecuador, as currently there are already quite some natural reserves and other natural attractions present near the large-scale mining projects. For instance, INV Metals has said that some people in opposition to mining from one of the parishes around the project have tried to receive support of the mining company in initiatives for tourism, which INV Metals found viable because supporting these initiatives is part of their policies, although the money they were asking for this was said to be unrealistically high.

Other stakeholders conversely do not regard combining tourism and mining as a viable option. One of the reasons for this lies on their idea that people do not want to visit polluted areas, and even when mining is not actually present in the touristic areas, nearby mining activities can still cause pollution, such as water and air pollution. This is, according to Sacher and Chicaiza, not something tourists are looking for. Acción Ecológica says that large-scale enterprise tourism is not desirable either, preferring local tourism that allows the affirmation of the identity of the zone by offering people different alternative activities. This is what they see as ecological tourism, in which people can see and experience healthy landscapes, and at the same time have contact with and enjoy the sceneries that are part of Ecuador. Examples of ecotourism are already present in Ecuador: one example is INTAG (where a copper mining project is to be developed), of which Acción Ecológica has demonstrated high value in providing a steady income for the families who are working there.

Contrary, pro-miner stakeholders are skeptical about this idea of ecological tourism. Valencia and Pillajo for example argued that to develop ecological tourism, even if the essence is getting into contact with nature, some basic infrastructure will first be necessary, at least if it wishes to attract people who can generate some income for the area, and for that, mining materials are also required. Besides that, Valencia said that the ones funding and coming to the country with these ideas of ‘ecologic tourism’ are generally International NGOs, which expect to “help” communities to develop “an ecologically sustainable tourism project in the area” instead of mining, but he wonders what for? He said that to have tourism one requires to sell quality elements, something outstanding, attractive and singular and he doubts that, given the actual conditions in which many communities are, ecological tourism can be considered a profitable activity or a possibility to develop anywhere in
the country. National government offices \(^{43}\) also referred to the INTAG area and their opinion is that the people doing ecotourism there have personal interests, as do all activists, and there are unfavourable conditions are for local people because these leaders are controlling the zone.

Concerning the area of Loma Larga, despite the fact that the GAD presidents of the zones of San Gerardo and Chumblin would like to develop tourism in their areas, they have not yet investigated their touristic potentials (although they think they must have many). The GAD President of Chumblin mentions the Quimsacocha Lagunas, although there is currently no adequate infrastructure to arrive there. Nevertheless, a good example of a touristic attraction in this sector is the ‘El Chorro’ waterfalls that belong to the Giron canton and are located on the road between the main parish town (Giron) and San Gerardo. A Mining Ministry representative and Valencia believe that this touristic site has not brought benefits to the population of Giron. From what I could observe in the area, there are a few hotels, although the owners of these places are easily recognised to not be poor people, but owners with economical possibilities. Close to the waterfalls area as such there are some a few businesses, as well as a few visitors. Therefore, at least with regards to the Loma Landscape, a lot of intervention is still required to develop tourism (or ecological tourism) in the area, starting with at least an inventory of touristic potentials by local authorities to know which they possess.

A fifth element of the functionality narrative is that stakeholders refer to the values and interests of the stakeholders of the other group (either pro- or anti-mining) to defend their own point of view. Before analysing this element a representation of the two main groups of stakeholders are shown in figure 8. In the first group, the one in favour of (large-scale) mining, the main stakeholder representatives are the National Government, the INV Metals Mining Company, the current GAD authorities of the influence zones of San Gerardo, Chumblin and Victoria del Portete, and also some academics and mining professionals; the second group consists of the people against mining represented mainly by national and local ecologists, peasants and indigenous activist organisations, but also some Local Government administrations as the Provincial Government of Azuay, and activists can also find support from some academics who agree with them. In both cases the presence of international actors is noted, as respectively an international mining company and international activist groups.

Analysing the fifth element of the functionality narrative it is noted that actors in favour of the Loma Larga large-scale gold mining project consider the reasons for activism in Ecuador to be the following: in the case of local activists, the main interest of the leaders of these groups are political and they try to scare people telling things without scientific support. Their followers are mostly said to be naive people who are misinformed by the main leaders, and some older people or people who see water in a spiritual and religious way (said by National government institutions, INV mining company, two academics, and FUNGEOMINE). Secondly, National activists are said to receive money

\[^{43}\text{ENAMI, personal communication, May 19, 2015; Lopez E., personal communication, May 22, 2015}\]
from International organisations to make publicity and activities against mining, so it is their work, and the more they do the more (money) they receive (said by National government institutions and FUNGEOMINE). Thirdly international organisations are said to be financed by developed countries or companies, which are understood to be contaminating their own or other countries and need to finance “ecological projects” to justify those high degrees of pollution (said by an academic and FUNGEOMINE). Finally the Provincial government of Azuay is said to have the desire to manage mining areas or receive more votes in them, but also to ensure the next political elections having the people against the government on their side (said by an academic, Strategic Sectors Subsecretary Zone 6).

Figure 8: Supporters and opponents of large-scale mining in Ecuador (Focus point: Loma Larga gold mining project)
Source: Own elaboration

Stakeholders opposed to mining consider that the values, objectives and interests of the National Government⁴⁴ are centred on getting money for the demagogy, but also the social capital, social power (social status, new rich people, new bourgeoisie) and political power they receive from the large mining industry, and that is the reason why they want to industrialise everything (said by an academic, Acción Ecológica, and ECUARUNARI). They control and do not let anybody enter the gold mining landscapes (said by the provincial government of Azuay). One ecological organisation says that the reason also lies in the assumed fact that the Ecuadorian government already accepted mining royalties and other funds from the mining companies, and as a result the latter are pushing the former. The public investment made with royalties is assumed to be done only to convince people (said by activist group leader in Azuay). The mining company is considered to pollute the environment and bring negative social consequences, besides that, in the case of Loma Larga, the mining company will contaminate the water (said by activist groups, provincial government of Azuay). Lastly of local parish GADs it is said that their power of influence in the territorial order plans

⁴⁴The “argument of people in favour of mining is the same as the one of mining companies, it is the discourse of the president and of people who are following him, especially the people from the urban districts, who are not living there, where their support is more political without knowing what happens in the areas” (Chicaiza G., personal communication, May 27, 2015)
is not visualised (an activist group leader in Azuay). They are there for supporting, but not for taking decisions (said by some academics and an group leader of mining activism in Azuay).

The previous information concerning to what stakeholders consider to be the main interests, values and objectives of opposed perspective actors are the main arguments and became part of the ‘discourse’ that each group utilised to highlight their own values and the meanings they give to the functions in the gold mining landscape of Loma Larga, and to put the other’s objectives (and interests) and values ‘in a bad light’. To conclude this section I exemplify how the social protest takes place in the Loma Larga gold mining project.

5.1.2. SOCIAL PROTEST IN THE LOMA LARGA GOLD MINING PROJECT

Considering all the different elements that are part of the functionality narrative of the Loma Larga project, the main concern of population in this zone is water. According to interviews with the social workers of the offices of INV Metals, located in San Gerardo and Chumblin (Aleman M. and Rodriguez M., personal communication, April 28, 2015), and interview with Karla Ordoñez, vice-president of San Gerardo (personal communication, April 28, 2015) and three communications with local people on the streets around 10% to 30% of the population of San Gerardo are against this mining project.

The vice-president of San Gerardo and a social worker of INV Metals claim that the main concern of the opponents of the Project is the fear that the water sources will be contaminated, and a particular reference is made to the people who are part of water irrigation channel systems and old people in the parish. In Chumblin, its parish GAD president (Chacha M., personal communication, April 26, 2015) and vice-president (Espinoza S., personal communication, April 26, 2015) claim that around 30%-40% of the population are (at least partially) against mining. Their main concern is, as in the case of San Gerardo, that the water can get contaminated. Similarly, the same concern is heard from the people against mining in Victoria del Portete. Interviewees from the national government institutions and the mining company state that the leading activist groups against Loma Larga, and their leaders come from this parish.

The mining company has made different investigations on this matter. One of these investigations made in the Loma Larga gold mining project is the study of the baseline of the existing hydric resource in the zone and the monitoring of its quality and quantity, of which the Program for the Water and Soil management (PROMAS for Programa para el Manejo del Agua y del Suelo) was in charge. Felipe Cisneros, Director of PROMAS (personal communication, April 16, 2014) mentions that IAMGOLD contacted them around the year 2000 and proposed that they do all the investigations required by the academy required to monitor and safeguard the environment. These analyses would be financed by the mining company (Cisneros F., personal communication, April 16, 2014). Consequently, PROMAS’s director says that they performed investigations in the Loma Larga area for 10 years, from 2000 to 2010. However they could not continue investigating as before (with extra laboratories, consultancy companies, etc.) because they had lost the economical support they had when IAMGOLD was operating in the zone. Universities in Belgium and Germany through some
doctoral investigations have also supported those investigations. They “scientifically monitored” the borehole research before, during and after the exploration stage (Cisneros F., personal communication, April 16, 2014).

Another investigation in the area of Loma Larga was made in biologic elements, mainly in flora and fauna indices, of which the department of Biology of the Azuay University was in charge (Zárate E., personal communication, April 20, 2015). The mining company also claimed to have their own data based on a system with 32 indicators with a 2-minute interval for 5/6 years in the influence zone of the project. They consider themselves that “Loma Larga is the best studied paramo in the world” (Carrión F., personal communication, May 27, 2015). PROMAS considers that the Loma Larga is the only gold mining project with scientific background information in Ecuador (Cisneros, F., personal communication, April 16, 2014).

