

# “LA SERPIENTE DE ORO”

Illegal gold mining, corruption and development in the  
Peruvian Amazon



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<sup>1</sup> The title “La Serpiente de Oro” (Serpent of Gold) is also the name of a novel published in 1935 by the Peruvian writer Ciro Alegría.

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## LIST OF ACRONYMS

ADB	Asian Development Bank
ARM	Alliance Responsible for Mining
ASM	Artisanal and small-scale mining
DIRESA	Regional Department of Health ( <i>Dirección Regional de Salud</i> )
DREMH	Regional Department of Energy, Mines and Hidrocarbons ( <i>Dirección Regional de Energía, Minas e Hidrocarburos</i> )
CI	Conservation International
CPETI	National Committee for the Prevention and Eradication of Child Labor ( <i>Comité Directivo Nacional para la Prevención y la Erradicación del Trabajo Infantil</i> )
CPI	Corruption Perception Index
FEDEMIN	Federation of Miners from Madre de Dios ( <i>Federación Minera de Madre de Dios</i> )
FLO	Fairtrade Labeling Organization
FOI	Freedom of Information
GDP	Gross domestic product
GIACC	Global Infrastructure Anti-Corruption Centre
GOREMAD	Regional Government of Madre de Dios ( <i>Gobierno Regional de Madre de Dios</i> )
IDEI	Institute for International Studies at the Pontificia Catholic University of Peru (IDEI)
ILO	International Labour Organization
IOM	International Organization for Migration
IMF	International Monetary Fund
MINAM	Ministry of the Environment ( <i>Ministerio del Ambiente</i> )
MINEM	Ministry of Energy and Mines ( <i>Ministerio de Energía y Minas</i> )
NIE	New Institutional Economics
NES	New Economic Sociology
PNA	Protected Natural Area
TI	Transparency International
NGO	Non-governmental organization
UNAMAD	National Amazonic University of Madre de Dios ( <i>Universidad Nacional Amazónica de Madre de Dios</i> )
UNIDO	United Nations Industrial Development Organization
UNEP	United Nations Environmental Programme
WTO	World Trade Organization

## 1 INTRODUCTION AND BACKGROUND TO STUDY

During the course of this year, two military interventions have been undertaken by the Peruvian National Armed Forces in the Amazonian department of Madre de Dios with the stated objective of eradicating illegal gold mining activities in the region. The first intervention, which took place in February 2011, included the bombing of river dredges used for illegal gold mining activities, which resulted in widespread protest and two general strikes in the city of Puerto Maldonado. These military actions, which were undertaken jointly by the Ministry of Environment, the Ministry of Defense and the Ministry of Internal Affairs, were based on an Emergency Decree 012-2010 (*Decreto de Urgencia, No. 012-2010*)<sup>2</sup> drafted in February 2010. According to this decree, the regulation of mining in the Madre de Dios region is to be a national priority in order to protect human health, conserve the national patrimony and develop sustainable economic activities (Emergency Decree, Art. 1). The Emergency Decree establishes no-mining zones, bans the use of dredging equipment in rivers and provides for the restoration of areas that have been damaged by small-scale mining (Emergency Decree, Art. 2). However, after the conflict escalated to uncontrollable measures and the police reported four casualties, the central government decided to interrupt the intervention and leave the issue into the hands of the regional authorities of Madre de Dios.

Nine months later, in November 2011, the military re-entered the area, this time with the authority of Emergency Decree 007-2011, which allows for the destruction of dredges and similar equipment in the rivers of Madre de Dios (*Decreto de Urgencia No. 007-2011*)<sup>3</sup>. After two months of trying to convince the illegal miners operating in the area to “leave peacefully”, this intervention, too, ended in a compromise between the local miners’ association and the central government (Pajares 2011). It was concluded, once again, that the military would leave the area and the regional

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<sup>2</sup> Available: <http://s.peru21.pe/102/doc/0/0/1/2/7/127549.pdf> (Accessed 20 December 2011)

<sup>3</sup> Available: <http://www.congreso.gob.pe/ntley/Imagenes/DecretosDeUrgencia/2011007.pdf> (Accessed 20 December 2011)



government would deal with the issue by supporting the formalization of the informal miners working at the official mining zone (*Corredor Minero*). What would be done with the illegal miners, that is, people extracting gold without permits in no-mining zones, was not, however, resolved.

One of the aims of this study is to shed more light on this dilemma. That is, to gain a better understanding of the different factors that are making the problem of informal/illegal gold mining in the Peruvian Amazon so hard to tackle. These factors include fear of social conflict, increasing international demand for gold, lack of political will leading to a lack of human resources for combating the phenomenon and, finally, the central issue that ties all of these factors together – corruption.

The issue of corruption in developing countries and its connection with an abundance of natural resources has been studied by scholars dedicated to the concept of *resource curse*. This study aims to contribute to this debate by looking at the interplay between corruption and the spreading of informal/illegal gold mining in Madre de Dios. In this interplay, several factors can be identified as fuelling corruption, including weak institutions and a clash between universalistic and particularistic norms, sometimes referred to as a “culture of corruption”.

The reason why I consider important understanding this interplay between corruption and informal/illegal gold mining is that, in my view, it is a factor that is crucially affecting the sustainable development of the region. According to a recent study by Swenson et al. (2011), mining deforestation in Madre de Dios has been increasing markedly in recent years, appearing to be outpacing settlement deforestation<sup>4</sup>. In addition, the environmental and ecological effects of the currently widespread mining activities are overshadowing to a large degree those typical of settlement deforestation (Ibid.). There are also many social problems related to the issue of informal/illegal gold mining in Madre de Dios. These include human

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<sup>4</sup> Swenson et al. (2011) have estimated the current settlement deforestation rate along the Inter-Oceanic Highway to be 220 ha/year while mining deforestation represents a staggering 1,915 ha/year.

trafficking, child labour, social conflicts and health issues related to the inadequate use of mercury and other chemicals and the poor living and working conditions in the camps and settlements.

Another reason why I consider a study on the interplay between corruption and illegal/informal mining relevant is that, due to a steady increase in the price of gold, the latter is a growing problem around the developing world. In Latin America, the influx of miners to pristine or sparsely inhabited areas has increased the hunting of native wildlife in French Guyana, disturbed indigenous communities in Venezuela and Guyana, and fragment once large and pristine forest blocks in countries like Brazil and Peru (Swenson et al. 2011). Management attempts at controlling illegal mining have ranged from ineffective airborne patrols of French police in French Guyana (Butler 2006), border controls for the influx of Brazilian “wildcat” miners (*garimperos*) to Guyana (Harvard Law School 2007), to the destruction of equipment described above. None of them have, so far, proven to be very effective in controlling this globally growing problem. It is my view, that, in this context, a case study which analyses the pros and cons of different policy measures aimed at tackling the problem should be considered a relevant contribution to development research.

In the next section of this study, I will present the objectives of this research and the questions I aim to answer. This will be followed by an introduction to my study area and an overview of the structure of the study.

### **1.1 Research objectives and questions**

The objective of this research is to reveal some of the complex dynamics that are currently affecting the uncontrollable expansion of informal/illegal gold mining activities in Madre de Dios, Peru. It also aims to question the efficiency of current policy measures in resolving this problem. Finally, based on an inductive research process on the field, it presents the hypothesis that an important factor undermining the effectiveness of

current policy measures to tackle the problem of informal/illegal gold mining in Madre de Dios is the persistence of multi-level corruption in the region. Based on this hypothesis, the following research question is derived:

***How is corruption affecting informal/illegal gold mining and, consequently, development in Madre de Dios, Peru?***

The main objective of the study will be to answer this question using four *sub-questions*:

- 1) Why are informal/illegal gold mining practices expanding in Madre de Dios?
- 2) How is the expansion of informal/illegal gold mining affecting development<sup>5</sup> in Madre de Dios?
- 3) What policy measures have been taken to control the expansion of informal/illegal gold mining in Madre de Dios?
- 4) How is corruption in Madre de Dios undermining the effectiveness of these policy measures?

## 1.2 The study area

Madre de Dios is a region in southeastern Peru, bordering Brazil, Bolivia and the Peruvian regions of Puno, Cusco and Ucayali. Its capital is the city of Puerto Maldonado. The name of the region is a very common Spanish language designation for the Virgin Mary, literally meaning *Mother of God*. The region is almost entirely low-lying Amazonian rainforest, with a warm and damp climate (Mosquera et al. 2009). The principal transportation route is the newly built Inter-Oceanic Highway which connects the Peruvian

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<sup>5</sup> In this study development is defined as an expansion of people's entitlements (see Chapter 2).

Pacific coast with the Brazilian Atlantic coast (Daniels 2011). Small-scale gold mining is the largest industry in the region, making up nearly 40 per cent of its GDP in 2001 (Mosquera et al. 2009).

The area where my fieldwork took place was the province of Tambopata (see Map 1.2), where most informal/illegal gold mining activities in the region occur<sup>6</sup>. It is also the province where the capital city of Puerto Maldonado is



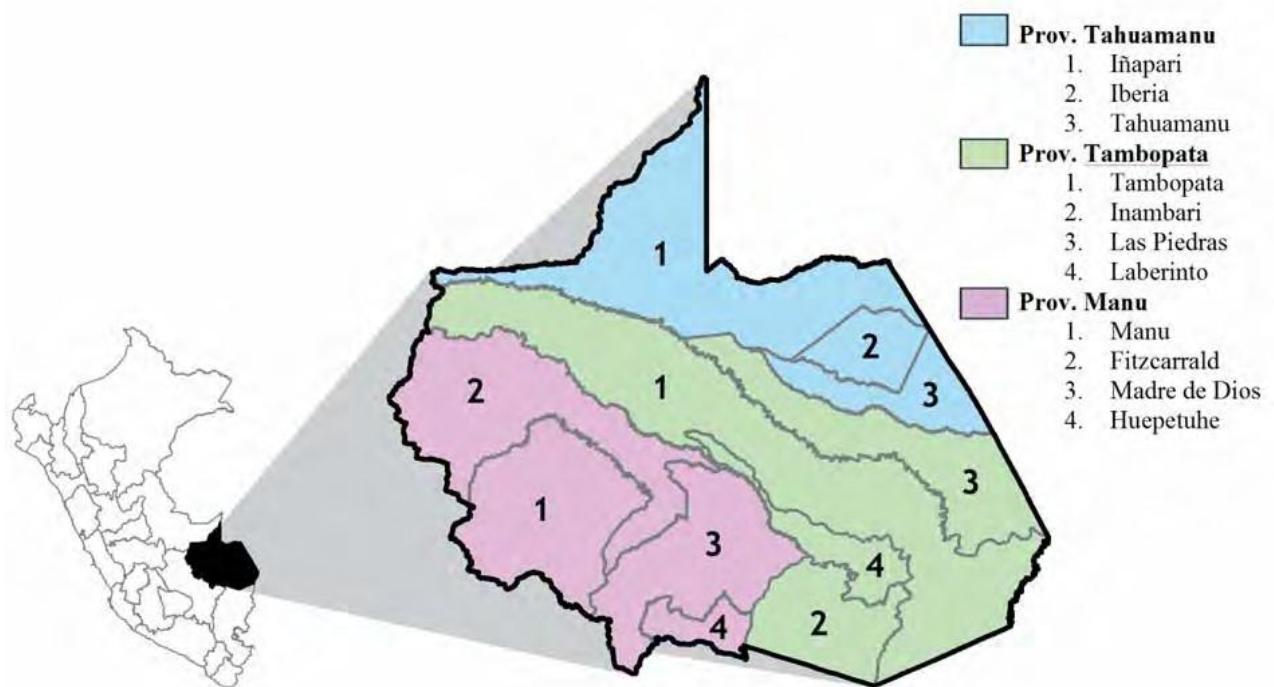
Map 1.1. *Location of the study area*

located. During my fieldwork I interviewed people in the capital as well as in the mining towns of Mazuko, Delta 1, Boca-Colorado and Laberinto (see Map 4.1). I also visited the mining concession of “Apaylom” which is situated in the buffer zone of the Tambopata National Reserve<sup>7</sup> and is known as the pilot project for a group of organizations promoting clean technologies. Finally, I visited some temporary mining settlements by the Inter-Oceanic Highway in the region known as “La Pampa”<sup>8</sup>, as well as a few informal mining concessions situated along the Madre de Dios and Inambari rivers (for the rivers in Madre de Dios, see Map 4.2).

<sup>6</sup> The only large informal mining site outside the province of Tambopata is Huepetuhe, located in the province of Manu.

<sup>7</sup> The buffer zone is indicated in Map 4.4.

<sup>8</sup> “La Pampa” is visible in Map 4.4 as the wider yellow area that starts from Guacamayo and continues west.



Map 1.2. *The provinces and districts of the Department of Madre de Dios.*  
(Source: Mosquera et al. 2009)

### 1.3 Thesis outline

This study will be divided in six chapters. After an introduction to the phenomenon of illegal gold mining in Madre de Dios and the objectives of this study, the theoretical framework guiding the empirical analysis will be presented. In this chapter issues like the reasons for corruption, the connection between corruption and natural resources and the effects of corruption will be discussed. Chapter 3 presents the methodology used for acquiring the data used in this study as well as the conceptual scheme, which visualizes the different connection between the main concepts present in this study. Chapter 4 analyses the phenomenon of illegal gold mining in Madre de Dios in relation to the concept of development, while Chapter 5 deals with the interplay between illegal gold mining and multi-level corruption. Finally, suggestions for reforming the current dynamic are presented in the concluding chapter.