INV Metals explained that the Quimsacocha paramo has a water depth that does not go deeper than 60 m, “because in paramos the water is concentrated in their pads”, thus the priority there is to take care of the soil where all the water is retained. After those 60 m there is a layer of silica, which having a high mineral hardness and being waterproof, prevents that the water leaks to greater depth (Aleman M. and Rodríguez M., personal communication, April 28, 2015). That is an advantage for the project in technical and environmental terms according to the mining company, and consequently in economical terms. In case there would be water seepage it would be difficult and costly to work in a place that is always flooded, so it would not be feasible. The entrance to the mine would be in a low part of the mountain; therefore the mountain where the project is located will not be (completely) affected (Cisneros, F., personal communication, April 16, 2014).

A local mining activist leader in Azuay says that they have studied those ‘baseline investigations’ made by the universities of Cuenca and Azuay, as well as other information from the Environmental Ministry related to the Loma Larga gold mining project, but they could find no evidence that mining will not affect the water in Quimsacocha. PROMAS has been strongly criticised by these opposition groups45, however PROMAS counters that the “academy is guaranteeing people that they are doing scientific monitoring in the area to protect the environment” (Cisneros, F., personal communication, April 16, 2014). According to Carlos Perez (personal communication, April 20, 2015) the universities do not say anything in their reports because “they are afraid to talk”. However, he insists that any environmental engineer would recognise the negative mining impacts and consequences that this large-scale gold mining project would cause in the area in case exploitation is performed (Perez C., personal communication, April 20, 2015).

Nevertheless, mining opposition groups have claimed to not need more studies that “demonstrate that the water will not get contaminated”, as they have investigated enough to know that industrial mining is devastating (Perez C., personal interview, April 20, 2015; Chicaiza, G., personal communication, May 28, 2015). The opposition against the Loma Larga gold mining project has resulted in demonstrations and strikes, mainly because of the water. As a result of one of the

45 “They came here [to their office] to attack us” (Cisneros, F., personal communication, April 16, 2014)
Multiplicity and complexity landscape approach principles

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roadblocks on May 2010, three activist leaders of these actions were tried before the Second Criminal Court of Azuay; consequently opposition groups have sued the National Government for criminalizing social protests.

The provincial government of Azuay says that in rural areas the resistance to mining projects is higher than in cities because they would be affected the most if the water gets contaminated (Inga R., personal communication, April 24, 2015). Rene Inga, an internal consultant of the Azuay provincial government (personal communication, April 24, 2015) says to have been investigating the mining projects in the province for around 6 months together with a technical team, and gained access to an investigation made by ETAPA, in 2012, that was not made public and was apparently unofficially accessed by some people, including them, but also the president of ECUARUNARI made reference to this. This investigation is said to estimate that the Loma Larga project will contaminate more than 50% of the water in case of exploitation

Despite the fact that the provincial government of Azuay agrees that mining could contribute to the income that Ecuador requires ‘for development’, they consider that there are not enough scientific investigations that the water in Quimsacocha will not be polluted (Gustavo Flores, personal communication, April 17, 2015; Inga R., personal communication, April 24, 2015), and until they have scientific proof that mining will not cause damage, they feel in their right to avoid that industrial mining is done in the area (Inga R., personal communication, April 24, 2015).

46 I could not get access to this investigation, and I consider that further analysis should be done concerning those studies as it is taken as a reference that water will be polluted in Loma Larga, and has mobilised many people. However as cited above, an investigation of ETAPA in 2008 was found where they also said that the water could be affected, although some cited measures have been taken afterwards (Internal Auditing Unit of ETAPA, UAIE 0036-2009; Environmental Ministerial Agreement 007).

47 https://www.youtube.com/watch?v=4RaGLG1kunA
In March 2012, a National Protest “defending the water, life and dignity”, which started in the South of Ecuador, went to Cuenca, and finished in Quito, was held. The Prefect of Zamora, Salvador Quishpe, with the support of the Prefect of Azuay, Paul Carrasco, and participation of different indigenous and peasant organisations, activist leaders of different mining projects, and other social organisations, led it. It is said that 30,000 people were part of this pacific march.

Besides that, other mobilisations are frequently started in Azuay, mainly led by peasants and activist groups, such as FOA, UNAGUA and ECUARUNARI. The leaders of those organisations belong mainly to the second ring of the influence zones of the mining project. Carlos Perez (personal communication, April 20, 2015), activist leader from Azuay, states that all the people who drink water in the Loma Larga project are fighting for their rights, because in his opinion pro-miners have interests, but they have rights, “the right to live”.

5.2. THE LOMA LARGA RESPONSIBLE MINING NARRATIVE WITHIN THE FRAMEWORK OF BUEN VIVIR

In this section I analyse the social dimension of the Loma Larga project doing reference to the main element of the mining narrative of the National Government within the Buen Vivir framework, doing ‘responsible mining’ in Ecuador, but in this case from the perspective of the mining company. For the mining company, the main element in the responsible mining narrative is grounded on a social participation process that they apply, explained below. In this section I look at how INV Metals, which is in charge of the Loma Larga large-scale gold mining project in Ecuador, applies ‘social responsibility’. As this is a narrative from the mining company’s social responsibility perspective, most of the information is given by the mining company. When other stakeholders give the information, this will be elaborated.

Exploration activity in the Loma Larga are began in the late 1970s according to the technical report and the interviews with staff from the INV Mining Company, when a United Nations survey identified geochemical incongruities in the deposits five kilometres south of the Quimsacocha caldera. In 1991, the property was acquired by COGEMA who carried out an exploration program. In 1994, COGEMA, Newmont, and TVX Gold Inc. formed a joint venture to further explore the Quimsacocha area, however this consortium lasted only a few years, as the results obtained were not very promising (IAMGOLD Corp., 2012).

IAMGOLD subsequently entered into an ‘agreement with COGEMA’ in 1999. No work was carried out until 2002, when IAMGOLD began drilling on the Project (IAMGOLD Corp., 2012). IAMGOLD

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IAMGOLD acquired the Project from COGEMA in March 1999 for $200,000 payable after the third anniversary of the agreement. If IAMGOLD decided to carry out mining exploitation activities, it would also be required to pay COGEMA US$2.00 for each ounce of gold in Proven and Probable Mineral Reserves plus the Measured and Indicated Mineral Resources defined by a feasibility study. Once production had commenced, IAMGOLD would be required to pay COGEMA a 5% Net Profit Interest in the event any operations were carried out on the Project (INV Metals, 2012).
informed the population about the “discovery” of the Quimsacocha (currently Loma Larga) deposit in 2004 (Carrión F., personal communication, May 27, 2015). Finally, INV acquired the Loma Larga Project from IAMGOLD Corporation on November 14, 2012. INV Metals is still ‘associated’ with IAMGOLD (both from Canada), which still owns 47% of the stocks of the project. According to the Annual Report of IAMGOLD Corp. (2013) ‘associates’ are said to be those “entities over which the Company has significant influence”49 (IAMGOLD Corp., 2013).

As a result, IAMGOLD still has deciding power (at least for 47%) in the Loma Larga project in financial and operating policies. It is not clear from the literature if the relationships between previous companies owning the current Loma Larga project have finished or still exist. But as can be seen in footnote 48, the agreement between COGEMA and IAMGOLD stipulated that in case IAMGOLD would decide to do exploration, it had to pay a certain amount of money for each ounce of gold of proven and probable mining reserves and a percentage when exploitation is made. If these relationships still continue, it could be concluded that a long international network is still controlling what happens in the gold mining landscape of Loma Larga, and as a consequence in Ecuador.

Nevertheless, INV Metals mentions to have its own legal personality in Ecuador, namely INV Metales Ecuador S.A, which ensures, in their opinion, that all the economical obligations of the mining company with the State, as taxes, are paid and complied in the country. Among the changes with the ‘new’ mining company in charge of the Loma Larga, is that INV Metals decided to stay with fewer personnel than IAMGOLD, thus almost 70% of personnel left, though this was also because of the mining phase that they are currently working in; another consequence was lower budget for social investments for direct influence zones (Section 5.3.).

Two main reasons lie at the basis for this change between INV Metals and IAMGOLD according to one of the directors of INV Metals (personal communication, May 27, 2015). First, the gold market conditions are not as favourable as they were before, as the gold price dropped after 2012. Besides that mining needs high amounts of investments and the Loma Larga project was not generating any income, but only investments in its exploitation phase; that was not a good situation for IAMGOLD who had other mining projects that were already working.

Second, Ecuador is considered a risky country for mining companies. Even though there has been a stable government since 2007, the mining legal framework does not state clear rules and there are some regulations that are still in draft, which causes confusion to companies, as it was with the Loma Larga project. Besides that, percentages of payment of royalties and taxes are considered high.

49 “significant influence is the ability to participate in the financial and operating policy decisions of the entity without having control or joint control over those policies. The Company’s share of net earnings (losses) from investments … The Company has concluded that it has significant influence over its investments in … and INV Metals Inc. through the level of ownership of voting rights. The Company has assessed additional facts and circumstances, … and concluded that there is no clear evidence of control of either … or INV Metals” (IAMGOLD, 2013).
INV Metals remarks that they, as when IAMGOLD was in charge of the Loma Larga project, are doing responsible mining in Ecuador. The staff of this company says that all the laws in the country have been fulfilled, and as a reference the Buen Vivir National Plan is also considered in the actions the company takes. INV Metals considers that the Ecuadorian Buen Vivir Development Plan, as well as the mining law, are wide guidelines of what should be done, but not how. On top of that, they mention to have applied their own politics as a company, which are seen as added value, as they consider that their own policies are better than what the National Government asks in the mining sector.

Taking the Buen Vivir Plan, the mining law, and the ideas of responsible mining as references, the corporate social responsibility director of INV Metals says that the mining company has created a social plan model to apply in the direct influence zones of the Loma Larga project, which is considered to be their own initiative as the mining law (Section 4.3.) does not ask nor require this. This model idea started in 2005, after reflecting the indexes of social vulnerability of sectors in Ecuador, which precisely matched with the presence of some mining companies there. Therefore this element becomes the main element in the Loma Larga responsible mining narrative.