## 2 CORRUPTION AND DEVELOPMENT

Corruption seems to be a phenomenon manifesting itself in all societies that pass a certain degree of complexity and dates back to the very first instances of organized human life (Klitgaard 1988: 77). That is, developing an institutional power over economic recourses and transactions would inevitably seem to lead to corrupt behavior (Lambsdorff et al. 2005). On the other hand, economists commonly wonder why levels of corruption are not even higher. If we presume that the nature of human-beings is to be self-seeking, why is not every opportunity for self-enrichment followed or why are not all decision-makers instinctively mistrusted? Given that we sometimes have reason to wonder about astonishingly high levels of integrity, economists must confess that they are lacking a theoretical explanation (Ibid.). Also, in recent experiments researchers have found that rational self-seeking optimization is not universally followed and that an intrinsic motivation lowers an individual's enthusiasm to act corruptly (Schulze and Frank 2003). This puts the role of *norms* into the spotlight.

In this chapter I look at different explanations offered by academics for the existence of corruption, ranging from structuralist and cultural explanations to a more holistic approach, which concentrates on the role of norms – especially the clash between universalistic and particularistic norms in a society. I continue by looking at the negative effects that corruption arguably has on development, when the latter is understood as an expansion of people's *entitlements* and the *capabilities* that these entitlements generate. Finally, I conclude the chapter by looking at the different ways of fighting corruption suggested by academics and policy experts.

### 2.1 Defining concepts

Many scholars have made an attempt to define corruption. According to Acham (1981 cited in Schweitzer 2005: 19)<sup>9</sup> “corruption is an action which

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<sup>9</sup> Original text in German, translated by Schweitzer (2005).

deviates from the normative expectations of the whole society and is combined with personal gains to the detriment of the public.” In a similar vein, Freisitzer (1981 cited in Schweitzer 2005: 16) states that:

“Corruption is a kind of deviant behaviour aiming at gaining special advantages for oneself and/or others (mainly by the misuse of a suitable function). The relevant behaviour (acting, toleration, refraining) contradicts formal and/or informal regulation of behaviour, and therefore violates the ethical-moral standards of that social system (society, organization, group) within which it happens<sup>10</sup>.”

I find both of these definitions problematic, since they assume that corrupt behavior is always in contradiction with the expectations of society. Based on my research in Madre de Dios, I would, however, be inclined to argue that this is not always the case. A certain action may be illegal but it does not mean it will automatically be judged as illegitimate. As Schweitzer (2005) explains, illegal behavior can provoke very different reactions in two countries which share the same fixed norms. Therefore, according to his definition:

“Corruption is the obtaining of individual advantages by exchange where the legitimation and/or the moral entitlement is at least doubtful or where the methods used are regarded as morally or legally not acceptable. Thus corruption is a manifestation of an unsolved, competition between particularistic and universalistic norms, or of an unresolved conflict between different universalistic norms which are not compatible or even contradictory”

(Schweitzer 2005: 22).

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<sup>10</sup> Original text in German, translated by Schweitzer (2005).

There are a few things that are important in this definition. First of all, that it mentions the decisive ingredient of corruption: the social element of *exchange*. If one does not mention this element, there does not seem to be a lot of difference between corruption and – let’s say – fraud. Another important element in the above cited definition of corruption is that it makes a clear distinction between legally unacceptable (i.e. illegal) and morally unacceptable (i.e. illegitimate). Thirdly, it recognizes the conflict that exists in some societies between these two, and makes a theoretical contribution by suggesting that corruption is a manifestation of this conflict. Hence, the definition by Schweitzer seems like the most comprehensive and accurate attempt to capture the complexity of corruption, and it will constitute the starting point of my analysis.

Another concept that needs to be clearly defined before starting my analysis is that of *development*. Economist Amartya Sen’s notion of “Development as Freedom” (1999) represents a relatively recent advance in development theory. It represents a multi-dimensional view on poverty, which encompasses more than just material concerns. It starts from the premise that economic growth should not be viewed as an end in itself. Instead, development should focus on, and be judged by, the expansion of people’s *entitlements* and the *capabilities* that these entitlements generate. Sen defines entitlements as “the set of alternative commodity bundles that a person can command in a society using the totality of rights and opportunities that he or she faces” (1984: 497). For most people, the crucial determinants of their entitlements depend on their access to land and natural resources, on their ability to sell their labor, and on the price of commodities. Employment opportunity and the level of unemployment should therefore be included in any meaningful definition of development. Entitlements also depend on such factors as what individuals can extract from the state, the spatial distribution of resources and opportunities, and power relations in society (Sen 1984; 1999).



It is my view, that the multi-level corruption present in Madre de Dios, Peru, is having a significant impact on the entitlements of its population and, consequently, on the overall development of the region. In the next section I will look more closely at the phenomenon of corruption, starting from traditional explanations and finishing by making a case for a more holistic approach.

## **2.2 Understanding corruption - towards an interdisciplinary approach**

During the last five decades or so, scholars have devoted much time and effort to explain the existence of corruption. These explanations can be roughly divided into three broad categories: the institutional (or structural); the cultural (or anthropological); and the moral (Hodder 2007). Because of the limitations of this study I will not get into the moral discussion, but, instead, I will concentrate on the structural and cultural approaches, which have been the most dominant in academic literature. I will also make the case for a more holistic view on the theme of corruption, represented by an interdisciplinary approach combining New Institutional Economics (NIE) and New Economic Sociology (NES).

### ***2.2.1 Structural explanations***

For decades, the structural explanation for corruption has been popular among many observers, notably liberal economists. According to this approach, the state's heavy regulation of its people and their livelihoods is the single most important cause of corruption (Bardhan 1997). Corruption is, in other words, a consequence of the armor of licenses, permits, rules and procedures which, intentionally or not, contravene natural economic behaviour and survival. Rose-Ackerman (1999) expresses a similar view by stating that self-interest, including an interest in the well-being of one's family and peer group, is a universal human motivator. It is managed best in

the archetypal competitive market where self-interest is transmuted into productive activities that lead to efficient resource use and worst through war, which destroys the resources that motivated the fight in the first place. In between are situations in which people use resources both for productive purposes and to gain an advantage by dividing up the benefits of economic activity, also known as “rent-seeking” (Ibid: 2).

In sum, Rose-Ackerman (1999) connects corruption with the *mismanagement of self-interest* (i.e. structural weaknesses), which can take a number of forms. These include (i) public programs, which create bottlenecks and constraints, and give too much discretion to officials; (ii) bureaucracies based on patronage and political loyalty, which are likely to be associated with low salaries, the presence of conflicts of interests, inadequate systems of rewards and punishment, over-staffing, and the bureaucracy’s involvement in too many kinds of activities; and (iii) the concentration of political power into too few hands. Under these circumstances officials may, in return for rewards or in the face of threats, begin to violate rules, procedures and processes. Other structural factors affecting corruption mentioned by Rose-Ackerman include (iv) a government failing to provide either clear guidance on expected standards of behavior or information on its expenditures, revenues, legislation, and the legislative process; (v) a judiciary weakened by inexperience, low salaries, a heavy case load and an excessive bureaucracy; and (vi) a heavily restricted media and civil society.

### 2.2.2 Cultural explanations

The structural explanations for corruption presented above have received some criticisms. One point that is often made is that they offer an “incomplete” explanation for corruption (Hodder 2007: 53). According to this critique, we should be taking a closer look at culture. For example Dia (1996: 29) states that many parts of Africa face a crisis of institutions “mainly due to a structural and functional disconnect, or lack of

convergence, between formal institutions that are mostly transplanted from outside and informal institutions that are rooted in African history, tradition and culture and that generally characterize the governance of civil society.”

Besides offering an incomplete picture of the phenomenon of corruption, structural explanations have also been criticized for being decidedly *ethnocentric*. According to Haller and Shore (2005), to approach corruption from a structuralist perspective is to analyze the world through a mind shaped by western formalism. In their view, the moral and evolutionary overtones of the structural approach lead to portraying corruption as a social pathology of “primitive” and “savage” countries. What is needed, instead, is an explanation that is more aware of and more concerned with the subtle variations of behavior and thought that are deeply rooted in the cultural and structural qualities of different societies and groups. The authors use the concept of public-private dichotomy as an example of these cultural differences. According to them, it is a concept which is central to conventional approaches to corruption, yet, it does not translate to many developing countries, such as India. This absence of a public-private distinction should not be seen, however, as a symptom of backwardness, traditionalism and underdevelopment. It should simply be seen as a quality that is not “western” (Ibid.).

When viewed through this lens, it is possible to see the growing international concern and interest in corruption as a product of western cultural categories. A still less charitable view is that such concerns are part of an attempt by neo-liberals to reduce the size of the public sector and subject it to the demands of business (Haller and Shore 2005). It is, in other words, “a new stick with which to beat non-western governments until they comply with the economic and political agenda of the west and the dictates of global capitalism” (Ibid.: 19).

This type of cultural approach to corruption has, in turn, provoked other kinds of criticisms. Hodder (2007) brings up two important arguments. First

of all, he sees cultural relativism as an easy justification for those who wish to act in ways that are detrimental to others. According to Hodder, culture is far from being a deterministic force: it can be managed. People in developing countries *do* make a distinction between appropriate and inappropriate behavior, and cultures *do* change. And it may often be that manageable structural features are, for one reason or another, mistakenly presented as problems of culture. A second point Hodder makes is that it is difficult to argue convincingly that formal institutional behavior (and the separation of professional and social spheres) is peculiarly western or modern, or that informal non-institutional behavior (and the blurring of professional and social spheres) is peculiarly non-western or traditional. Formality, Hodder argues, simply describes what is being accepted and regularized, while informality describes the unacceptable and therefore the irregular and uncertain (Hodder 2007: 59-60).

### *2.2.3 An interdisciplinary approach*

As we have seen above, any attempt to frame an explanation of corruption around a choice between culture and structure seems quite shallow. It appears that neither approach on its own is likely to produce a satisfactory explanation of corruption: while structure looks at culture, so culture looks at structure.

Acknowledging this deficiency, Lambsdorff et al. (2005) suggest an interdisciplinary approach to the analysis of corruption. Instead of looking at structural or cultural factors only, this approach would concentrate on the institutions (both formal and informal) that are employed or especially evolve in order to meet the coordination needs of corrupt exchange. By so doing, it enables an understanding of the link between norms, trust and the precise mechanisms by which corrupt relationships are established.

The interdisciplinary approach is based on two existing schools of thought: New Institutional Economics (NIE) – which links the corrupt exchange of goods and services with the underlying social patterns, moral sentiments and the necessity to find trusted partners – and its closely linked sociological correlate, New Economic Sociology (NES). As a result, the puzzle of corruption is analyzed from two directions. While the focus of the analysis – norms, trust and social embeddedness in corrupt transactions – represents a clearly sociologist tradition, the economic line of thought is present by regarding institutions as being a result of individual optimization. That is, institutions are not given, exogenous normative and moral constraints. Instead, they are deliberately chosen due to their capacity in organizing everyday life. As actors seek to develop an environment where they can securely exchange their corrupt favors, norms and trust may become part of their optimizing behavior. Since corrupt transactions do not usually take place in an anonymous marketplace, and are vulnerable to opportunism, *institutions of exchange* become a part of an individual's calculus or design, minimizing transaction costs and helping to increase reciprocity, loyalty and honesty in corrupt transactions. Institutions of exchange mentioned by different authors include: repeated exchange (Pechlivanos 2005), the use of middlemen (Bray 2005) and the functioning of networks (Schramm and Taube 2005).

Stating that institutions can be a result of human design is the main element that separates the interdisciplinary approach suggested by Lambsdorff et al. (2005) from the traditional form of New Economic Sociology (NES). The main emphasis of NES is to analyze economic action within the social context in which it is “embedded” (Brunsson and Olsen 1993). In so doing, it suggests that the free choice of individuals is limited by the institutions they face. So even though it coincides with mainstream economics in stating that the decision made by an individual to follow or neglect a norm can be considered to be the result of an individual cost-benefit calculation, it nonetheless underlines that an analyst of a specific case of corruption needs to reconstruct the individual's value hierarchies, taking also into account

the relevant organizational and institutional aspects of the social environment (Schweitzer 2005). Aspects of the social environment that are seen as likely to increase corruption are the following:

- a) the situation is normatively ambiguous (it is not really clear which norm has to be applied in a concrete case);
- b) great gains can be expected or great losses can be avoided;
- c) the number of realistic alternatives is small;
- d) the costs in relation to the gains are calculably lower, e.g. because the legal authorities work slowly, are incompetent, or can easily be influenced or even manipulated (Schweitzer 2005: 21-22).

What is, then, the main contribution of NES to the interdisciplinary approach? According to Lambsdorff et al. (2005: 5), while economics may explain the cost-utility calculus carried out by every single individual, NES helps to explain the social ties beyond the economic rationale. Moreover, by re-discovering the importance of the social fabric for economic life, NES has revived the discussion on the role of networks, relationships, social norms and values, as well as trust and reciprocity, for social and economic action. A good example of this revival is the work of Schweitzer (2005), who argues that corruption is not necessarily a violation of norms. Rather, conflicts between universalistic norms and particularistic norms are crucial to the emergence and spread of corruption (see Conceptual scheme, Figure 3.1). According to the author, universalistic norms compete against particularistic norms, creating situations of normative ambiguity. Consequently, corruption may emerge when particularistic norms are more binding than universalistic norms (Schweitzer 2005: 22).

This contradiction of norms will be taken up again in Chapter 5, where I will look at corruption in the specific context of Madre de Dios, by making use of the interdisciplinary approach presented in this section. Hence, I will view the corrupt actors as humans rationally pursuing their self-interest, while taking into account the institutional environment (sometimes shaped by

individuals), as well as the norms and trust (sometimes resulting from individual optimization) that are affecting their cost-utility calculus.

Before moving on to analyze the specific case of Madre de Dios, it is time, however, to look at the different *effects* that corruption has been argued to have on development.

### **2.3 The effects of corruption**

When talking about corruption, scholars generally make a distinction between low-level corruption and systemic corruption. According to Rose-Ackerman (1999), low-level corruption occurs within a framework in which basic laws and regulations are in place, and officials and private individuals seize opportunities to benefit personally. By so doing, corrupt actors do not, however, work only in their own interest, but against the interests of others, since low-level corruption can lead to the inefficient and unfair distribution of scarce benefits, undermine the purposes of public programs, encourage officials to create red tape, increase the costs of doing business, and lower state legitimacy. Systemic corruption shares some features with low-level pay-offs, but it can be more deeply destructive to state functioning – bringing the state to the edge of outright failure and undermining the economy (Hodder 2007). Energies within government and its bureaucracy are quickly consumed by the politicians', bureaucrats' and merchants' struggle to secure, maintain and defend personal advantage. Hence, any vision that they may have had for government, and for the governed, soon dissolves (Ibid.).

The main negative effects of corruption most often cited in literature. include (i) the deepening of market imperfections, (ii) the creation of social cleavages and (iii) the distortion of government policies.

### *2.3.1. Deepening of market imperfections*

The first of many malign effects generally associated with corruption is that it deepens market imperfections. By extracting direct payments and by compelling merchants to spend a good deal of their time (and money) setting up and maintaining networks of officials and politicians, corruption increases costs to businesses, encourages rent-seeking behavior and, by distorting incentives, misdirects the merchant's energy and talent. For these reasons, and perhaps more damagingly, corruption discourages both capital inflows and foreign direct investment (Hodder 2007; Rose-Ackerman 1999).

It is worth pointing out that the direct and indirect impacts of these costs on development are not uniform (Asian Development Bank 2010: 33). Some countries seem to be better able to tolerate corruption than others. The degree of tolerance is said to depend upon a number of conditions. One is the form in which corruption is practiced. In some countries, corruption is well organized, payoffs are known in advance, and they are concentrated in the highest levels. Leading politicians will take their cut and then ensure that firms and businesses do not meet with additional demands nor suffer interference from local politicians and bureaucrats. Another condition is the manner in which the money taken through these payoffs is spent: whether it is spent on a luxury lifestyle overseas, or it is put into industries and productive activity at home (Ibid.: 35).

The fact that a level of corruption can be tolerated in some countries does not mean, however, that countries with higher levels of corruption could not be doing economically better without it (Rose-Ackerman 1999; Lambsdorff 2003). One IMF study appears to demonstrate that a one-point improvement in the corruption index translates into increases of 2.9% of GDP in the investment rate and 1.3% in the annual per capita rate of GDP growth (Mauro 1995). The World Bank, too, found that countries with lower levels of corruption attract significantly more investment (World Bank 1997).



### 2.3.2 *Creation of social cleavages*

The second negative effect generally associated with corruption is that it works against national consolidation. It does so partly by undermining government control, eroding faith in public services, destroying meritocracies or preventing them from emerging and encouraging politicians, bureaucrats and citizens to treat each other with suspicion and cynicism. And once it is believed, rightly or wrongly, that corruption is endemic, there is little incentive or reason to remain uncorrupted oneself (Hodder 2007: 23)<sup>11</sup>. As distrust *within* government (and *in* government) deepens, and as factions throughout society multiply, intense cleavages start to form – sometimes leading to violent conflict (Ibid.).

### 2.3.3 *Distortion of government policies*

The third negative effect generally associated with corruption is that it distorts government priorities, policies and planning. While corruption raises the cost to business, it reduces public revenues and, at the same time, increases the burden of government procurements (Hodder 2007). Corruption may also shift public expenditure towards those sectors (such as defense) that will attract larger and more easily concealed bribes, and away from those sectors (such as education) that will not (Mauro 1998). Direction is also lost as bureaucrats either slow up or create more labyrinthine processes in order to attract speed money (Hodder 2007).

According to Rose-Ackerman (1999), high levels of corruption do not only mean lower levels of investment and growth, but they also lower productivity, reduce the effectiveness of industrial policies and encourage businesses to operate in the unofficial sector, in violation of tax and regulatory laws. In addition, highly corrupt countries tend to underinvest in

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<sup>11</sup> Surveys carried out in four Latin American countries showed that those exposed to corruption had both lower levels of belief in the political system and lower interpersonal trust (Seligman 2002).

human capital by spending less on education (Mauro 1998), to overinvest in public infrastructure relative to private investment (Tanzi and Davoodi 2002), and to have lower levels of environmental quality (Esty and Porter 2002). It is this last-mentioned connection between corruption and environmental policy that I will turn to next.

## **2.4 Corruption and the environment**

In the last decade or so, the interest of many scholars has shifted from analyzing the effects of democracy to analyzing the effects of corruption on environmental quality (Callister 1999; Damania et al. 2003). This shift is largely due to the increasing interest in the concept of *resource curse*. What is suggested by scholars who utilize this concept is that a causal relationship exists between abundant natural resources (e.g. minerals), corrupt governments and environmental degradation in developing countries (Davis and Tilton 2005). According to Wilson and Damania (2005), in practice this means that the large rents associated with resource extraction are being used to evade environmental regulations. This can be done in a number of ways, such as (i) using surpluses to influence policy by supporting specific political campaigns, and (ii) evading environmental regulations by paying bribes to lower-level bureaucrats who are responsible for administering policies (Ibid.).

According to Pellegrini and Gerlagh (2006), the increasing availability of indexes that reflect institutional qualities has resulted in several empirical studies on the effects of democracy and corruption on environmental policy commitment and resource conservation. In general, these studies conclude that democracy is a significant positive and corruption a significant negative determinant of environmental protection (Ibid.: 333). A study by Robbins (2000) further supports this conclusion. By using his own theoretical framework for the analysis of corruption, the author studied the enforcement of protection for a nature reserve in Rajasthan, India. What he

found was that the lack of enforcement, which led to substantial habitat destruction, was fuelled by corruption among foresters. This view has also been stated plainly by the Environmental Public Prosecutor of Madrid, according to whom “non-compliance with environmental laws is the best barometer of corruption in a political system” (Valerio 2004 cited in Aguilera-Klink and Sánchez-García 2005: 9).

## 2.5 Corruption in the mining sector

According to Marshall (2001), a useful way of analyzing corruption is to examine the behavior of the “payer” or “supplier” and the reasons for this behavior, separately from the behavior of the “taker” or “demander” and the reasons for this behavior. In studies about corruption in the mining sector, the mining industry is generally considered to be on the *supply-side* of corruption and bureaucrats or politicians on the demand-side<sup>12</sup>. This conceptual division is not made in order to indicate where the initial intention of corruption occurred. It is simply used to clarify who supplies the private gain and to whom it passes. Hence, either side can initiate a corrupt act. A brief overview of the factors influencing both demand-side corruption and supply-side corruption will be provided in the following sections.

### 2.5.1 *Supply-side corruption*

According to Marshall (2001), there are several characteristics which make the mining industry particularly vulnerable to supply-side corruption. These characteristics include (a) “time is money”, (b) government regulation, (c) lack of choice of location, (d) sudden wealth and easy money image, (e) previous experience with mining companies, and (f) sense of entitlement (Ibid.: 8-13).

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<sup>12</sup> Even though in Marshall’s (2001) study the *supply-side of corruption* refers to multinational companies operating in developing countries and offering bribes to government officials, in my analysis the concept will include domestic mine operators offering bribes to regional and national authorities.

It is my view that this framework can, for the most part, be easily applied to the context of the illegal, “small-scale” gold mining that is exercised in Madre de Dios. The only characteristic that does not, in my view, fit in this particular context is that of “previous experience with mining companies”, since no large-scale gold mining has been exercised in the area. The rest of the characteristics will be introduced in the next subsections.

### *Time is money*

The first characteristic, entitled “time is money”, refers to the need for speed in mining activities which, according to Marshall (2001: 9), makes mine developers especially susceptible to underpaid or venal bureaucrats who have the power to prevent, delay or halt the approval or construction process. In my view, this also applies to the context of Madre de Dios, where informal/illegal gold miners are working with a mineral that is valued unprecedently high in international markets, and who are therefore inclined to pay police officers, fuel providers and officials granting mining concessions and extraction permits either bribes, elevated prices or speed money in order to be able to extract and sell the mineral at the optimal moment.

### *Government regulation*

According to Marshall (2001: 10) the mining industry is also much more highly regulated by government than many other industries, which makes it vulnerable to supply-side corruption. There are several reasons for this heavy regulation, which include: nationalism (mineral wealth is considered to be part of the “National Patrimony”), financial, environmental and social impacts (often including social conflicts over land rights), safety and unions (a history of major accidents, particularly in the coal sector, has resulted in heavy government regulation regarding the safety and union representation of the workers), impact on indigenous communities (mines are often located

in remote or rural areas), transport requirements (mines are heavy users of roads, railways and ports which often require upgrading) and energy requirements.

For the eight reasons mentioned above, mining has, according to Marshall (2001), become a heavily regulated industry. Because of the many approvals required from public officials for exploration, development, construction and operation of a mine, the mining industry has greater potential exposure to corruption involving public officials than many other industries.

#### *Lack of choice of location*

Available economic mineral deposits are few in number. This creates tremendous pressures to proceed to explore and develop them, no matter where they are. Furthermore, deposits are often found in a region or near a community that is not optimal for mine development (Marshall 2001: 12). Consequently, the mining industry operates not only in some of the most corrupt countries in the world, but often in difficult locations where other companies would not choose to invest. Under these circumstances, it would not be surprising to find mining companies - or in the case of Madre de Dios, informal miners - being targeted for favors by underpaid or venal public officials (Ibid.).

#### *Sudden wealth and easy money image*

A third characteristic of the mining sector which is considered to make it more vulnerable to supply-side corruption is the fact that mining often has a very high profile in developing countries. It awakens dreams of untold wealth and an optimism known as the “Gold Rush mentality” which attracts both legitimate entrepreneurs and others who are prepared to enrich themselves by whatever means are necessary (Marshall 2001: 12).

### *Sense of entitlement*

A final characteristic of the mining sector that, according to Marshall (2001: 13), makes it so vulnerable to supply-side corruption is that the population in the surrounding community or region around the mine site often feels that it is particularly entitled to something from the project. It may be especially prevalent where the central government is somewhat alienated from the local community/region. The sense of entitlement may also manifest itself if local populations or decentralized governments are not receiving their “fair share” of national revenues from mineral resources in their region<sup>13</sup>. In this situation, an often heard argument is, that, since the local population must bear the brunt of the significant impact that the mine will have on the environment and its traditional way of life, it is entitled benefits. If these benefits are not going to be received by some legal mechanism, it is rarely considered morally wrong to obtain them by other means (Ibid.).

#### *2.5.2 Demand-side corruption*

As presented in the Section 2.5.1, there are several reasons why the mining industry can be viewed as being especially vulnerable to supply-side corruption. Moreover, many of the countries in which mining companies operate have very poor ratings in the Corruption Perception Index (CPI)<sup>14</sup> compiled by Transparency International (TI). Traditionally, this has been taken to mean that such countries are perceived as having high levels of demand-side corruption. Again, it should be emphasized that being on either the demand-side or the supply-side of corruption does not say anything about who initiated the corrupt actions. The fact of the matter is that, in the case of bribery, the act requires both sides to act outside globally accepted (i.e. universalistic) norms and, in most cases, outside the legal norms of the host country.

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<sup>13</sup> This is currently the case in Madre de Dios, which is something I will address in Chapter 4.

<sup>14</sup> Peru's CPI ranking will be discussed in Chapter 5.

As presented earlier, scholars dedicated to the concept of “resource curse” often argue that the high levels of demand-side corruption in countries where mining companies operate are not a coincidence. In fact, it is the abundance of natural resources (such as precious metals), combined with weak institutions, that is actually fuelling demand-side corruption in these countries (Davis and Tilton 2005). Consequently, scholars like Leite and Weideman (1999) have underlined that strong (or at least strengthened) institutions are crucial in the wake of natural resource discoveries as a way to curb the negative growth effects of corruption. According to the authors, this is especially true in less developed countries where natural resource discoveries have a much higher relative impact on both the capital stock and the extent of corruption, and are confronted with generally weaker and less adaptable institutions (Ibid.:31).

In the following subsections I will present some of the institutional factors that appear to be making resource-abundant developing countries more conducive to demand-side corruption.

### *Legal factors*

The quality of a country’s legal system is considered to be a major factor in containing or fuelling demand-side corruption (Rose-Ackerman 1999, Hodder 2007, Stapenhurst 2000). A high probability of getting caught and punished is seen to have a deterring effect of those tempted to break the law. Therefore, any effective legal system includes the following elements: laws prohibiting corrupt activity, an effective police force able to investigate cases of corruption, an effective prosecuting arm of the law and a fair and impartial judiciary (Ibid.).