This plan is alleged to be a participative relationship model between the State, direct influence communities (through the local GAD) and the mining company: “An agreement between public [parish GAD] and private [mining company] to benefit the communities” through the generation of social projects. Staff from the company says that this plan is based on a lecture of rights of the Company, rights of the communities and rights of the State, aiming at preventing the violation of human rights, instead of looking for reparations once the rights have been violated. With this methodology of cooperation they claim to avoid the traditional “isolated and paternalistic relationship between mining companies and communities”, where population asked small things to the company and whether they received it or not depended on the mining company, overriding a local government elected by the population.

As a part of this project, the mining company has installed two information centres in two of the direct influence zones. Besides that, the staff from the mining company says that the zone where the project is located does not have security, “it is an open house for anybody who wants to visit”, and there have been around 4000 visitors. They are also articulated with the central government, mainly the Strategic Sectors Ministry, who occupy a higher level among them.

Hence, the result of Buen Vivir (more in Section 4.1.) for a mining company, particularly INV Metals, is said to be “responsible mining”, where they do not only focus the economic pillar, but also the improvement of the quality standards in all levels and variables for the involved population. Therefore Sumak Kawsay and a ‘responsible mining’ are considered to be compatible. The director of social responsibility of INV Metals mentions that the application of the above named participation model has called the attention of the National Government, who were interested in “copying this for other mining projects”. This suggests that such socialisation does not exist in other large-scale mining projects; therefore this mining project should be taken only as reference of social responsibility of mining companies in Ecuador.
In order to understand this participation model better, I examine more closely what the mining company has done in the direct influence zones of the Loma Larga area concerning the above mentioned social participation model in the next section. The social participation of the INV Metals mining company is based on agreements with the direct influence parish GADs.

The first agreement was made in 2006, between the mining company and the GAD of San Gerardo, one of the direct influence zones, for this reason the INV mining project social participation project is known as the “San Gerardo Model”. Among the actions that the mining company promised to undertake with their first agreement was to develop programs and projects of environmental education, a program of “Andin Culture” that included activities of cultural education, a group of Andin dance and a Cultural Centre, a training program for the population about forestation, care of hydric sources, topics in modern mining and hydric resource conservation; to conform productive local groups that can be linked to the mining project and the investment of traditional production activities, mainly improvement of agriculture and livestock; to assign funds to the Annual participative budget from the local government of San Gerardo, among other projects and programs for local development.

The mining company says to also have funded an investigation to make a plan for potable water and sewerage in the parish by a consultancy company that the GAD recommended and “it was possible that MIDUVI approves this [project] very fast”. The local staff from INV Metals says that because of the low budget that the mining company, as INV Metals, currently have for social projects, they will work with vulnerable groups and with some of the production groups in 2015.

In the case of Chumblin, the vice-president of the parish GAD said that in 2005, the announcement of the mining works in the area concerned many people, since they did not know what was happening and whether they would be affected “although the mining company came [t]here to explain [them] the project”, after which “people started asking small things or economical support
from the company, but they [the mining company] did not deny [i.e. the mining company agreed]”. However, from 2006 “the mining company wanted to give more budget to the parish [...] through the parish government”, although some people in this parish GAD did not want to receive money from them. According to one of the social workers of the mining company, the influence of the population of Chumblin “forced” its parish Government, at that time opposed to mining, and a first agreement of this parish GAD with the mining company was made around 2010. The current president and vice-president of the Chumblin parish government have stated that “as a parish it is difficult to invest with that amount of money”, and while they have seen benefits, the economical support of the mining company has been small in the last years.

The production associations that the mining company support(ed) in Chumblin are livestock, water systems, and the production and sale of yoghurt, medicinal plants and chamburro jam with quality certifications. The mining company considers the association hosting the chamburro jam, “La Natividad”, to be their icon project. The budget of the mining company is distributed among all the organisations in some of the communities of the parish and the GAD of the parish for the implementation of other projects. The size of the production organisations that the mining company supports are between 10 and 20 people each one.

The vice-president of Chumblin says that “the doors are open” for people who want to join either of the associations, however he considers that there is no union among the people in the parish, and both selfishness and a lack of motivation to work (but also to invest) in the associations are observed. In the case of the association for water, there are 60 people, of which some also did not also to receive money from the company according to him, however since the benefit is for everybody, the majority of the group, who agreed with mining decided to accept the support.

In Victoria del Portete, the mining company has not signed any agreement with the parish, but the Company said to have invested in the road management of the area close to the Durazno community, however there are currently no projects there, because of budget issues. Furthermore, the National Government invests a percentage of royalties of strategic projects in the influenced areas through Ecuador Estratégico. In the case of San Gerardo, Ecuador Estratégico has been investing in drinkable water and sewerage systems, roads, and a health centre. Chumblin has also received public investment from Ecuador Estratégico since 2014 with the provision of drinkable water and sewerage systems. Nevertheless, the vice-president of Chumblin wonders why his parish has not received the same benefits as San Gerardo. Ecuador Estratégico\(^{50}\) has also invested in Victoria del Portete, with a school of very high standards (the known ‘millennium schools), a sanitation interceptor and wastewater collector and potable water and a water treatment plant in two communities of Victoria.

In a public participation a representative of the government of Victoria del Portete\(^{51}\) has stated that they as [newly elected] parish government administration, support mining and want to have a bigger

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\(^{50}\) Ecuador Estratégico representative, direct observation, May 30, 2015

\(^{51}\) Hernan Mendieta, direct observation, May 30, 2015
protagonist role in the Loma Larga Project, just as Chumblin and San Gerardo have, and in turn receive investments and have good changes\textsuperscript{52}. The Mining Minister said that Giron has requested the same, however it must be considered that Loma Larga is not yet in production, and Ecuador Estratégico selects projects based on anticipated royalties, that by law need to be distributed first to the main influence zones of the strategic projects.

As can be seen, differences in allocated social budget in direct influence area can be recognised both from the mining company, as from Ecuador Estratégico. In the case of the mining company, this can correspond to three reasons. Firstly, the social mining company investment in each community started in different periods, first San Gerardo, but the areas of Chumblin and Victoria del Portete are said by the mining company to have been more difficult to sign agreements with the local governments as they (mainly the presidents of the local government) were against the mining activities. The reason for this could be that the former presidents of these two were of another political party than the National Government, and they were against mining, in the case of Victoria del Portete its former president was one of the main mining activist leaders in the zone. Secondly the budget for social investments of the mining company has strongly dropped with the stock sales of IAMGOLD to INV Metals, therefore the communities that joined later than San Gerardo did not receive the amount of budget that the first did. Thirdly, not all the communities of this Victoria del Portete are direct influence areas of the Loma Larga project.

To conclude this section, it is important to highlight that the local authorities in Chumblin and in Victoria del Portete (and also Giron) make reference to what has been done in San Gerardo and all expect that the same investments be made in their own areas and they consider that if others have something, they should also receive it. National Government institutions should also not expect them to share services as each one considers to have their own resources and “[they] want to develop as well”\textsuperscript{53}. So...

... \textit{Is responsible mining within the framework of Buen Vivir possible?}

“The position of people changes every time, at many times depending on how they relate themselves to the project”, INV Metals stated, and they consider that this social participation model, where they get along with communities, has allowed them to ‘earn communities' trust’ (Aleman M. and Rodríguez M., personal communication, April 28, 2015). Here I make reference to the landscape approaches principle six, ‘Negotiated and transparent change logic’, which claims that trust among

\textsuperscript{52}“We are asking as Victoria del Portete, we want to have a bigger role in the Loma Larga Project. The project is in our territory... we have a healthy envy to hear that the Chumblin parish, the San Gerardo parish do have investments..., that the parish of San Gerardo has change incredibly good ... and in Victoria del Portete, ..., we have nothing... we do not understand why we are so forgotten” (Mendieta H., direct observation, May 30, 2015).

\textsuperscript{53}Espinosa S., personal communication, April 26, 2015
stakeholders is the main required basis to avoid or resolve conflicts, in which transparency, principle two, is believe to be the basis of trust (Sayer et al., 2013).

The INV Metals mining company shows some actions that resemble what could be called “Responsible mining”, and during my field research I could briefly talk with some people in the streets of the Chumblin and San Gerardo parishes when I visited these villages, and in my experience people seem to be generally satisfied with the mining project. For instance I met a person in San Gerardo and he showed me some of the works he did for the company. I also met another person who has emigrated and told me that now he was back he could work at the company as a chauffeur and he sees how people are not emigrating anymore, as they are expecting to get a job when the mining company starts exploiting. Besides that, I talked to some organisations of Chumblin and San Gerardo working on projects with the company, and one of them told me (when I asked how they started) that the idea of making jam with chamburro for instance, was an idea of the people from the company “we did not know we could do that with chamburro” she said, “Yes, it is positive” she claimed. However, a further ethnographic study should be made in the direct areas, as well as more extensive polling so a better conclusion can be made over this.

As far as my investigation is concerned, most of this section reflected what I have been told by the mining company and required bibliography, but also with information given by the presidents and vice-presidents of main parishes influenced by the Loma Larga project. For the latter actors, it is important to consider that they are working close to the mining company (mainly the offices located in Quito and Chumblin) and have a “good relationship” at this moment, and as a consequence the information could be biased.

The two universities who realized the investigations in the Loma Larga mining project believe that the mining company in charge of this project (most of them made reference to IAMGOLD) has until now (exploration activities) done a ‘responsible job’ as there were no adverse effects or big changes in the area54. Although, it is also important to consider that the mining company has not yet performed exploitation activities in the area, so “the [negative] effects cannot be seen yet” (Perez C., personal communication, April 20, 2015). Nevertheless when I triangulate the data with interviewed academics from the Cuenca University and Azuay University, I notice that they have a good concept of this mining company, as do the public institutions (all of them pro-miners).