### *Bureaucratic factors*

According to Kaufmann (1998), the incidence of corruption appears to be higher where state involvement in the economy and bureaucratic interventions are at high levels. This is related to the fact that more government rules and regulations provide a greater opportunity for exploitation by public officials for corrupt purposes (Marshall 2001). The size of rewards and penalties under a bureaucrat's control, the amount of discretion they have as to how to allocate those rewards and penalties, and the lack of accountability for their decisions and actions are all factors in bureaucratic corruption (Klitgaard 1988; Goudie and Stasavage 1998; Rose-Ackerman 1999). Another factor can be the level of civil servants' wages (Alatas 1985).

### *Political factors*

There are several political factors that are generally considered to affect the level of demand-side corruption in a country. These factors – often associated with the concept of “good governance” – include: democratic institutions and structures (Pellegrini and Gerlagh 2006), access to information (Pope 2000), freedom of press (Stapenhurst 2000) and government monitoring (Klitgaard 1988). Another political factor that is seen to play a part in the development of demand-side corruption is nationalism. According to Marshall (2001: 31-32), in many countries mineral wealth (especially gold and precious minerals) is considered to be part of the “National Patrimony” that belongs to the people and should be exploited for the benefit of the people. Political leaders often feel the need to demonstrate their respect for these views by personally exercising their control over the nation's mineral resources. In many developing countries, this personal involvement, combined with a less than desirable level of transparency in government, opens the door for political corruption (Ibid.).



## 2.6 Fighting corruption

In the previous sections I presented an overview of the issue of corruption. This overview has included different explanations for the manifestation of corruption, different perceptions of how corruption is seen to affect states, societies and the environment, and, finally, the particular characteristics that are considered to make the mining sector and the countries where mining companies operate so vulnerable to corruption. The conclusion so far is that, despite the fact that some countries are able to tolerate some levels of corruption, it does, in general, represent a significant impediment to development. In the next section of my study I will, then, present different strategies suggested by experts for fighting both demand-side and supply-side corruption in developing countries.

### *2.6.1 Monopoly power and degree of discretion of officials*

According to Klitgaard (1998), monopoly power over provision of a government good is crucial for explaining the incidence of corruption without theft. Monopoly power could exist for the legal reason that a certain official is the only person charged with performing a certain task. In some cases it could exist because of shortages which are themselves the result of government regulations of prices or quantity of good produced<sup>15</sup>. In others, the official himself may create the shortage in order to create opportunities for bribery. One remedy to the problem of monopoly power that is suggested by Rose-Ackerman (1999) is the creation of overlapping jurisdictions for official duties. When more than one government agent can issue the same license, competition among different officials will drive the bribe price down to zero<sup>16</sup>.

Whether an official will be able to extract bribes from clients does not only depend on whether they have a monopoly over a particular activity. It also

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<sup>15</sup> An example of this is a housing shortage resulting from rent-control.

<sup>16</sup> Assuming that at least a few officials in a large population will not engage in bribery for moral reasons.

depends on rules and regulations regarding the distribution of government goods (Goudie and Stasavage 1998: 118). The greater the amount of *discretion* which is given to an agent, the more opportunities there will be for agents to give “favorable” interpretations of government rules and regulations in exchange for illegal payments. According to scholars like Tanzi (1994), instead of making rules more strict – which in many cases simply leads to non-compliance – a more useful solution to the problem of excessive discretion is to simplify rules and regulations whenever possible.

### *2.6.2 Transparency and access to information*

According to Marshall (2001: 30) there are several factors that allow a mature democracy to control levels of government corruption. One fundamental factor is access to information. If the public does not know what is going on, it will not have an opinion on it, let alone a political position. Coupled with freedom of association and freedom of the press to publish what they discover, access to information is what allows democratic institutions to operate in a manner that keeps democratic governments accountable to the public (Ibid.). Stapenhurst (2000: 17) underlines, however, that without an independent judiciary, press freedom is likely to be illusory. A prerequisite for building a free press, therefore, is a legal system that is independent of political influence.

Another effective way of requiring more transparency in government, presented by Pope (2000: 236), is the adoption of Freedom of Information (FOI) legislation. Since corruption always prefers to remain hidden, such legislation cannot, according to Pope, but help to reduce corruption by reversing the usual presumption of secrecy. Citizens are given the legal right of access to government documents without having first to prove special interest, and the burden of justifying non-disclosure falls on the government

administration (Ibid.)<sup>17</sup>. According to Marshall (2001), in countries with a free press, an adequate FOI legislation and an independent judicial system to enforce it, secret government concessions and the corruption often associated with them will not be possible or will not stay secret for long (p.30).

### 2.6.3 Education, training and sensitization

A factor that is considered crucial in the fight against both demand-side and supply-side corruption is education. This type of education can take many forms, ranging from anti-corruption training in mining companies to the sensitization of public sector employees and the general public to the negative effects of corruption. When discussing codes of conduct developed in private companies, Pope (2000) states that:

“Although research on corporate codes of conduct is incomplete, it indicates that the degree to which the code of conduct becomes embedded or a part of the corporate culture, will have some positive effects on employee behaviour. The key determinant in achieving organisational adherence to a code appears to be training, monitoring and enforcement activities - another conclusion more intuitive than scientific” (Pope 2000: 150-151).

Hence, incorporating anti-corruption training into the management programs of private companies operating in developing countries has been widely recommended by international consultancies and NGOs. According to the *Anti-Corruption Training Manual* (2008) published by the Global Infrastructure Anti-Corruption Centre (GIACC) and Transparency International (TI), it is crucial that in any given organization the staff and

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<sup>17</sup>I ran into this particular problem during my fieldwork in Madre de Dios, when the Regional Department of Health (DIRESA) refused to give me the results of a study on levels of mercury and other pollutants in riverbeds in Madre de Dios, which had been undertaken recently.

representatives responsible for tendering, project management, financial management, claims, certification or payment are able to identify corruption and be aware of the risks of corruption. The reason is that these people are not only a vital line of defense against corruption, but they are also vulnerable to corruption. According to GIACC and TI (2008), an effective anti-corruption training should cover the following subjects:

- the types of corruption;
- the reasons why corruption should be avoided;
- the applicable laws and penalties for corruption offences;
- the organization's anti-corruption program;
- the organization's policy on donations, gifts, hospitality;
- the organization's policy on facilitation payments;
- detailed examples of the type of conduct which would constitute a breach of the law and/or the organization's anti-corruption code;
- guidance on "red flags" which would warn the employee about likely corrupt conduct;
- guidance on what to do when confronted with corruption;
- the organization's reporting procedures for employees;
- the organization's investigatory and disciplinary procedures.

In addition, training should be provided on a regular basis, including, for example, on-line training modules and training workshops (Ibid.).

It is my view, that these guidelines for anti-corruption training designed for multinational companies could be easily extended to cover public sector institutions and public education programs in developing countries. That way, anti-corruption education would serve as a strategy to tackle the "cultural aspects" often related with corruption<sup>18</sup>, that is, the underlying conflict between universalistic and particularistic norms.

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<sup>18</sup> I will discuss the concept of "culture of corruption" further in Chapter 5.

#### *2.6.4 Public sector salaries*

An important point raised by many analysts is, however, that training alone is not enough to weed out corruption. It is also important to pay attention to the salaries received by bureaucrats and public officials. In many less developed countries civil service pay scales are far lower than in the private sector. Often the individuals employed by the government are relatively well educated and have had training abroad. However, salaries are so low that it is often impossible to support one's family. A reason for this, suggested by Rijckeghem and Weder (1997), is that civil servants are regarded as being able to supplement their income via corruption. Under these circumstances, it is not surprising that otherwise honest employees begin to look for other ways to support their needs (Marshall 2001: 28). Alatas (1985) and Klitgaard (1988) agree with this view by stating that corruption in the form of the negligence of professional duties becomes inevitable if the "official" job does not render enough resources, either for making a living or for the adequate subsistence of the family, and no other opportunities for earning are available.

#### *2.6.5 Monitoring*

As outlined above, the challenge of asymmetrical information often makes it difficult to monitor agents and hold them accountable for their actions (Rose-Ackerman 1998). According to Klitgaard (1988), the extent of imperfections in monitoring and accountability will depend upon the effectiveness of the institutional structures that are designed to deal with the problem. Although the author recognizes that there does not exist a broad consensus on which institutional structures are best suited for this goal, the author sees reinforcing hierarchical control through state institutions as one way in which governments can address the problem. A problem with this strategy, however, is that there is the possibility that those who were supposed to monitor the actions of lower-level officials will

themselves be bribed not to blow the whistle, leading to a transfer of corruption to the next level (Hodder 2007). An alternative to increasing hierarchical control suggested by Goudie and Stasavage (1998: 119) is, then, to privatize certain government functions. This presumes, however, that adequate institutions for corporate governance exist in the private sector.

Government monitoring in the form of “audits” is another, more technical, measure suggested by scholars for decreasing the opportunities for corruption<sup>19</sup>. In this scheme, an Auditor General, who performs the role of external auditor to the government, is responsible for audits that are designed to detect and thereby reduce corruption. The Auditor General should report to the legislature rather than the executive arm of government and be as independent of government as possible. Another approach suggested by Marshall (2001: 31) is to establish an Inspector-General or an Anti-Corruption Commission. These independent bodies typically have the power to investigate corruption and bring cases to trial. Alternatively, independent Ombudsmen have been established that can hear citizens’ complaints about various bureaucratic failures, including corruption, and can refer cases to prosecutors and the police. As FOI and conflict of interest legislation, campaign finance laws, effective auditors general, ombudsmen, corruption commissions and more private ownership of the media are gradually introduced and take hold in less developed countries, transparency should increase and the demand-side of corruption should gradually start to decline (Ibid.).

#### *2.6.6 Enforcement*

The last phase of fighting corruption includes efficient enforcement. For this purpose, the state must fulfill its obligations which include the protection of civil liberties and the establishment of the rule of law. Rules must be clear

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<sup>19</sup> The use of outside auditors is suggested e.g. by Klitgaard (1988) who also suggests the rotating of agents between posts and the consulting of clients of a particular bureaucratic agency.

and fair, and they must be administered competently and fairly. This implies an honest, professional and independent judiciary. It also implies police and prosecutors who have similar levels of integrity and competence (Rose-Ackerman 1999; Hodder 2007).

An issue related to the theme of enforcement is that of formality versus informality. In the specific case of Madre de Dios, a widespread *formalization* of informal mining activities could, in my view, represent an efficient strategy to decrease supply-side corruption in the region. This would require, however, that the new formalized status of the miners would make it unnecessary to pay speed money to public officials and bribes to the police in order to be able to access their concessions and run their formalized operations.

## 2.7 Conclusion

Corruption is a theme that has emerged and was put high on the agenda of multinational development agencies, private firms and policymakers during the last fifteen years. This increased interest in the phenomenon of corruption has produced a multitude of policy prescriptions, reform initiatives and conferences. Since there are numerous questions that are crucial to anti-corruption, and since corruption in one sector seems to breed misbehavior in another, this study suggests a more holistic and interdisciplinary approach to its analysis. While it is true that a consistent economic theory may provide valuable insights into the issue of corruption, the task of reform seems far too complex to rely on a single theoretical tradition. It is my view, then, that in order to make any recommendations, one should begin by understanding the links between norms, trusts and the precise mechanisms by which corrupt relationships are established. A theoretical approach that links the corrupt exchange of goods and services with the underlying social patterns, moral sentiments and the necessity to find trusted partners is provided by New Institutional Economics (NIE) and

its closely linked sociological correlate, New Economic Sociology (NES). By embracing contributions from political scientists, sociologists and economists alike, this study aims, then, to represent an interdisciplinary approach to the study of corruption, while examining it in the particular context of illegal gold mining in Madre de Dios, Peru.



### 3 METHODOLOGY

While steps have been taken in the last two decades to develop and revise the categorization of corruption, the methodology for studying corruption is still in its infancy. As Osipian (2007) explains, there are currently two major methods applied in the research on corruption, which are both characterized by some major challenges. In the case of *survey-based quantitative methodologies*, preferred by economists, the reliability of the data is a major issue. This is due to two factors: (i) the immanent secrecy and illegality of the subject matter, and (ii) the fact that this type of research focuses on developing countries where obtaining reliable data is often challenging. In political science and public policy, on the other hand, the methodology for studying corruption is narrowed down to *case studies* which, according to the author, remind more investigative journalism than rigorous scholarly work (p. 26).

In an attempt to clarify the concept, Flyvbjerg (2011) stresses that if one chooses to do a case study, one is not so much making a methodological choice as a choice of what is to be studied. A case study can, then, be defined as “an intensive analysis of an individual unit (e.g. person or community) stressing developmental factors in relation to environment” (p. 301). The author explains that the individual unit may be studied in a number of ways, for instance qualitatively or quantitatively, analytically or hermeneutically, or by mixed methods. This is not decisive for whether it is a case study or not. The decisive element is the *demarcation of the unit’s boundaries*. Secondly, the definition specifies that case studies are *intensive*. Thus, case studies comprise more detail, richness, completeness, and variance — that is, depth — for the unit of study than does cross-unit analysis. Third, case studies *stress developmental factors*, meaning that a case typically evolves in time, often as a string of concrete and interrelated events that occur in a certain time and place and constitute the case when seen as a whole. Finally, case studies focus on *relation to environment*, that

is, context. What gets to count as case and what becomes context to the case is determined by the drawing of the unit's boundaries. (Ibid: 301-302.)

Osipian (2007) goes on to argue that case studies on corruption supplemented with superficial analysis – represented by works like Segal (2004) and Woshburn (2005) – constitute a bulk of what might be interpreted as a research methodology. The author stresses, however, that while the multiplicity of cases of corruption referred to in these studies pushes them beyond the borders of a simple case study, they still remain insufficient to be included in the realm of quantitative research. In addition, the overload with cases fails, according to Osipian, to carry with it a sufficient portion of analysis and synthesis and other qualitative methods that would be of great benefit to the research. As a solution to this dilemma, the author suggests a basic methodology that could be applied in studies of corruption. The formulation of this methodology would be a sequence of the following steps (Ibid.: 28-29):

- Identification and demonstration of relevant and necessary grounds for corruption to exist, including intensity of monetary transactions in the system;
- Identification of preconditions for corruption to exist, including complexity of the system, presence of a comprehensive legal system, and discretion delegated to public officials.
- Specification of the necessary conditions for corruption. These may include imperfect legal system and imperfect market system.
- Presenting evidence of corruption by using illustrative techniques borrowed from both quantitative and qualitative methodologies;
- Describing building blocks of corruption in the respective industry;
- Presenting the system of corruption as a whole, with its net of interrelations and agents participating in such net. This will involve intensive use of method of analysis and synthesis and lead to generalizations;

- Finally, generalization will be used as a platform or a starting point for deduction. Deduction will allow for identifying otherwise invisible pockets of corruption.

Based on these considerations, the aim of study is to represent a case study which includes a context analysis that identifies some of the macro or meso-level preconditions for the corruption present in Madre de Dios. These include, as suggested by Osipian (2007), factors like the complexity of the political system, the nature of the legal system and the discretion delegated to public officials.

The primary data for the case study was collected via *semi-structured interviews*, *focus groups* and *participant observation*. At this point, the question which immediately comes to mind concerns the reliability of the data. That is, the compatibility between the perceptions expressed in the interviews and the objective reality of corruption in Madre de Dios. As Lambsdorff (1999) states, this is not, however, an insuperable dilemma. In fact, all of the existing data on corruption<sup>20</sup> available today is based to a large extent on subjective assessments of levels of corruption. The author underlines, however, that such perceptions have commonly proved to be good indicators of the real level of corruption. Therefore such data permits various regressions with other macroeconomic, political or social data (Ibid.: 2).

In the next four sections of this chapter I go into more detail about my research process in the field. I start by presenting my conceptual scheme, which aims to visualize the linkages between the relevant concepts in my study. This will be followed by an operationalization of the major concepts and the presentation of the research methods used for data gathering. Finally, the chapter concludes with a reflection on the limitations of the study.

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<sup>20</sup> Including the Corruption Perception Index (CPI) published by Transparency International.

### 3.1 Conceptual scheme

The conceptual scheme presented below aims to visualize the connections between the different concepts that are present in my research. My starting point is the hypothesis that multi-level corruption is a major factor influencing illegal gold mining in Madre de Dios. Since there are also other (exogenous) factors influencing it, I have placed it only partly inside the corruption circle (see Figure 3.1). The sub-system in which gold mining is embedded (including corruption and the endogenous and exogenous factors that influence it) impact on development, which is represented by the rectangle at the right side of the figure.

The division between exogenous and indigenous (or local) factors influencing illegal gold mining in Madre de Dios is visualized by using two square fields. The smaller square field (beige) includes the local factors that are, in my view, resulting in corrupt practices which facilitate the continuation and further spread of illegal gold mining activities in Madre de Dios. These include both structural factors (e.g. institutions weakened by lack of resources) and cultural factors (i.e. a conflict between what is considered illegal and illegitimate), as presented in Chapter 2. The larger square field (brown), includes the exogenous factors that are, in my view, influencing illegal gold mining in the region, mainly by creating incentives for the activity (cost-utility calculus) and facilitating access to the area.

Finally, the arrows in Figure 3.1 represent causal links between the different concepts present in the study. It is my view, that not all of these links are equally strong in the current context of Madre de Dios. Moreover, I believe that by actively strengthening some of these causal links – namely the effect that international pressure and lobbying has on consumer behavior and the policy priorities of governments – a change of course can be achieved. My research starts, then, from the premise that in the context of illegal gold mining in Madre de Dios, the ideal policy outcome would be the enhancement of people's entitlements and the capabilities that these

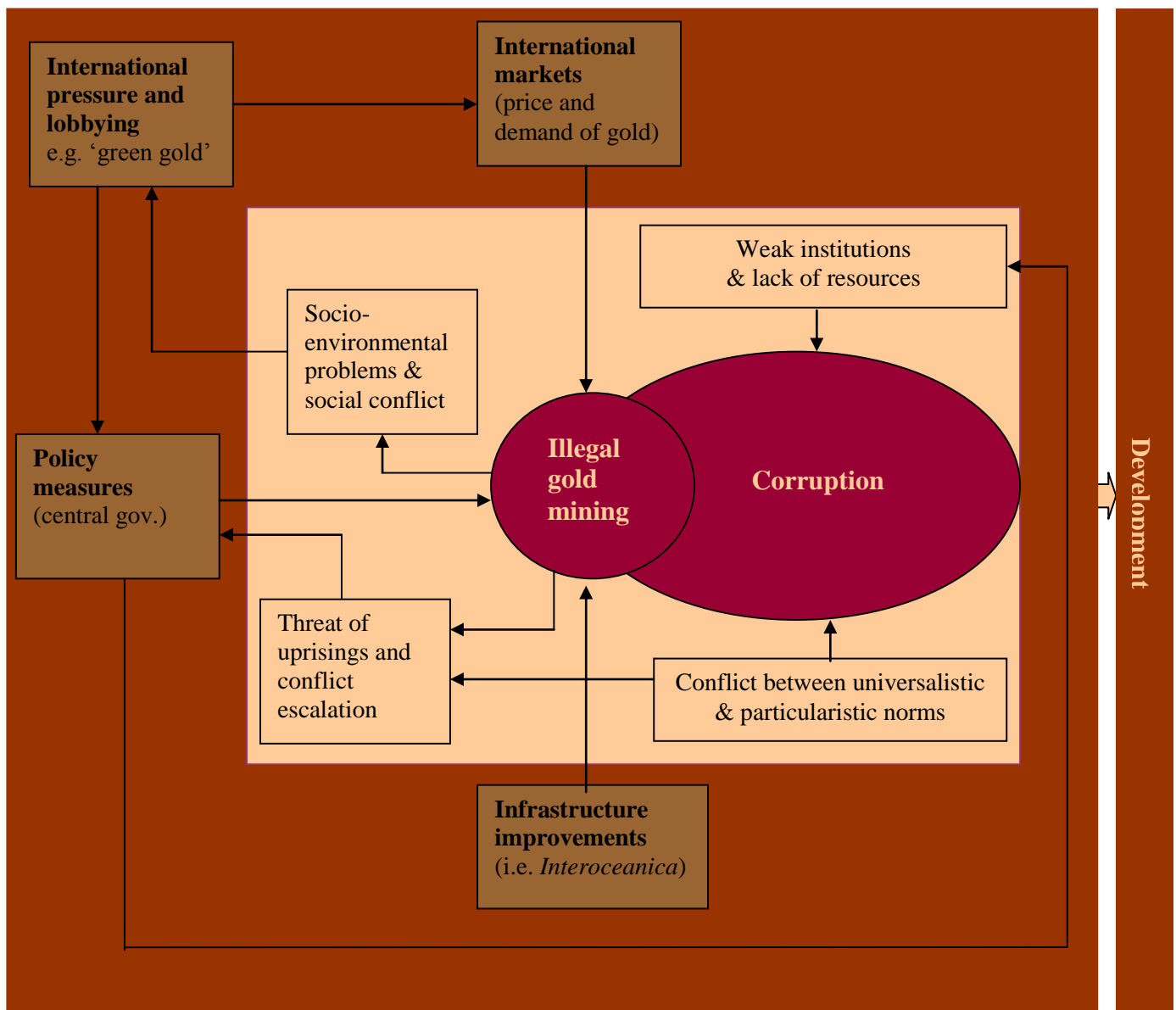


Figure 3.1. Indigenous and exogenous factors influencing illegal gold mining and development in Madre de Dios.

entitlements generate, by developing current mining activities into a more sustainable local livelihood.

### 3.2 Operationalization of major concepts

The three major concepts present in my study – corruption, development, and policy measures – have been operationalized in Table 3.1. Operationalizing the major concepts allowed me to determine the type of information I was looking for in the field, as well as to choose the most appropriate methods for collecting it.

Table 3.1. *Operationalization of major concepts*

Concept	Dimensions	Variables	Indicators	Data sources
Corruption	Reasons for corruption	Perceptions on reasons for corruption	Perceptions of: <ul style="list-style-type: none"> <li>- central and local government</li> <li>- the judiciary</li> <li>- NGOs (conservation, indigenous rights, anti-trafficking etc.)</li> <li>- miner's associations</li> <li>- informal gold miners</li> <li>- journalist and academics</li> </ul>	Semi-structured interviews, focus groups, participant observation and secondary data (e.g. newspaper articles by investigating journalists)
	Types of corruption	Perceptions on types of corruption		
	Scale of corruption	Perceptions on scale of corruption		
Development	"Development as freedom"	Perceptions on local population's entitlements and capabilities	Perceptions of: <ul style="list-style-type: none"> <li>- central and local government</li> <li>- NGOs</li> <li>- informal gold miners</li> <li>- journalists and members of the academia</li> <li>- the clergy</li> </ul>	Semi-structured interviews, focus groups, participant observation and secondary data for triangulation (e.g. statistics on economic development and health)
Policy measures	Reactive approach	Focus on incrementing rules and strengthening enforcement	Legislation (e.g. Emergency Decrees), use of armed force	Acts and decrees, official reports, semi-structured interviews, participant observation

				(working at DREMH) and secondary sources (e.g. scientific and newspaper articles)
	Proactive approach	Focus on strengthening institutions and achieving a cultural/normative change	Clear rules, overlapping jurisdictions, training/remuneration of public officials, independent judiciary, free press	Semi-structured interviews, participant observation and secondary data (academic literature and case studies)

### 3.3 Research methods

As mentioned in the beginning of the chapter, the methodology used for this study is that of a case study. This allows many options in terms of research methods, since a case study is not defined either by the use of quantitative or qualitative methods but is, instead, characterized by an intense analysis of a pre-determined unit – taking into account both developmental factors (i.e. how the case evolves in time) and contextual factors (Flyvbjerg 2011).

The research methods that were chosen in order to study the perceptions of different actors on the issue of corruption and its links to illegal gold-mining and (under)development in Madre de Dios, included (i) semi-structured interviews, (ii) focus groups, and (iii) participant observation. Finally some of the obtained results were triangulated via the use of secondary data, such as statistics on different aspects of human development.

### 3.3.1 Semi-structured interviews

During my two-month-long field research period, I conducted a total of 35 semi-structured interviews, with an average duration of one hour per interview. The interviewees included representatives of local and central government (both politically appointed authorities as well as bureaucrats), members of the police force, public prosecutors, representatives of NGOs working on socio-environmental issues, journalists, members of the academia, members of the clergy, representatives of the labor union and miner's associations, and, finally, informal miners (*mineros*)<sup>21</sup>. I also attempted to conduct semi-structured interviews with some of the workers at the mining concessions that I visited, but since I was met with suspicion by their bosses and nervousness by the workers, I gave up the attempt after a while. The informal interviews and the participant observations that I did manage to make in this context will be discussed more in-depth in Section 3.3.3.

According to Brooks et al. (2010), the advantage of semi-structured interviews is that through an interview guide, the necessary and relevant topics will be addressed during the interview, while the discussion around these questions can vary due to the subject's different experiences. Following this recommendation, I began my fieldwork with a few different interview guides, all aiming to map the different perceptions that the main actors related to the issue of illegal gold mining in Madre de Dios had of (i) the people arriving to the rainforest to carry out these activities, (ii) the main pull factors and the impact of illegal gold mining, and (iii) the efficiency of government policies in response to the phenomenon. An element that became predominant when I started to transcribe my first interviews – and which I had not included at all in my preliminary research

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<sup>21</sup> In Madre de Dios different terms are used for owners of a mining concession (*mineros*) and mine workers (*peones*) who pay a portion of their produce to the boss. If a concession owner has not met all the legal requirements (for example gotten his or her Environmental Impact Assessment approved) his or her status is that of “*informal miner*”. Due to territorial disputes and a lack of human resources at the local mining authority, this is the status of the vast majority of miners in Madre de Dios. To be an “*illegal miner*” means that a person has not been granted or cannot expect to be granted a mining concession since he or she is operating in an area that has been declared off limits by the Emergency Decree 012-2010.



proposal – was the issue of corruption. When it became evident that this was the issue that was considered, across the spectrum, as the most important obstacle for a truly efficient policy response, I began to make changes to both my theoretical framework and my interview guide. That is, I engaged in an inductive process, where the data collected began to guide my choice of theoretical framework.

After realizing that the main concept I would be focusing on my research was that of corruption, I realized that I would also have to take even further precautions in relation to my interviewees. I started to use nicknames in my personal notes and avoided talking about who I was interviewing with people other than my thesis supervisors. Because of the delicate nature of my research topic and the professional or even more serious threat that my interviewees could face were their identities to be disclosed, I will not use their names or refer to their title or position in an organization. I will neither include a list of interviewed people or organizations as an annex, but will only provide such a list to my thesis supervisor. The limitations that such a procedure represents for the credibility of my study will be discussed in Section 3.4.