Whether responsible mining is possible or not depends on one’s opinion, values and meaning given to landscapes, which differs for each person, on what responsible mining entails, although ecological, social and economical indexes should be considered in the governance of Ecuador in more detail to determine criteria to measure and monitor if “responsible mining” is applied in the country, as now more depends on the discourses and narratives of the stakeholders.

54 “If you go to the area, you will not even realise where the exploration activities were made... it is intact as it was before.... [este fue un trabajo de sacarse el sombrero]” (Cisneros F., personal communication, April 16, 2014)
At the time, improvements can be seen in communities close to the Loma Larga mining project, such as public investment in roads, the construction of a hospital, of a school, and people everywhere, including activist groups easily recognise these, although opponents of mining told me that, in their opinion, most of the investments made there are sumptuary things and aimed at avoiding social conflicts (more information is given in Section 5.1.2.). I could also add as a postscript, that all this can be a strategy of the company, and the National Government to already “prepare everything”, i.e. all the services that would be required in case the Loma Larga project is exploited. As a final remark, while these “improvements” might probably benefit the local population, it can be strongly criticised in *Sumak Kawsay* terms (Section 4.1.), therefore an ethnographic study in each community close to mining projects should still be made to determine what locals consider necessary to achieve “*Sumak Kawsay*”, and if what is being done in their areas benefits them or not.
6. GOVERNANCE OF GOLD MINING LANDSCAPES IN ECUADOR

This chapter looks at evaluating three landscape approach principles: multiscales, multifunctionality and multistakeholders that are part of the Governance in gold mining landscapes in Ecuador. In the first section of this chapter, the stakeholders that are part of the governance in gold mining landscapes in Ecuador are described, as well as their relationships. This section and the following section, make particular reference to the Loma Larga large (medium) scale gold mining project and the Camilo Ponce Enriquez artisanal and small-scale gold mining landscape. In the second section multiple stakeholders / multiple triadic juxtapositions are drawn, where overlaps of conflicts and values, interest and/or objectives of the identified actors are examined. To conclude this chapter the dominant tendencies of the gold mining Governance in Ecuador is shown in a valuation triadic representation.

This chapter answers the following sub research questions: Who are and what are the relationships between and among the main stakeholders in gold mining landscapes (taking the main functions and different scales of the gold mining landscapes into account)? What juxtapositions of values of stakeholders can be determined? Is there a dominant system of stakeholders and functions in gold mining areas? All the information of this chapter is based on the information and landscape narratives already given in chapters 4 and 5, therefore no specific references are given to quotes of interviewees, except in the cases where new information is brought.

6.1. MULTISTAKEHOLDERS, MULTIFUNCTIONALITY AND MULTISCALES LANDSCAPE APPROACH PRINCIPLES

As already introduced in chapter 2, governance of landscapes deals with the different stakeholders that are present (inside and outside) at different levels and scales. Landscapes are constructed based on the values that these stakeholders give to the different functions that the landscapes provide. Multiscales in landscapes can be defined as their spatial (areas), temporal (rates, durations, frequencies), quantitative and/or analytical (administration, rules, plans, truths...) dimensions used to measure and study any phenomenon. In each scale different levels can be distinguished (Cash et al., 2006; Minang, 2014). In this research the focal point is gold mining (one of the functions present at the landscape level) in the four recognised mining law scales (artisanal, small, [medium] and large) analysed from a spatial scale perspective, specifically the gold mining landscape level (Figure 9).
Figure 9: Scales of gold mining landscape function at landscape level of the spatial scale
Source: own elaboration inspired on Cash et al., 2006, Reed et al., 2009 and Minang 2014.

The focal point in the artisanal and small-scale gold mining landscape is Ponce Enriquez, and in the large (and medium) scale landscape the focal point of analysis is the ‘Loma Larga gold mining project’ (Figure 10). Both landscapes are located in the province of Azuay (Ecuador).

<table>
<thead>
<tr>
<th>Focal Point</th>
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<tr>
<td>Artisanal and small gold mining scale</td>
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<tr>
<td>in Zaruma</td>
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<td>in Zamora</td>
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<td>in Esmeraldas</td>
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<td>in Azuay</td>
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<td>in Ponce Enriquez</td>
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<td>in Sigfig</td>
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Figure 10: Gold mining landscapes focal points: Ponce Enriquez and Loma Larga
Source: own elaboration inspired on Cash et al., 2006 and Reed et al., 2009

Stakeholders governing gold mining landscapes are identified in two directions: on the one hand the stakeholders that are ‘not part’ of the analysed landscapes, but have some grade of influence over (or contain) them, which can be understood as top-down ‘constrained’. These stakeholders are assumed to shape the functions that were, are and will be present in landscapes (Salthe, 2012). The other direction of analysis looks at stakeholders that are part of (or contained within) landscapes. The latter will be understood as a bottom-up ‘casual’, where different stakeholders perform the different functions in the landscapes. These stakeholders are synthesized and presented under a perspective from higher to lower scalar levels in Figure 11. They represent the main identified actors in this research concerning the Camilo Ponce Enriquez and the Loma Larga gold mining landscapes. These actors are listed from left to right horizontally, extending from the largest scale at the left to the smallest at the right, with the analysed gold mining landscapes between them as focal point.
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Source: own elaboration inspired on Farrell (2007) and Salthe (2012)

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**Figure 11:** Gold mining governance: artisanal, small, large (and medium) scale from higher to lower scalar level categorised by stakeholder group (Focal landscapes: Loma Larga and Ponce Enríquez)

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Source: own elaboration inspired on Farrell (2007) and Salthe (2012)
Thus the level(s) on the right are contained (directly and indirectly) within the focal point, and those levels on the left contain the Loma Larga and Camilo Ponce Enriquez gold mining landscapes. Stakeholder groups are also classified (by colour) in their ‘position’ concerning to mining, i.e. pro-mining and anti-mining perspectives. When positions in favour of and against mining were both commonly identified within a stakeholder group, the group was classified (in colour) as ‘mixed opinion group’. People that have a neutral opinion or whose ‘position’ cannot be determined due to lack of data are also grouped in their proper colour category. The interpretations of these categories are presented in general terms based on the gathered information from interviewees during the fieldwork.

When analysing these actors, from higher to lower scalar levels and their relationships, in most of the stakeholder categories (for instance from national, regional, provincial, cantonal and parish government agencies), different relationships among them, but also within them can be found. Therefore a cross-multilevel (Cash et al., 2006) relationship of stakeholders (with different power and/or influence) is identified in the governance of the studied gold mining landscapes, as a multitude of values and meanings are ‘competing’ in landscapes to be articulated on the focal level (Farrell, 2007). Based on figure 11, chapter 4 and chapter 5 the main recognised relationships among and between stakeholders, that have been identified in this research are graphed in figure 12, and the different drawn relationships are explained below.

If the governmental agencies are considered from higher to lower scalar levels, it is difficult to say, despite the decentralised system in Ecuador with the presence of GADs at different levels, that there is a “horizontal structure” of management (every level is allowed to make their own decisions) in the mining sector. Instead the structure of governance is more vertical in the mining sector, with the National government, which decides over laws, on top, and lower scalar levels will do what this highest scalar level expects. The National Government offices such as Strategic Sectors, the Mining Ministry and the Environmental Ministry, among others operate from the central office in Quito. Regional offices, and sometimes also National offices will execute specific interventions directly in the zones influenced by the gold mining projects, normally through or together with the parish GAD. Strong relationships between GADs and regional / national governmental levels could however not be identified.

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Figure 12: Gold mining governance: relationships between and within main stakeholders in the gold mining governance (Focal gold mining landscapes: Loma Larga and Ponce Enríquez)

Source: own elaboration
If the governmental agencies are considered from higher to lower scalar levels, it is difficult to say, despite the decentralised system in Ecuador with the presence of GADs at different levels, that there is a “horizontal structure” of management (every level is allowed to make their own decisions) in the mining sector. Instead the structure of governance is more vertical in the mining sector, with the National government, which decides over laws, on top, and lower scalar levels will do what this highest scalar level expects. The National Government offices such as Strategic Sectors, the Mining Ministry and the Environmental Ministry, among others operate from the central office in Quito. Regional offices, and sometimes also National offices will execute specific interventions directly in the zones influenced by the gold mining projects, normally through or together with the parish GAD. Strong relationships between GADs and regional / national governmental levels could however not be identified.

The Buen Vivir Plan (Ec. Buen Vivir Plan, Art. 264 and Art. 267) states that the regional, provincial, cantonal and rural parish governments have to make their respective land development and management plans in coordination with each other. Nevertheless, through this investigation, and through the executed interviews such a relationship could not be found. However as mineral resources are not on the surface, it can be justified that there are no agreements among them in mining issues, although I could also not find any agreements for the other functions of the area.

However, in the mining sector a plan, known as PEN (Chapter 4), should be made with the different governmental stakeholder levels. In the case of Azuay, which belongs to Regional Zone 6, I learnt about the existence of a PEN in cooperation with the Loma Larga gold mining project, of which the regional GAD was the one to coordinate it. Solano, from SENPLADES, says that this plan has been discontinued, although the National level office of SENPLADES (Iglesias C., personal communication, May 26, 2015) argues that this project does continue. This shows that there is no consistency between the same institutions at different levels on what is actually happening in an area and what the National Government considers to be happening, similar example were found with MAE between the vice-minister and staff of the institution, concerning to TULAS (Section 4.3.2.).

If we look into the PEN when it was working, according the explanation of SENPLADES in Zone 6 (Solano D., personal communication, April 30, 2015), the provincial government of Azuay was not part of it and neither were the cantons. The reason could be that these local authorities do not have governmental management rights over underground natural resources, such as minerals (Ec. Constitution, Art. 1). Valencia (personal communication, April 20, 2015) and Sacher (personal communication, May 18, 2015) do mention that this situation can make the local governments feel displaced from their local authority.