### *3.3.2 Focus groups*

Focus groups are a form of group interview that utilizes communication between research participants for generating data. Although group interviews are often used simply as a quick and convenient way to collect data from several people simultaneously, focus groups explicitly use group interaction as part of the method. This means that instead of the researcher asking each person to respond to a question in turn, people are encouraged to talk to one another: asking questions, exchanging anecdotes and commenting on each other's experiences and points of view. The method is particularly useful for exploring people's knowledge and experiences and

can be used to examine not only what people think but how they think and why they think that way (Kitzinger 1994).

The idea behind the focus group method is that interacting as a part of a group can help people to explore and clarify their views differently compared to a one-to-one interview. According to Kitzinger (1994), group discussion is particularly appropriate when the interviewer has a series of open ended questions and wishes to encourage research participants to explore the issues important to them, in their own language and generating their own questions. The author claims that when group dynamics work well the participants work alongside the researcher, taking the research in new and often unexpected directions.

During my field research in Madre de Dios I carried out a total of three focus groups. Two of them were conducted after capacitation workshops organized by the regional mining authority (DREMH) with whom I co-operated during the research period. The arrangement was that I was offered transportation to the informal mining towns and sites (difficult to access by muddy roads and often half-a-day trip away from the city of Puerto Maldonado) and unlimited access to information, and that I was to provide support with the workshops as well as share my final research results with the institution. Since two of the three focus groups discussions were, then, organized right after the workshops, I did not pay special attention to purposive sampling. My main concern was to get as many miners (*mineros*) or mine workers (*peones*) as possible to participate, since my access to them was in general so limited.

The first focus group discussion was conducted in an established mining town called “Delta 1” (See Map 1.2). The participants were a mixed group of miners and mine workers between the ages of 26-45. The group included five men and one woman and the discussion lasted about 45 minutes. Topics discussed in the focus group included the background of the participants, their motives for settling in the area and working in the mining sector, their

perceptions on the activity and the related socio-environmental problems, their view on the formalization process undertaken by the local authorities and the role of the central government in providing support for the small-scale mining sector. Before starting the discussion I tried to make clear that I was not a representative of the regional authorities, but an independent researcher, and that everything they said would remain confidential. I do realize, however, that the fact that I held one of the lectures that were part of the capacitation workshop might have confused my respondents in terms of my role in relation to the authorities. Maybe this was a crucial factor that determined to what extent they would discuss certain themes, such as corruption, in my presence.

The second focus group discussion was conducted in another established mining town called “Colorado” (see Map 4.1). This discussion was also conducted right after the capacitation workshop and the participants included whoever was willing to stay for the discussion. Since there was another foreign graduate student present this time, who was studying gender issues, the remaining group of people was divided into a group of men and a group of women. We decided to exchange our recordings afterwards, in order to have equal access to both discussions. I think that this was a great example of synergy and cooperation between researches in the field. My group ended up comprising of 17 males between the ages of 24 and 64. They were all involved in mining and the majority of them were concession owners who had not finalized their formalization process. There were also some leaders of miner’s associations present. I noticed how this fact influenced in the dynamics of the discussion to the extent that the labor union activists monopolized most of the conversation while the mine workers (*peones*) acted very timid and insecure about expressing views. They would, however, express their agreement or disagreement either by nodding enthusiastically or staring at the floor with an awkward expression and glancing at each other meaningfully. When reading about the method of focus groups, I did not, however, come across any literature on how body language can potentially contribute to a discussion. It is my view, however,

that non-verbal communication is often just as an important form of expression than verbal communication, and that it deserves the full attention of the researcher. What should be remembered, however, is that decoding body language is a particularly challenging task, and it often requires a lot of specific knowledge on the local culture as well as the local social norms.

The third focus group – or group discussion – that I conducted was quite different in nature compared with the first two. First of all, it did not take place after a capacitation workshop, so there was not so much confusion about my role or my motives. Secondly, this group consisted of long-term labor union activists who had been mining for decades and who were very well connected at the local as well as the national level. Since this group discussed also the theme of corruption with me, I will not reveal any of their personal information here, but will only stress that they had specific information about dates and events related to the corruption in the mining sector in Madre de Dios. They also discussed the division inside the miner's organized movement due to the phenomenon of corruption, which will be discussed more in Chapter 4.

### *3.3.3 Participant observation*

Participant observation, a widely used research strategy in the field of cultural anthropology, complemented my semi-structured interviews and focus group discussions. According to DeWalt et al. (1998), the aim of participant observation is to gain a close and intimate familiarity with a given group of individuals (such as a religious, occupational or subcultural group, or a particular community) and their practices through an intensive involvement with people in their natural environment, usually over an extended period of time. The concrete methods of participant observation include informal interviews, direct observation, participation in the life of the group, collective discussions, analyses of personal documents produced

within the group, life-histories, etc. Although the method is generally characterized as qualitative research, it can (and often does) include quantitative dimensions. A strength of observation and interaction over long periods of time is that researchers can discover discrepancies between what participants say – and often believe – should happen (the formal system) and what actually does happen. In contrast, a one-time survey of people's answers to a set of questions might be quite consistent, but is less likely to show conflicts between different aspects of the social system or between conscious representations and behavior (Ibid.).

Since my access to informal mining towns and mining sites was restricted to one or two day trips per week, my participant observation took mostly place in the regional mining authority (DREMH) where I was allowed to work on my research on a daily basis. Having informal conversation on a daily basis with the authority mainly responsible for solving the current problems related to the informal/illegal mining sector in Madre de Dios gave me invaluable insights into the issue. While working at the office, I also heard many conversations between the authorities and informal miners and was able to access unpublished photos and information in their database. I could also hear about future plans of the organization before they were officially communicated, and witnessed the concrete challenges of their operations, including an urgent lack of human resources. These observations and their implications will be further discussed in Chapter 4. Another interesting chance I got for participant observation was when I was invited, along with some Peruvian journalists, to accompany the local police forces in a secret operative to raid brothels in mining settlements situated in “La Pampa”. This gave me a chance to witness a part of the social problems related with illegal gold mining in a way that, due to safety reasons, could never have been possible to do on my own.

### 3.3.4 Secondary data analysis

The last method used in my research on the role of corruption on illegal gold mining and, consequently, on development in Madre de Dios, is the analysis of secondary data. These include statistics provided by the regional and national authorities, as well as studies realized by local or international NGOs and research teams. I will also analyze the budget allocated to the regional authorities in order to organize and formalize mining activities in the region, the change in the international price of gold in the last decade, the rules and regulations concerning gold mining in Madre de Dios and several other types of documents that help me to draw the big picture regarding the phenomenon of illegal gold mining and its problematic relation to corruption.

### 3.4. Limitations

When I first arrived to the field to conduct my research, I had some misperceptions about the reality of illegal gold mining in Madre de Dios. The main misperception was that the illegal miners lived in “communities” where I could stay over a long period of time conducting ethnographic research. However, reality proved to be very different. Staying in illegal gold mining sites deep in the rainforest or in temporary settlements along the highway (characterized by high levels of violence, alcohol abuse and prostitution) was not a feasible option. As a consequence, I decided to change my scheme and started to concentrate on the perceptions of the different institutional actors that were in some way connected to the activity. It was through these interviews that I started to realize that the crucial factor affecting illegal gold mining in Madre de Dios was actually *corruption* – something I had not even considered in my preliminary proposal. Therefore, initial problems with access do not necessarily rule out an interesting research process – something that all students planning their fieldwork should bear in mind.

When analyzing the scope and limitations of this study, it is important to realize that while criteria such as validity, reliability, replicability and generalizability are prominent in judging quantitative research, these may not be entirely appropriate for qualitative research. For example Becker et al. (2006) argue that since traditional criteria are biased towards quantitative approaches, alternative assessment criteria should seek to be more inclusive. Thus, rather than thinking of truth we could think of *trustworthiness*; rather than thinking of validity we could think of *credibility*; rather than thinking of generalizability we could think of *transferability* of context; rather than thinking of reliability we could think of *dependability*; and rather than thinking of objectivity we could think of *confirmability*.

I have aimed to achieve trustworthiness and credibility in my research mainly by not excluding any relevant actor from my interviews. I have conducted 35 semi-structured interviews with people in leadership positions in the public and non-profit sector as well as with people representing the informal gold mining sector. In all of these sectors corruption was identified by the majority of respondents as the main reason for the persistence of illegal gold mining in Madre de Dios. However, one feature of my study that undoubtedly affects the credibility of my research is the fact that I cannot disclose the names, titles or organizations of my respondents due to the delicate nature of my research topic. This lack of transparency is, however, a typical feature in corruption research and can be justified on the same grounds than in investigative journalism: it is necessary for guaranteeing the security of the respondents and their professional status.

As far as the transferability of context is concerned – that is, the extent to which a set of findings are relevant to settings other than the one or ones from which they are derived – I believe that analyzing the possible connections between illegal gold mining, corruption, policy measures and

development represent a very relevant research topic for many developing countries struggling with the effects of illegal gold mining, current examples being Brazil, Colombia, Guyana and Venezuela.

The third concept, dependability, can be defined as the extent to which a set of findings are likely to be relevant to a different time than the one in which it was conducted (Becker et al. 2006). Taking into account that corruption has been a phenomenon embedded in the Peruvian society for decades or even centuries, and theories on the connection between corruption and natural resources (i.e. the resource curse) have been relevant in the field of development studies for decades, I have reason to believe that my research findings have the potential of remaining relevant for a considerable period of time.

The final concept of assessing qualitative research is confirmability. This concept has to do with the age-old dilemma of objectivity versus bias. Since I do not subscribe to a positivist epistemology, I do not believe that a researcher can be an “objective observer of reality”. According to Sumner and Tribe (2008) there is, however, a difference between an *acceptable* and an *unacceptable* subjective bias. Acceptable bias includes the researcher’s personal values and positionality while unacceptable bias includes, for example, “data mining” (i.e. the conclusions have been predetermined and the researcher looks for evidence to support them rejecting opposite evidence). The acceptable subjective bias that characterized my research had to do with my education and my background, which inevitably led to a specific normative position on issues like corruption, illegality or entitlements. However, since I started my fieldwork with a research proposal that had very little to do with the current study, and changed my whole theoretical framework after some preliminary data findings in the field, I believe that I have undertaken a somewhat inductive research process, which by definition excludes the possibility of data mining and other forms of unacceptable bias.



### 3.5. Summary

Over the past two decades, corruption has come to the forefront of academic research in the social sciences as a direct result of globalization. The methodology of studying corruption still is, however, in its infancy. The dominant methodologies today are survey-based quantitative methodologies and case studies. The risk with the case study methodology is, however, that the studies end up reminding investigative journalism instead of representing rigorous scholarly work. Therefore putting sufficient emphasis on analysis and synthesis is indispensable in any type of corruption research. The methods used in this case study are those of semi-structured interviews, focus groups, participant observation and secondary data analysis. The data collected via these methods will be used to answer my research question: How does corruption in Madre de Dios influence illegal gold mining and, consequently, development? The main limitations of my study have to do with lack of transparency, since I cannot reveal the identities of my respondents due to the delicate nature of my research topic.

In the next chapter of my study, I will present the context in which my field research took place. I will also conduct an analysis of the different ways that illegal gold mining is, in my view, affecting the entitlements of the population of Madre de Dios.

#### 4 ILLEGAL GOLD MINING IN MADRE DE DIOS, PERU

Artisanal and small-scale mining (ASM) provides an important source of livelihood for rural communities throughout the world, especially in regions where economic alternatives are critically limited. In 2003, the International Labour Organization (ILO) estimated the number of artisanal miners to be around 13 million in 55 countries (Hinton et al. 2003: 99). In addition, 80 to 100 million people worldwide were estimated to be directly or indirectly dependent on this activity for their livelihood (Ibid.).

In the Amazonian region of Madre de Dios, this type of lone prospectors have recently given way to industrial-scale, but equally illegal, operators. The main reason for this development has been the rising price of gold – a result of the international economic crisis. Subsequently, the illegal operations taking place in the region today, making use of technology such as bulldozers and barges can hardly be considered artisanal or small-scale. In fact, it has been estimated that the informal gold mining sector extracts more than 15 tons of gold a year – that is, almost a quarter of all the gold produced in Peru – with a resulting worth of around 700 million USD (Mosquera et al. 2009).

Informal gold mining activities<sup>22</sup> are frequently accompanied by extensive environmental degradation and lamentable socio-economic conditions, both during operations and well after mining activities have ceased. The lack of regulation also results in a number of occupational hazards, which makes the phenomenon of child labor particularly alarming. Other social problems, such as human trafficking and increased social conflict have also been attributed to illegal gold mining activities, although the main focus in academic research and policy making has been mainly on the abatement of

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<sup>22</sup> The terms informal and illegal gold mining are sometimes used interchangeably in literature. In my study *informal gold mining* will refer to artisanal and small-scale mining activities that have not been formalized - either because environmental requirements have not been met or the process is still on-going. *Illegal gold mining* will refer to activities that cannot be formalized since they are either of industrial-scale (not allowed in the area reserved for ASM) or are taking place in a no-mining zone (i.e. the Tambopata National Reserve or its buffer zone). The socio-environmental problems discussed in this chapter are related to both types of activities.

environmental degradation, namely mercury pollution (Spiegel 2009). A region that has been subject to particularly severe environmental degradation is the Peruvian Amazon. According to recent estimates, more than 150,000 hectares of forest has been cut down as a result of informal mining activities in Madre de Dios (Mosquera et al. 2009). The growing international concern for the preservation of the region has recently led the Peruvian government to take measures in order to solve the problem. Policy measures have included (i) the adoption of the Emergency Decree 012-2010 which defines an area reserved for formalized ASM activities and prohibits the use of certain techniques, such as dredges, and (ii) a military attack with the objective to eradicate illegal gold mining operations in the region. Neither of the two measures can be considered particularly successful in combating the issue of illegal gold mining in Madre de Dios. Reasons for the inefficiency of these measures will be discussed more in detail in Section 4.5.4.

Before engaging in such an analysis, however, let us begin by taking a closer look at the location where the research for this study took place. Next, an overview of the areas where informal mining is taking place (see Map 4.4), the extraction techniques used therein, and the socio-environmental problems related to the activity is presented. Finally, the chapter concludes with an analysis of the main factors that are, in my view, affecting the persistence of informality and the increase in illegality in Madre de Dios' gold mining sector.

#### **4.1 Research location**

The Department of Madre de Dios is located in southeastern Peru, bordering Brazil and Bolivia. It was created in December 1912, as a consequence of the rubber boom (Mosquera et al. 2009). It extends over an area of 85,183 square kilometers and is divided into three provinces and eleven districts. Its neighboring regions are Ucayali to the northwest, Cusco to the southwest and Puno to the south. Its capital city is Puerto Maldonado (Map 4.1).

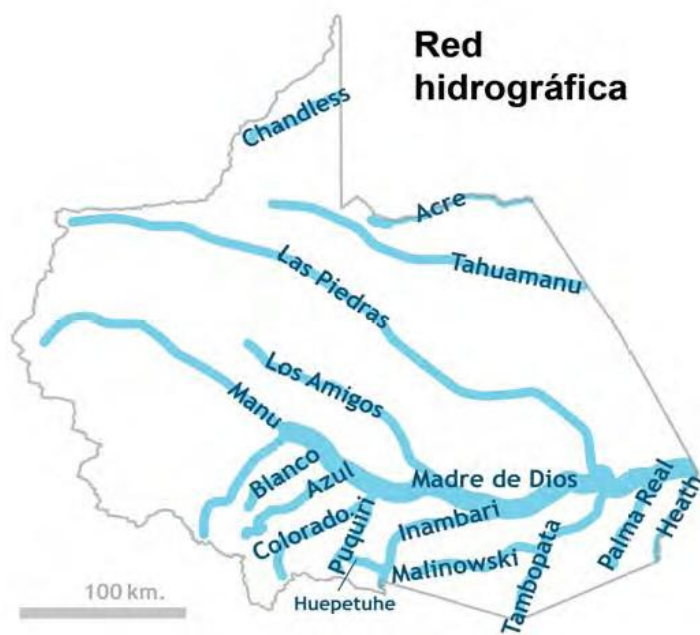
The construction of two important highways<sup>23</sup> to Cusco in the 1960s gave a significant push to mining activities in the south and logging activities in the north of the region. In the gold mining areas of the south, population centers such as Puerto Maldonado, Laberinto, Huepetuhe and Mazuko<sup>24</sup> became established (See Map 4.1). The airport of Puerto Maldonado, inaugurated in 1981, also played an important role in consolidating the city as the main commercial and supply center for the extractive sector of the region (Mosquera et al. 2009).



Map 4.1. *The main population centres of the Department of Madre de Dios.* (Source: Mosquera et al. 2009)

<sup>23</sup> Cusco-Urcos-Quincemil-Puerto Maldonado in 1965 and Cusco-Huambutio-Paucartambo-Pilcopata-Shintuya in 1968.

<sup>24</sup> In some contexts one finds the name of the town spelled *Masuco*. According to the mayor (pers. comm. 3 September 2011) *Mazuko* is, however, the official spelling since the name originates from a Japanese immigrant living in the area.



Map 4.2. *The rivers of the Department of Madre de Dios.*  
(Source: Mosquera et al. 2009)

The major alluvial deposits of the department can be found in the *Madre de Dios* river and its tributaries: *Tambopata*, *Inambari* and *Colorado* (See Map 4.2). There are also placer deposits in the plains, where ancient stream beds used to be located. Until a few years ago, the formations Cancao and Mazuko were the main sources of gold found in these types of deposits (Mosquera et al. 2009). Approximately four years ago, however, new deposits were discovered in an area known as “La Pampa”, which stretches horizontally in the south-east part of the department, inside the province of Tambopata (see Map 1.2). Since this discovery has concurred with the building of the Inter-Oceanic Highway – an inter-governmental project to connect the Peruvian Pacific coast with the Brazilian Atlantic coast – and the significant rise in the price of gold, it has resulted in a sudden wave of immigration to Madre de Dios, notably from the Andean highlands (Daniels 2011).

The main problem with the sudden wave of immigrants aiming to engage in gold mining activities in “La Pampa” is the fact that the area is largely situated in the buffer zone of the Tambopata National Reserve. The

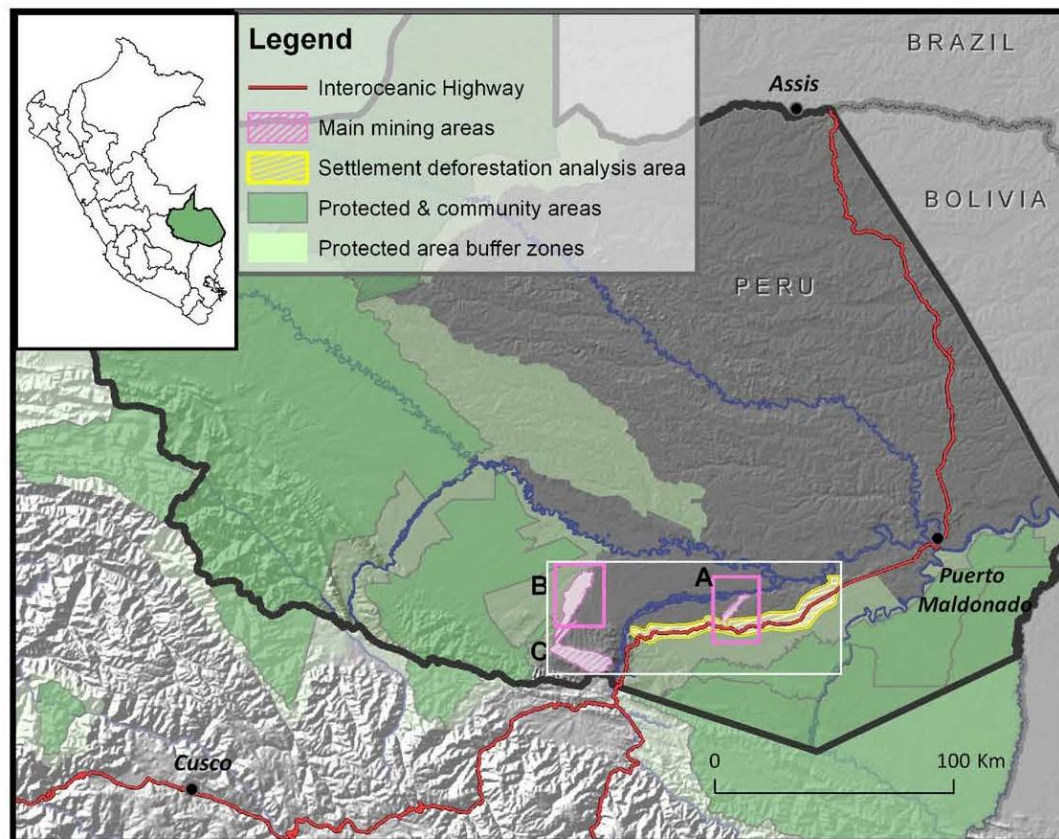
Emergency Decree 012-2010 passed by the Congress, however, explicitly prohibits mining activities in both the reserve and its bumper zone (*Decreto de Urgencia No. 012-2010*). The reason for the protective measures is that Madre de Dios is known internationally as one of the most biodiverse regions of the world. The tropical rainforest that covers almost the entire Department is characterized by an enormous variety of species of flora and fauna, including large tree species that can reach an altitude of over 50 metres (Mosquera et al. 2009). Its numerous untouched rainforests – which are inhabited by many yet to be discovered species and which contribute to the natural process of carbon dioxide (CO<sub>2</sub>) abatement – made the UNESCO declare the natural park of Manu World Cultural Heritage in 1987. A few years later, in 1994, the Peruvian Congress declared Madre de Dios the Peruvian capital of biodiversity (Law No. 26311). A total of six Protected Natural Areas (PNAs) have been created in the region in order to safeguard its fragile ecosystems and the indigenous tribes living in voluntary isolation (see Map 4.3).



Map 4.3. *Protected Natural Areas in the Department of Madre de Dios.* (Source: Mosquera et al. 2009)

During the last few years, these ecosystems have been under an unforeseen attack by the informal and illegal gold mining practiced in the forests and riverbanks. In the next section I will look more closely at the different

techniques used for informal/illegal gold mining in Madre de Dios, as well as examine their diverse impacts of the environment.



Map 4.4. Gold mining areas in Madre de Dios, Peru. (Source: Swenson et al. 2011)

## 4.2 Mining techniques and areas

As mentioned above, the major alluvial deposits of gold in the region can be found in the *Madre de Dios* river and its tributaries. There are also placer deposits in the plains, where ancient stream beds used to be located. On Map 4.4, the region where formal, informal as well as illegal gold mining activities are taking place have been demarcated with a white square. The areas marked with pink represent the major mining sites of Guacamayo (“A”), Delta 1 (“B”)<sup>25</sup> and Huepetuhe (“C”).

The only type of mining allowed in the Amazonian department of Madre de

<sup>25</sup> Also known as Colorado-Puquiri.



Dios is artisanal and small-scale gold mining (ASM). According to the decentralization legislation adopted in Peru, all mining activities of this scale fall under the jurisdiction of the regional government of Madre de Dios (*Gobierno Regional de Madre de Dios*, GOREMAD). The standards for artisanal and small-scale gold mining have been clearly stated by the GOREMAD's Department of Energy, Mines and Hydrocarbons (*Dirección Regional de Energía, Minas e Hidrocarburos*, DREMH) and are presented in Table 4.1. The different techniques used in Madre de Dios for exploiting gold deposits are presented in Table 4.2.

Table 4.1. *Definition of artisanal, small-scale, medium-scale and large-scale gold mining in Madre de Dios.*

	Area (ha)	Processing capacity/day (m <sup>3</sup> )
<b>Artisanal</b>	1000	200
<b>Small-scale</b>	2000	3000
<b>Medium-scale</b>	> 2000	> 3000-5000
<b>Large-scale</b>	> 2000	> 5000

Source: DREMH (2011)

Table 4.2. *Techniques used in Madre de Dios for exploiting gold deposits.*

CHARACTERISTICS	TYPES OF EXPLOITATION		
	Artisanal	Semi-mechanized	Mechanized
Form of intervention	Manual during all phases (i.e. extraction, wash and recovery).	Manual in the phase of recovering the gold from the fine sand.	No manual labor.
Method	Conduit ( <i>canaleta</i> ), small mill ( <i>arrastre</i> ), mill ( <i>ingenio</i> )	Suction pump ( <i>caranchera</i> ), vacuum pump ( <i>chupadera</i> ), front-end loader and tippie ( <i>shute-cargador frontal</i> ), mining raft ( <i>balsa gringo</i> , <i>balsa castillo</i> ), strake ( <i>traca</i> )	Dredge ( <i>draga</i> ) (prohibited by Emergency Decree 012-2010)

Source: Torres (2007)



The dredge or *draga* method is the only completely mechanized way to recover gold from deposits situated in riverbeds (Mosquera et al. 2009). It comprises of a suction hose (of a diameter of 16”) for extracting the material from the bottom of the riverbed, and a solids handling pump (with a horsepower of 25-90). The gold-bearing sand (*arena negra*) is recovered from the suctioned material by the use of a collection hopper (*tolva*) and a conduit (*canaleta*) situated on the beach. The thick material gets deposited on the beach (see Picture 4.1) while the finer material returns to the riverbed. In the meantime, the gold-bearing sand has stuck to the special textiles that are used to pave the conduit.



Picture 4.1. Miners using the “*caranchera*” (suction pump) to extract gold from the riverbed. (Source: Mosquera et al. 2009)

The semi-mechanized methods of *balsa gringo*, *balsa castillo*, *caranchera* and *traca* are largely similar to this process, but their processing capacity and, consequently, their impact on the environment is smaller. According to Norma Revoredo (pers. comm. 10 August 2011), specialist at the Ministry of the Environment (MINAM) these techniques have turned many of the once crystalline rivers of Madre de Dios into brown waters filled with sediments. They are also destroying the life in the rivers since the turmoil and muddy waters are preventing the sunlight from reaching the flora at the bottom of

the river. In addition, as a consequence of these techniques, fuel residues leak into the rivers and the mercury used for gold amalgamation is also finding its way to the waterways<sup>26</sup>. Hence, according to Revoredo, it is “a miracle” that there are any fish left in the rivers used for alluvial gold mining.



Picture 4.2. *Miners using the “chupadera”(vacuum pump) for exploiting gold deposits in the forest. (Source: Mosquera et al. 2009)*

According to local environmental organizations (pers. comm. various NGO staff, 4 and 5 August 2011), the semi-mechanized techniques used in

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<sup>26</sup> Gold amalgamation is a process where gold is separated from fine sand by the use of mercury. Since gold bonds with mercury, the process makes it easy to separate it from the sand. Finally the created amalgam (mercury-gold-mix) is heated, which results in the evaporation of the mercury. If a retort is not used, the evaporated mercury spreads into the air and, consequently, into the soil and water.

riverbanks are not, however, nearly as destructive as the methods used for open pit mining in the forests. Here, deposits located in ancient streambeds are exploited by methods like the vacuum pump (*chupadera*) (See Picture 4.2). The pits created with this widely used technique can be over 10 metres deep, which will occasionally result in landslides costing lives (DREMH staff, pers. comm. 9 August 2011).