Nevertheless, if reference is made to the provincial and cantonal governmental institutions in the studied gold mining landscapes of Loma Larga and Camilo Ponce Enriquez, an indirect implication by themselves is observed. The provincial GAD of Azuay (Inga R., personal communication, April 24, 2015), where both studies gold mining landscapes are located, are against large-scale mining and as a consequence helped activists to organise a National protest defending the water (Section 5.1.2.).
According to Sacher (personal communication, May 18, 2015) activists in Azuay would be marginalised from Governmental levels if the prefecture had been on the Government's side.

In the case of artisanal and small-scale mining, a relationship between the Azuay Provincial GAD and the Ponce Enriquez GAD is also identified, as the provincial government ‘supports this activity’ and the local GAD is working on a project to create a mining district in the canton, organised by the Azuay GAD with funds from the European Union (Section 4.4.1.). In the same way, indirect involvement from cantonal governments can still be seen, for example in the case of the municipality of Cuenca, which created (around April, 2015) a new Mining department, whose Director (Mora M., personal communication, April 22, 2015) says that they will be monitoring the large-scale mining projects to ensure that these projects will not affect the Cuencan population. Similarly, the government of Giron (direct observation, May 30, 2015) wants to be a more active actor in the mining process, as they also want to receive royalties from the Loma Larga mining project for the canton.

Hence it is notable that even when it is said that underground resources do not belong to municipalities but to the National Government (State), cantonal and provincial governmental levels are still “part” of the governance of gold mining areas, be it in an indirect way nowadays, although they believe that they should also be part of the decisions in the mining sector, as they are the authorities elected by the population to safeguard their life and improve their conditions of life.

In large scale mining activism an umbrella of organisations could be identified (Chicaiza G., personal communication, May 30, 2015): at the national level, the non-governmental organisations (NGOs) and so-called environmentalists can be found, and at the local level, there are organisations from provinces, cantons and parishes, who mainly consist of peasants or indigenous populations. As far as international non-governmental organisations (INGOs) are concerned, many are present in Ecuador, however they are not visible nor directly participating in debates in the country; instead they support national and local activist organisations, in some cases with money, but also with

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55 “They [the National Government] do not allow that anybody put their hands there [in the mining sector and mining projects] ... Carrasco is against the government because he disagrees with the centralist governance... The political management [in mining] is made in Quito... A Minister believes more than a Prefect, while Prefects and Mayors are authorities elected by the people and the Ministers are elected by the president” (Inga R., personal communication, April 24, 2015).

56 “There are a lot different organisation in each territory, some municipalities, some governments, as well as parish councils, provincial governments” (Chicaiza G., personal communication, May 28, 2015)

57 “Acción Ecológica receives financing to work in diffusion, defense of environment rights, support resistance to local level, give information, contribute to national and international exchanges” “They also go to visit other mines as in Peru... and talk with communities ... They do that all the time that... They also have gone to see what is public mining in Bolivia ... it was important that people knew what is the public mining in other countries and from that we can reflect...” (Chicaiza G., personal communication, May 28, 2015)
moral and/or political support. The local organisations also receive support from national organisations, e.g. from Acción Ecológica.

If large-scale mining companies are analysed, the owners of the mining projects are transnational companies, therefore the presence of international connections could be assumed. However in the specific case of Loma Larga a network of older international mining concession holders was identified, who might still be influencing what INV Metals does in Ecuador, particularly IAMGOLD, which like INV Metals is located in Canada. At the National level the main office is located in Quito, and at the local level INV Metals has an office in Cuenca and two in the parishes of Chumblin and San Gerardo. These latter two mining company offices are a very important actor, as their location is strategic in order to stay in touch directly with the parish GAD and through them with the community. The local mining offices also have a direct communication with Victoria del Portete, and with the parishes of Baños and Tarqui.

The investment of the company and of Ecuador Estratégico in the influence zones of the Loma Larga project has linked parish governments to support the ideas of responsible mining, as is the case for the Victoria del Portete Government and the Giron Government. Therefore the main relationship that communities of direct influence zones have, are with the parish GADs, the local offices of the Company, followed by specific intervention of the regional offices of Zone 6, as well as a limited relationship with the National government institutions.

In the case of Camilo Ponce Enriquez, I could access a list of miners during my fieldwork, which the provincial government from Azuay has elaborated, showing more than 200 companies, associations, and individual artisanal and small miners in the area. However the relationships of these miners have not been analysed further in this research.

There are also other actors that appear in the governance of gold mining areas in Ecuador mainly as indirect actors. An important identified actor is ETAPA, which is part of the Cuenca GAD, but is not linked specifically to any of the previously named institutions and organisations, however its presence is important because they manage the SUSTAG water treatment plant that collects the water from the area where the Loma Larga project is located. As explained, a study by them suggested to scientifically investigate the area of Loma Larga because the water could be affected. People who have had access to this investigation, consider it to be an important reference that proves that the water will be contaminated and there are not enough studies assessing the effects (for more information see Section 5.1.2)

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58 “We have had support from international organisations, but this is not economical, it is more political and moral” (Perez C, personal communication, April 20, 2015)

59 “…it is always a relationship of collaboration or coordination to strengthen local processes” (Chicaiza G., personal communication, May 28, 2015)
Another indirect actor in the gold mining landscapes is the Catholic Church. According to the Director of the Industrial Department of the provincial government of Azuay (personal communication, April 17, 2015), the Catholic Church is an important stakeholder in Ecuador, particularly for peasants who are said to be devout Catholics who are often said to be influenced by the Church’s opinions. During the field work I heard from the INV Mining Company that in some cantons the representatives of the Church are against mining and supporting the ideas of people in the opposition, but in an interview with a mining activist it is mentioned that the Catholic Church is supporting the government, and mining, if they consider that people have the possibility to ‘improve’ their conditions of life.

Universities are also significant to look at in the governance of gold mining landscapes. Despite the assumption that scientists have neutral opinions in the academic field, they also have their own personal opinions that in some way could influence with whom they would interact, or could be influenced based on with whom they have interacted. For instance FLACSO, where some academics are opposed to mining have worked together with the national non-governmental organisations against mining, such as Acción Ecológica (Chicaiza G., personal communication, May 28, 2015), while at the University of Cuenca and the University of Azuay, some academics that have investigated in the Loma Larga project and in Camilo Ponce Enriquez do not disagree that responsible mining is possible in Ecuador.

In conclusion, it can be seen that stakeholders will group or ally with people that share their own (or similar) values, while they will (usually) not relate with groups with different values. On the one hand, people working at the National Government support the possibility of responsible mining, as do mining company workers, professional miners and some academics who agree with the government policy of getting money from the Strategic sectors, such as mining, in order to ‘develop’ the country. On the other hand, stakeholders against mining can also be found together: alliances among international, national and local activist organisations, such as associations with government authorities opposed to the Ecuadorian policies. In my research, with the exception of activist leaders, the communities and the parish governments of the analysed landscapes are mainly influenced by the landscape narratives of higher scalar level groups of stakeholders and they are likely to join (actively or passively) to the groups that have the same values they do, but also the groups that can satisfy their needs and interests.

6.2. Multiple actor/multiple triadic juxtapositions

For the purpose of our analysis, the main group supporting large-scale mining is from now on understood to be the National Government, and the principal stakeholders of the group opposed to large-scale mining are national and local activist groups. Therefore the main values of these two groups are analysed (Chapter 4, 5 and previous sections of this chapter) from a valuation triadic point of view (Farrell, 2007).

The principal argument used in narratives of gold mining landscapes is grounded in the value that stakeholders give to gold and water. Hence, these two natural elements, together with the local population of the Loma Larga gold mining project landscape and the Camilo Ponce Enriquez gold mining landscape are analysed as focal points in a valuation triadic representation of the National
government and activist groups. In this section the referencing of interviewees is done in a general way, as in previous sections, and further detail can be found in Appendix 1.

6.2.1. THE MINING NARRATIVE IN A VALUATION TRIADIC VIEW FROM A MINING ACTIVIST PERSPECTIVE

In the direct influence zones of the Loma Larga project, the structure system that comprises the environmental valuation of the system of activist groups is reflected in their wish that the population experiences Buen Vivir in a healthy environment. Specifically in the case of mining activists in Azuay the main values are grounded in their interest of defending and protecting the water quality from getting contaminated, as a consequence they claim to defend people's lives; at the national level, their values look at defending the environmental rights and the rights of life; and at the international level, based on main statements of INGOs on their web pages, their values and objectives appear to be centred on changing public policy and mining practices so the environment is preserved and healthy living standards are ensured.

Concerning the Loma Larga gold mining project, the valuation triadics represented in table 3 describe the characteristics of how the opposition stakeholders view and value the Loma Larga direct influence areas and the respective elements of gold and water. This information is drawn from the territorial narratives of each group of stakeholders.

<table>
<thead>
<tr>
<th>Focal Point</th>
<th>Structure</th>
<th>Focus</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct influences zones - Loma Larga</td>
<td><strong>Buen Vivir in a healthy environment</strong></td>
<td>&quot;Water for the life&quot; The Loma Larga project is a treat to the survival of local population and to traditional activities in the zone.</td>
<td>Social protest against the mining project. &quot;Everybody who drinks water is against mining&quot;</td>
</tr>
<tr>
<td>Gold</td>
<td>&quot;Water for the life&quot; The Loma Larga project is a treat to the survival of local population and to traditional activities in the zone.</td>
<td>It is not important for Sumak Kawsay. It is used for sumptuary uses.</td>
<td>It should stay underground and never be exploited.</td>
</tr>
<tr>
<td>Water</td>
<td>&quot;Water for the life&quot; The Loma Larga project is a treat to the survival of local population and to traditional activities in the zone.</td>
<td>Water is an important natural resource for the population around the Loma Larga project and their traditional activities</td>
<td>This should be kept safe, in order that the population around the Loma Larga project have a healthy water and can continue with their traditional activities</td>
</tr>
</tbody>
</table>

Table 3: Activist groups landscape narratives through a valuation triadics view (Focus point: Direct influence zones, gold and water in the Loma Larga gold mining project)

Source: own elaboration based on Silva-Macher & Farrell (2014)

Considering that in the focal level the population in influence zones live from the land and water, the presence of the Loma Larga project is seen as a threat to their income activities and their survival, therefore diverse social protests have been organised to avoid this activity. In these protests activists are “defending the water, life and dignity”, however there are still some people expecting to get job from the mining company.

For activists gold is not important to achieve Buen Vivir, considering that this is for sumptuary uses, therefore it should stay underground and be not exploited. Water, on the other hand, is an important natural resource for the population and traditional activities, and it should be protected, because only in that way the people’s lives, traditional activities, and the possibility to develop new
activities, such as (ecological) tourism, activities that in their opinion would only be possible only if mining is not present, will be protected (Section 5.1.1.).

Following the same logic, the valuation triads in table 4 explain the characteristics of the mining activists’ values and meanings given to the Camilo Ponce Enriquez gold mining landscape. In this canton, the main income activity of the population is artisanal and small-scale gold mining. As in the previous example, the environmental valuation is given at the structural level because of the importance to achieve Buen Vivir in a healthy environment. However at the focal level the presence of poverty and other negative social issues as prostitution, alcohol, and negative ecological consequences like the contamination of water, are noted due to presence of artisanal and small-scale mining. Therefore it is considered at the functional level that their conditions of life should be improved and they should be given options for a transition from mining to more sustainable economic activities.

<table>
<thead>
<tr>
<th>Focal Point</th>
<th>Structure</th>
<th>Focus</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camilo Ponce Enriquez population</td>
<td><em>Buen Vivir</em> in a healthy environment</td>
<td>It is a canton where artisanal and small scale gold mining is already present in the landscape, and where the environmental and social conditions are destroyed.</td>
<td>Need to improve their conditions of life and to have options for a transition from mining to new income activities</td>
</tr>
<tr>
<td>Gold</td>
<td>It is a canton where artisanal and small scale gold mining is already present in the landscape, and where the environmental and social conditions are destroyed.</td>
<td>Main mineral for extraction in the area. Gold is the main income mineral for miners and other mining services in Camilo Ponce Enriquez.</td>
<td>Need to have new options of income activities and progressively eliminate mining in the sector</td>
</tr>
<tr>
<td>Water</td>
<td>It is a canton where artisanal and small scale gold mining is already present in the landscape, and where the environmental and social conditions are destroyed.</td>
<td>Important natural resource for the gold mining activity, but mainly for the Camilo Ponce Enriquez population and their economic activities. Mining in this area is also affecting the water in the Guayas province because of the contamination.</td>
<td>It is contaminated and has already brought many problems to the population.</td>
</tr>
</tbody>
</table>

Table 4: Activist groups landscape narratives through a valuation triadics view (Focus point: Direct influence zones, gold and water in Camilo Ponce Enriquez gold mining landscape)

*Source: own elaboration based on Silva-Macher & Farrell (2014)*

Activist groups consider that even when gold is the main mineral for them in the mining activity, they still should have new income opportunities, and mining activities should be abandoned progressively. Water is an important resource for miners, although miners are contaminating it and as consequence other economic sectors.

### 6.2.2. THE MINING NARRATIVE IN A VALUATION TRIADIC VIEW FROM THE NATIONAL GOVERNMENT PERSPECTIVE

The values, objectives and interests of the pro-mining National Government, from their own point of view, are that they are using the natural resources in Ecuador in a responsible way (the first Ecuadorian Government to do so), to get an income, through royalties and taxes out of the natural resource exploitation (when strategic projects are done). The mining companies (INV Metals) expect to contribute to the National Government by doing responsible mining.

Concerning the Loma Larga gold mining project, the valuation triadics represented in table 5 describe the characteristics of how the National Government view and value the Loma Larga project direct influence areas and the respective elements of gold and water.
Mining is an important activity for the National Government of Ecuador (table 5), for Buen Vivir. For this reason gold mining projects, like the Loma Larga project, are at the focal level, as they are strategic for the country and they must be exploited within the framework of the National Constitution, the Buen Vivir plan and the mining law.

With the income that the government receive at the functional level there will be public investments and jobs for the local population. In order to safeguard the right of people to a healthy living environment together with the development of large-scale mining in the country, the Ecuadorian Government commits to applying measures to avoid negative environmental impacts in each of the mining phases and to ensure that nature is respected (Art. 14, 72, 396, 397 - Constitution). With the right measures they consider it possible to develop traditional activities, as well as tourism, while all the different functions of a landscape can work together (Section 5.1.1.).

<table>
<thead>
<tr>
<th>Focal Point</th>
<th>Structure</th>
<th>Focus</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct influence zones - Loma Larga</td>
<td>Public investment to achieve Buen Vivir for the population of the communities of the Loma Larga gold mining project</td>
<td>Loma Larga gold mining project is strategic for Ecuador to get the required income to achieve Sumak Kawsay in the population. Population want to ‘develop’ their area and to improve their quality of life.</td>
<td>Public investment in their zones using the royalties of mining through Ecuador Estratégico. Mining company has to give by law job to the population of the main influences zones of the mining project.</td>
</tr>
<tr>
<td>Gold</td>
<td>Loma Larga gold mining project is strategic for Ecuador to get the required income to achieve Sumak Kawsay in the population. Population want to ‘develop’ their area and to improve their quality of life.</td>
<td>Gold minerals will give the possibility to the State to receive payments of royalties and taxes from mining companies</td>
<td>Mining company will extract the gold minerals in the Loma Larga project and will pay to the Ecuadorian State royalties and taxes</td>
</tr>
<tr>
<td>Water</td>
<td>Loma Larga gold mining project is strategic for Ecuador to get the required income to achieve Sumak Kawsay in the population. Population want to ‘develop’ their area and to improve their quality of life.</td>
<td>It is an elemental natural resource that will be used for mining activities, and others such as agriculture, livestock, human consumption, therefore it have to be protected</td>
<td>Creation of environmental measures to avoid or diminish the possibilities of contamination</td>
</tr>
</tbody>
</table>

Table 5: Ecuadorian National Government landscape narratives through a valuation triadics view (Focus point: Direct influence zones, gold and water in the Loma Larga gold mining project)
Source: own elaboration based on Silva-Macher & Farrell (2014)

Table 6 shows the landscape narratives of the Camilo Ponce Enriquez gold mining landscape through a valuation triadic view. The Government aims to control the current artisanal and small-scale mining in Ecuador, which has high levels of contamination. In this case, the Government wishes that artisanal and small miners have access to enough technology, and also improvement of their mining techniques to make their processes environmentally friendly and to increase their production levels.
Governance of gold mining landscapes in Ecuador

Karla Rodríguez

Table 6: Ecuadorian National Government landscape narratives through a valuation triadics view (Focus point: Direct influence zones, gold and water in Camilo Ponce Enriquez gold mining landscape)

Source: own elaboration based on Silva-Macher & Farrell (2014)

Based on the information of the four valuation triadic representations, the landscape narrative of what the activist groups desire, and the landscape narrative of what the Ecuadorian National Government desires for gold mining landscapes, is drawn in figure 13, which shows two different scenarios (conflict points) in the expected future of gold mining landscapes.

On the first hand, activist groups urge that Ecuador becomes a country free of (gold) mining, where the current large-scale gold mining in exploration phase leaves the country and artisanal and small mining be progressively eliminated by giving new income options and better ways of living to miners. On the other hand, the National Government promotes large (and medium) scale mining as to attract foreign investments to develop (gold) mining projects. The Government also plans to
regulate and control artisanal and small miners and with better technology and training, they expect
to develop and improve the conditions of artisanal and small miners, as well as their levels of
production. However, some people (mainly activists) consider that the National Government and its
laws benefit large-scale mining, and their intention is to eliminate artisanal and small-scale mining to
open doors only to industrialised mining.

In both cases (overlaps of values given to landscapes) the wish for Buen Vivir in a healthy
environment and the development of other functions in the landscapes, such as livestock,
agriculture and tourism is present. The National Government believes that other activities can be
developed together with mining and achieve Buen Vivir. However, activist groups consider that
achieving Buen Vivir and developing other functions at the landscape level with the presence of gold
mining in landscapes is impossible.

Is it possible to bring these stakeholders together? “What for?”

Some meetings to get agreements between pro-miner and anti-miner groups have been organised
by some universities, for instance FLACSO and the Andina University. In the case of FLACSO, Sacher
says that when they do debates the organisation from the National State “never comes” and the
reason for that, might be that National Government knows “very well” that they do not have solid
arguments: “their arguments are only discourse”; Acción Ecológica says that they can come to an
agreement with the National Government, but thinks that to the Government the dialogues are only
a strategy to avoid resistance.

A mining ministry representative (personal communication, May 30, 2015) considers that mining
opposition can be good, as this has allowed to build new projects, however some of the groups are
said to have passed the limit between when communities request something because they look for a
general benefit and when they have their own interests, and abuse their position to obtain them. He
describes then as people with whom “you arrive to a point of debate after which it is not possible to
continue” 66. Therefore no agreements can be made. The reason can be because (most) activists do

60 A representative of the Mining Ministry says she is a very technical person “I know nature, and how the land is,
they [activists] do not know and sometimes come with absurd arguments where it is not possible to enter in
debate. They do not understand”

61 [Dialogues] are indeterminable, and authorities, which take the decisions are not present “so if you do not get
anything what is the point?” (Chicaiza G., personal communication, May 28, 2015)

62 “Gloria Chicaiza with Martha Roldos asked to debate, for what? These ladies never like to listen, they will start to
offend, until the moment you react and in that moment they have the opposition media next to them and film you.
What is the debate? If they do not have a point of debate ...There is no debate with some people, there are people
who win a lot of money and there is no debate: Gloria Chicaiza, Carlos Zorilla, Esperanza Martinez, Carlos Perez,
Salvador Quispe, Tarquino Cajamarca, Polibio Perez, etc. People who are not willing to dialogue, they have their
own position”
not want to come to an agreement on how to make mining better; they want large-scale mining to be completely absent in Ecuador.

If we consider bringing together different governmental levels, the situation appears to be more conjunctural, and it depends on the political side the person or institution belongs to. Local level government consider that all the power in the mining sector is centred in the Ecuadorian National Government, and in the case that local levels consider their political values to be different, it is said they will not be associated with the National Government (Flores, personal communication, April 17, 2015). These actors can find support from international actors, for instance it can be seen in the case of the Provincial Government of Azuay that got funds from the European Union to construct a mining district in Ponce Enriquez (Section 4.4.1).

6.2.3 Dominance tendencies in gold mining areas in Ecuador

Görg (2007) argues that place matters, because “social construction is connected with nature in its spatial existence”, however “the shaping of societal relationship with nature depends on the socio-political level”. In this section the Ecuadorian political level is analysed based on the institutional scale and the management scale in the National Ecuadorian politics. When analysing the Ecuadorian National political level, the main institutional text is reflected in the Constitution, which stand above any other law. In order to pursue this Constitution, as a tool, the National Government has elaborated the Good Living (Sumak Kawsay) National Development Plan, where mining is considered a strategic sector for the Ecuadorian economy. In the mining sector the main legal body is the Mining Law (Chapter 4). There is still not a mining development plan in the country however, as this plan has not been finished (Section 4.2.). This relationship is shown in Figure 14.

![Figure 14: Jurisdictional, Institutional and Management scales and the relationships among them from a National political level perspective](image)

After developing and juxtaposing representations of valuation triadics in the previous section, and other information regarding the diversity of stakeholder values and meanings given to the landscapes in which gold is located, it is noted that both value groups, opponents and supporters of mining, have influence over landscapes. There is however an issue of power that should be considered, as underground resources are managed by the Ecuadorian State, which has the main power as they decide over laws and the National Development Plan. If we look into this, the National
Assembly has the legislative power in Ecuador, and 52.31% of it belongs to PAIS, the political movement of the Central Government, and the power to decide over the National Development plan lies with the Central Government.

When the values of the Central Government are considered, mining should be developed because through this activity's income will contribute to achieve Buen Vivir. Therefore, if it is the state that manages the Ecuadorian mining instruments and laws, as well as the underground resources, the identified dominant valuation system in the gold mining landscapes governance in Ecuador comprises pro-mining values, as the main representative of this group is the National Government.

However, even when activist groups do not have the same power to manage laws and the National Plan as the National Government does, their actions also influence what policies are applied in the country and under which terms, also keeping in mind that a considerable portion of the National Assembly is still against the Central Government. As a consequence the articulated values of activist groups will also impact what things are possible to do in the Ecuadorian landscapes and how, therefore a recursive co-evolution valuation\textsuperscript{63} can be identified.

\textsuperscript{63} A recursive coevolution occurs where “a successive coevolutionary link is found between the structural and functional components of a ... system. This means that changes in the functional outputs ... may influence ... how it is possible to do things at the focal level ... [and] what is possible to do at the focal level...” (Farrell, 2007).
These relationships are represented from a valuation triadics perspective in figure 15, in which the structural level is represented by pro-mining values, the functional level by mining opposition values, and both are stating what can be done in gold mining landscapes, and activists are also constraining how things are being done. Besides that, international actors, who are connected to or influence both the National Government and activist groups, are also impacting what is possible to do at the focal level (gold mining landscapes) as they might use their influence over national actors to steer policies used in Ecuador. As Swyngedouw (1997 as cited in Görg, 2007) would say “place matters, [but] scale decides”.
7. CONCLUSIONS

This chapter answers the main research question: to what extent are the multiple stakeholders, functions and scales landscape approach principles for management of natural resources considered in the Ecuadorian gold mining landscape governance. Based on the three selected principles, I formulated seven sub-research questions that support the answer of the research question. These questions were already answered in chapter four, five and six; therefore this chapter only makes reference to specific points that support the answer to the main question.

The Ecuadorian National Government, aiming at ‘improving’ people's life conditions and avoiding negative experiences with non-renewable natural resource management, considers these resources as Strategic Sectors. To reconcile mining with environmental protection and society, the Government states that responsible mining will be done in the country with the highest standards possible. In that way they ensure that the Sumak Kawsay is achieved for the population, considering that the rights stated in the Ecuadorian Constitution are respected. When we look into how mining companies apply this responsible mining rhetoric, the INV Metals mining company in charge of the large-scale gold mining project was examined. They apply a social participation model in direct cooperation with local GADs, in order to make social investments in the direct influence communities’ area. As far as this investigation is concerned, at this moment local parishes stakeholders are in favour of the possibility of responsible mining in the area.

Nevertheless, activist groups are skeptical to this possibility, as they think mining in landscapes will endanger people's lives as well as their traditional economical activities, therefore a good way of living for the population will not be achieved. Artisanal and small-scale mining have already caused quite a few negative social and environmental experiences, but with the recent expansion of large-scale mining in the country, mining activists want to avoid these activities develop in the country, as they are considered to cause even more negative effects, besides the loss of livelihood and local networks. The social investments made by companies are merely strategies to avoid social conflicts according to mining opponents, and they consider that public investments made by the Ecuadorian Government with the companies’ taxes are not necessary at all. In their opinion the National government does not respect the traditional ways of life of indigenous and peasants, and with these new large-scale industries in their areas they are causing the image of an urbanised, non-sustainable life to be installed in the minds of communities.

Diverse pro-mining and anti-mining interests, values and meanings that people attach to landscapes are shaping and reshaping the gold mining landscapes in Ecuador. These values of what is seen as good and what is seen as bad, or as desirable and undesirable for pro-miners and anti-miners give place to different narratives in the country to defend each of these points. First there is the one related to the compatibility between Sumak Kawsay and mining. Here there is a great difference of opinion between what each group considers to be Buen Vivir for the local population, although none
of these groups have ethnographic studies on the population, or have determined with clarity what exactly people are wishing for.

This can be seen to become the main aspect and reason why other narratives and discourses are born, in order to defend what they consider to be important for local stakeholders to achieve Buen Vivir, according to their values and meanings each of them gives to landscapes. This is also the point where juxtapositions of values are found, as both main groups, pro- and anti-mining are looking for Buen Vivir for the population, albeit according to their own understanding and based on their own values, however when functions of landscapes are considered, a great difference in opinions is found. Pro-miners consider it plausible to develop the diverse functions that gold landscapes provide, such as water, gold and the possibility of farming while mining is present in the landscapes, while anti-miners think the complete opposite.

When we look into mining scales in Ecuador, pro-miners consider artisanal and small mining to be the most contaminating mainly because they use little technology and do not respect laws. One can see that pro-miners ‘favour’ large-scale mining for different motives such as income out of royalties and taxes which can support the development of the country, ‘less environmental consequences’ because of the use of technology and the idea that it is ‘easier’ to control one big mining company than hundreds or thousands of small miners. Nevertheless, artisanal and small miners are recognised by the National Government, and the latter’s current focus is to regularise and control them, as well as starting an industrialisation process with them.

On the other hand, activist groups do not accept presence of large-scale mining in Ecuador, and do not even see the possibility of association, agreement, or reconciliation or integration of this activity in Ecuador. Instead they would like that artisanal and small-scale mining are progressively extinguished, with miners obtaining other sources of income, as activists consider their way of living to be detrimental and they see more value in traditional activities and new activities in the areas, such as ecological tourism.

Based on the given information concerning the multiplicity and complexity of pro- and anti-mining stakeholders, functions and mining scales in the governance of gold mining landscapes in Ecuador, it is seen that the various ecological, economic, cultural, historical and aesthetic characteristics given to gold mining are not integrally considered as a context. This makes it questionable that the principles of multifunctionality and multiscales are being considered by any group of stakeholders. Instead pro-mining and anti-mining stakeholders are managing sectoral approaches alone, which is known in landscape approach terms as an inadequate and ineffective strategy to meet both human and ecological global challenges.

When analysing stakeholders, the local governmental levels authorities of the areas with natural gold resources are not likely to develop activities together and neither is there a predisposition to do so. This is particularly true, as each town wants its own public investments and to develop its own projects. When looking at these local GADs, it is identified that these authorities lack the tools to face the mining phenomenon in their areas.
In the case of large-scale mining, for instance in the Loma Larga mining project area, these large-scale activities have never been part of their landscapes before, and local authorities are presumed to not be prepared to face this. For instance currently there are no territorial plans that include mining and these local government authorities are mainly ‘guided’ by the regional and national governmental offices with specific projects, but even more by the mining company, particularly with the offices of mining companies, as for instance with INV Metals, which are located in local parishes.

In landscapes where artisanal and small mining already exist, such as Camilo Ponce Enriquez, the local authorities are also assumed to lack the management tools to monitor and control the mining activity, as a result these sectors have been highly contaminant in environmental terms and negative social consequences have been created. Regional and national governments are said to just go there for investigations that they seem to forget about afterwards. This can happen mainly for two reasons: because they assume that ‘experienced’ miners should already understand how to do their job, or, because they consider that artisanal and small miners are simply too difficult to control. Here I would like to refer to another principle of landscape approaches that appears to be lacking in the Ecuadorian gold mining landscape governance. This relates to the necessity to strengthen the stakeholder’s capacity and ability to participate effectively and to accept various roles and responsibilities (principle 10) (Sayer et al., 2013).

Concerning pro- and anti-mining perspectives the possibility that opposing agendas and environmental, social and economic objectives merge and be reconciled at landscape level, as landscape approaches suggest, seems to be difficult in the current conditions in Ecuador. The mining activity is just being developed in the country and apart from seeing Buen Vivir for the population as the main rhetoric and justification for actions, there is no common concern entry point between leaders of activist and ecological groups, and the national government agenda. On the one hand, it is NO TO MINING and on the other hand it is YES TO MINING. Therefore, the only way to bring them (functions, scales and stakeholders) together now appears to be leaving out one or the other.

Nevertheless, as the National Government has more legal power in the mining sector, the dominant system in the gold mining governance is currently represented by the values that the National Government promotes, which is YES TO MINING. Nevertheless, as Wollenberg et al. (2006) and Görg (2007) claim, civil society groups and private sector actors have continuously acquired more importance in governance and this can definitely be seen in the mining sector, as large-scale mining companies are influencing the national gold mining governance. But also activist groups have organised themselves in such a way they can steer control and influence what is possible to do at the landscape level, but also how things can be done at local gold mining landscapes. Therefore, even when we speak in governance of “governance without government” (Van Kersbergen & Van Waarden 2004), in Ecuador, at least in the mining sector, we can still talk of governance but in this case, with government.

To complete this thesis, it is highly advised to do an investigation on the effects of mining at different scales, as well as an ethnographic study in the directly and indirectly affected areas of gold mining landscapes. This includes answering questions as: What do communities understand under
living well? Do they prefer to live in their own networks, with their own traditional customs and activities and not change their living style? Do they want roads, schools and all that can be found in an "urbanised world"? Do they prefer to live in rural landscapes? What is the reason emigration is a normal phenomenon in these places? What are people looking for and expecting? Moreover an investigation on artisanal and small-scale mining should be made: Do artisanal and small-scale miners want to change their work to a ‘more sustainable way of living’? Or do artisanal and small-scale miners want to industrialise and grow in the mining industry?
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Governance of gold mining landscapes in Ecuador

Karla Rodríguez


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# APPENDIX 1: LIST OF INTERVIEWEES AND OTHER COMMUNICATIONS

## National Government (decision makers)

<table>
<thead>
<tr>
<th>Informant</th>
<th>Organisation/Position</th>
<th>Kind of communication</th>
<th>Date</th>
<th>Phase</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angela Quashpe</td>
<td>Coordinator of the Unit of the National Bureau of Environmental Control of MAE</td>
<td>Personal interview</td>
<td>21/May/15</td>
<td>III</td>
<td>Quito - Pichincha</td>
</tr>
<tr>
<td>Anonymous</td>
<td>Ministry of Environmental (staff)</td>
<td>Personal communication</td>
<td>14/May/15</td>
<td>III</td>
<td>Quito - Pichincha</td>
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<tr>
<td>Anonymous</td>
<td>Representative of MIPRO</td>
<td>Personal communication</td>
<td>20/May/15</td>
<td>III</td>
<td>Giron - Azuay</td>
</tr>
<tr>
<td>Carlos Iglesias</td>
<td>Spatial Management Analyst of SENPLADES</td>
<td>Personal interview</td>
<td>26/May/15</td>
<td>III</td>
<td>Quito - Pichincha</td>
</tr>
<tr>
<td>Diego Gordon</td>
<td>Worker at the Ministry of Non-Renewable Resources (currently Ministry of Hydrocarbons)</td>
<td>Telephone communication</td>
<td>16/Apr/15</td>
<td>I</td>
<td>n/a</td>
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<tr>
<td>Edgar Lopez</td>
<td>Director of INIGEMM</td>
<td>Personal interview</td>
<td>19/May/15</td>
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<td>Anonymous</td>
<td>ENAMI</td>
<td>Personal communication</td>
<td>19/May/15</td>
<td>III</td>
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<tr>
<td>Javier Cordova</td>
<td>Minister of Mining of Ecuador</td>
<td>Personal communication</td>
<td>30/May/15</td>
<td>III</td>
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<tr>
<td>Jorge Glass</td>
<td>Vice-president of Ecuador</td>
<td>Personal communication</td>
<td>30/May/15</td>
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<tr>
<td>Mariano Martinez</td>
<td>Water Quality Management Analyst of SENAGUA</td>
<td>Personal communication</td>
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<tr>
<td>P. Tul</td>
<td>Environmental Specialist of MAE</td>
<td>Personal interview</td>
<td>22/May/15</td>
<td>III</td>
<td>Quito - Pichincha</td>
</tr>
<tr>
<td>Paulino Washima</td>
<td>General Coordinator of Public Companies (Strategic Sectors) of SENPLADES</td>
<td>Personal interview</td>
<td>26/May/15</td>
<td>III</td>
<td>Quito - Pichincha</td>
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<tr>
<td>Ricardo Obando</td>
<td>Strategic Coordinator of Social Intervention of Ministry of Strategic Sectors</td>
<td>Personal communication</td>
<td>27/May/15</td>
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<td>Representative of the Minister of Mining</td>
<td>Representative of the Ministry of Mining</td>
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<tr>
<td>MAE Vice-minister, Hydrocarbons Minister, SENAGUA Secretary, Strategic Sector Minister, Mining Minister</td>
<td>Personal communication</td>
<td>30/May/15</td>
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<td>Giron - Azuay</td>
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## Researchers and experts

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<thead>
<tr>
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<th>Date</th>
<th>Phase</th>
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<tr>
<td>Alberto Acosta</td>
<td>Former President of the National Assembly of Ecuador - Internation Researcher</td>
<td>Personal communication</td>
<td>18/May/15</td>
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<tr>
<td>Felipe Cisneros</td>
<td>Director of the Department of Biology of Azuay University</td>
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<td>Cuenca - Azuay</td>
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<tr>
<td>Edwin Zarate</td>
<td>Director of the Mining Engineering School of Azuay University</td>
<td>Personal interview</td>
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<td>Cuenca - Azuay</td>
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<tr>
<td>Fernando Valencia</td>
<td>Director of the Mining Engineering School of Azuay University</td>
<td>Personal interview</td>
<td>20/Apr/15</td>
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<td>Cuenca - Azuay</td>
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<tr>
<td>Marcelo Vazcones</td>
<td>Professor – University of Cuenca</td>
<td>Personal communication</td>
<td>14/Apr/15</td>
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<tr>
<td>William Sacher</td>
<td>International Researcher - Academic at Flacso University</td>
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## Mining Company

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<th>Phase</th>
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<tbody>
<tr>
<td>Fernando Carrion</td>
<td>Director of Social Responsibility of INV Metals</td>
<td>Telephone communication</td>
<td>27/Apr/15</td>
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<tr>
<td>Maite Rodriguez</td>
<td>Social worker in Chumbin of INV Metals</td>
<td>Personal interview</td>
<td>28/Apr/15</td>
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<td>San Gerardo and Chumbin</td>
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<tr>
<td>Maria del Carmen Aleman</td>
<td>Social worker in San Gerardo of INV Metals</td>
<td>Personal interview</td>
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<td>Exposition of INV Metals</td>
<td>INV Metals geologist (technical explanation of the Loma Larga project)</td>
<td>Direct observation</td>
<td>30/May/15</td>
<td>III</td>
<td>Giron - Azuay</td>
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## Local Government authorities (from parishes)

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<td>Karla Ordoñez</td>
<td>Vice-President of the Decentralized Autonomous Government of the San Gerardo Parish</td>
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<td>Miguel Chacha</td>
<td>President of the Decentralized Autonomous Government of the Chumbin Parish</td>
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<td>Segundo Espinoza</td>
<td>Vice-President of the Decentralized Autonomous Government of the Chumbin Parish</td>
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## Local Government authorities (from cantons)

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<tr>
<td>Miguel Mora</td>
<td>Director of the Mining Department of the Decentralized Autonomous Government of the Cuenca Canton Decentralized Autonomous Government</td>
<td>Personal interview</td>
<td>22/Apr/15</td>
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<td>Cuenca - Azuay</td>
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### Governance of gold mining landscapes in Ecuador

#### Karla Rodriguez

<table>
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<th>Informant</th>
<th>Organisation/Position</th>
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<td>Rene Inga</td>
<td>Internal Consultant of the Decentralized Autonomous Government of Azuay</td>
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<td>24/Apr/15</td>
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<td>Gustavo Flores</td>
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<td>Santiago Lituma</td>
<td>Enriquez - Industrial Department of the Decentralized Autonomous Government of Azuay</td>
<td>Personal interview</td>
<td>17/Apr/15</td>
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#### Regional Offices of National Government

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<td>Rene Inga</td>
<td>Ministry of Mining, Subsecretary Zone 6</td>
<td>Personal interview</td>
<td>25/Apr/15</td>
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<td>Cuenca - Azuay</td>
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#### Opposition Groups (also referred as ecologists, anti-miners, advocacy or activist groups)

<table>
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<th>Date</th>
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<td>Carlos Perez G.</td>
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<td>Personal interview</td>
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<tr>
<td>Gloria Chicaiza</td>
<td>Coordinator of the Mining Department in Acción Ecológica</td>
<td>Personal interview</td>
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#### Pro-mining organisation

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<tr>
<td>Edgar Pillajo</td>
<td>President of Fungeomine, small-scale miner, geologist as profession</td>
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<td>25/May/15</td>
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#### Others

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<td>Anonymous</td>
<td>Mining lawyer</td>
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<td>Cuenca - Azuay</td>
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<tr>
<td>Azuay University</td>
<td>General Dean of the Department of Investigation - Azuay University</td>
<td>Personal communication</td>
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<td>Five persons in the</td>
<td>Local population in San Gerardo and Chumblin (influence zones of Loma Larga)</td>
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<td>Giron - Azuay</td>
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<td>influence zones of Loma Larga</td>
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<tr>
<td>Hernandez Mendieta</td>
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<td>Giron - Azuay</td>
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<td>Three representatives of</td>
<td>Associations of productive activities in San Gerardo and Chumblin (working together</td>
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<td>30/May/15</td>
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<td>Giron - Azuay</td>
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<td>Associations of productive</td>
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<td>activities</td>
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