According to Milner Oyola, a geologist working at DREMH, the most recommendable technique for gold extraction in the forest is the use of a front-end loader and a tippie (*shute-cargador frontal*). With this method it is possible to remove the fertile top layer of soil in an organized manner before collecting the layer of gravel which contains the gold. After processing this material the hole can be refilled with the washed gravel. The final stage would be to cover this layer with the fertile soil removed in the beginning, and to start the process of reforestation. According to Oyola, the problem with the currently more widely-used *chupadera* is that in this process the fertile top soil gets dispersed and washed away to the rivers, filling them with sediments, while nothing will re-grow in the mining sites paved with washed gravel. The problem here, however, is that a front-end loader is a very expensive investment. What is recommended by the DREMH, then, is for the miners to form cooperatives and share the machinery. In addition, it is crucial to increasingly sensitize the miners about the long-term environmental consequences of their actions. It is to these consequences that we turn to next.

#### **4.3 Socio-environmental problems related to illegal gold mining**

There are several socio-environmental problems related with informal and illegal gold mining activities in Madre de Dios. These include (i) environmental degradation, (ii) health issues, (iii) child labor and human trafficking, and (iv) social conflict.

#### *4.3.1 Environmental degradation*

Early this year, the Environment Minister of Peru, Antonio Brack, warned that illegal gold mining could spark an ecological disaster in the Amazon due to deforestation, the carving up of the riverbed, and mercury contamination (*AFP* 20 February 2011). In recent years, Madre de Dios – one of the most bio-diverse regions on the planet – has become the symbol of this disaster. Nowhere is the destruction more visible than in Guacamayo, one of the largest illegal gold mining sites on the globe, situated in Madre de Dios. After only four years of existence, Guacamayo is already employing an estimated ten thousand workers, and covering an area large enough to be visible from space (Daniels 2011).

According to Fraser (2009), the deforestation caused by illegal mining sites has serious implications for the environment, since it gives way for a loss in habitat for hundreds of thousands of species, can promote climate change as it removes portions of the forest's canopies, and undermines the process of returning water vapor back into the atmosphere. These negative impacts could ultimately lead to the formation of barren deserts and more extreme temperatures, which would further damage the ecosystem. A recent study by Swenson et al. (2011) uses satellite imagery to show the scale of deforestation taking place in Madre de Dios. The study and the satellite imagery (Figure 4.1) illustrate two mining sites, Guacamayo ("A") and Delta 1 ("B"), which saw the loss of approximately 6,500 hectares of forest between the years 2003 and 2009. The pictures on the left represent the two mining sites in 2003, while the pictures on the right show their transformation by 2009.

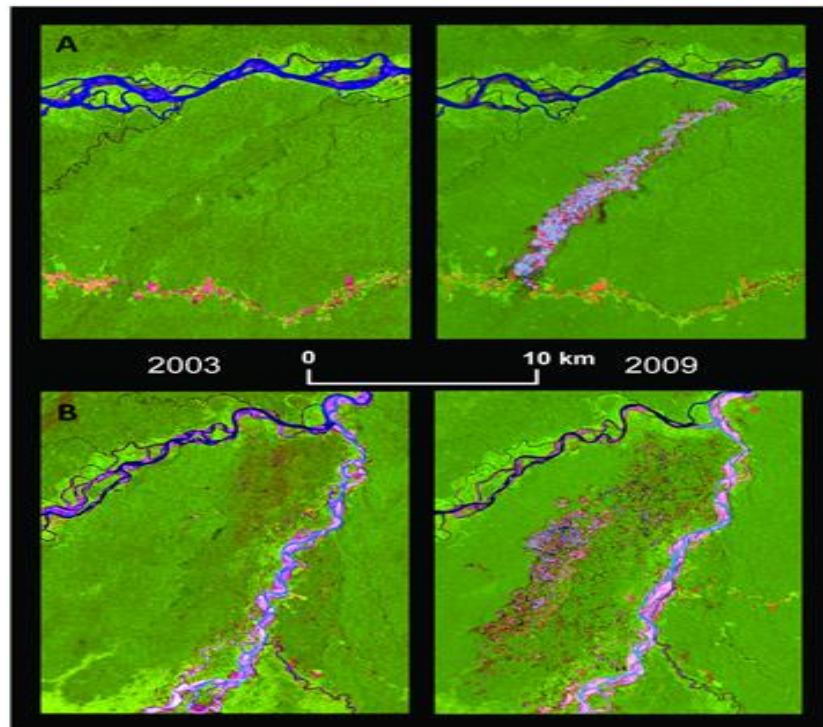


Figure 4.1. Deforestation in two mining sites in Madre de Dios in 2003 (left) and 2009 (right). (Source: Swenson et al. 2011)

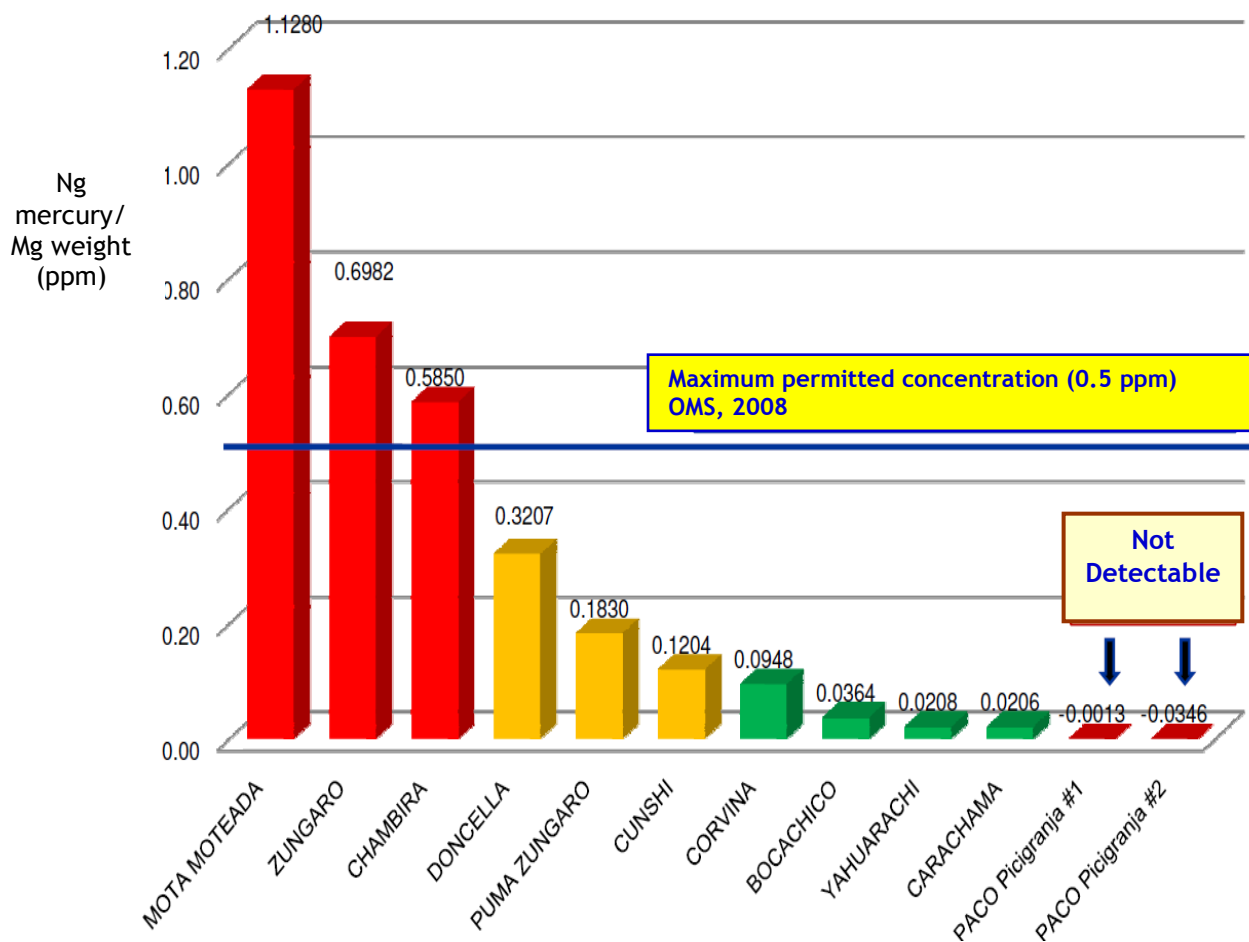


Figure 4.2. Levels of mercury in fish sold in the market of Puerto Maldonado in 2009. (Source: Fernández and González 2009)



Another environmental threat related to informal or illegal gold mining is the use of mercury in the gold amalgamation process. Mercury contaminates the local soil and water and is also able to travel through water and the atmosphere for hundreds of miles, damaging the environment on a larger scale (Duke University 2011). After the liquid metal settles into sediments it will subsequently start to move up the food chain (i.e. into fish, into the wildlife that eat fish and eventually into human beings). In a recent study by Fernández and González (2009) dangerously high levels of mercury were found in three species of fish sold in the market of Puerto Maldonado (see Figure 4.2). According to Fraser (2009), mercury release on the food chain and atmosphere depicts a scenario that can greatly damage the existing ecosystem.

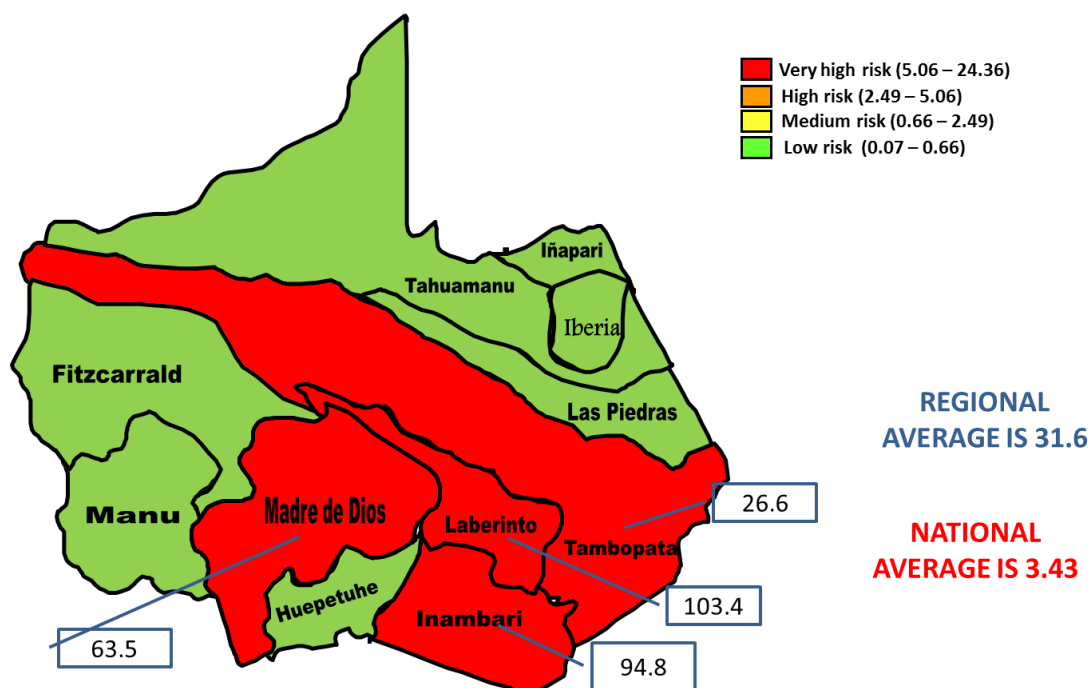
#### *4.3.2 Health issues*

In general, the health risks related to informal ASM are overwhelming in number. The International Labour Organization (ILO) has announced five key risks that this type of miners face: exposure to dust, which can lead to a type of lung disease known as “silicosis”, exposure to mercury, exposure to vibrations, noise and poor quality ventilation, which can lead to an oxygen deficiency, and exposure to an increase in humidity. In addition, inadequate equipment and incompetent working space can also pose a threat to the vigor of informal miners. Additional risks apply to women, since released chemicals pose significant risks for pregnant women’s fetuses (World Business Council for Sustainable Development 2002). In addition to these risks – which apply to informal ASM all over the world – there are also other risks, expressed by my interviewees, which are specific to the context of Madre de Dios. These include: (i) exposure to the sun, (ii) exposure to insects, serpents and other wildlife, (iii) exposure to tropical diseases like malaria and yellow fever, and (iv) exposure to landslides caused by open pit mining.

Despite this wide array of health risks, the majority of literature on informal ASM concentrates on the negative health and environmental impacts of mercury pollution (UNEP 2008; UNIDO 2007). What is underlined in these studies is that the misuse of mercury does not only result in serious health hazards for the miners themselves, but also for the surrounding communities, which may be exposed to mercury via the food chain (Fraser 2009). This kind of exposure to elemental mercury may damage the nervous system, the immune system and the cardiovascular system, which may produce symptoms like insomnia, memory loss, a decrease in mental abilities, trembling of the hands, loss of eyesight and hearing, problems with speech and balance etc. (Hinton et al. 2003; Fernández and González 2009). In my interviews with a social worker, a doctor and a police captain (responsible for domestic violence cases) in the mining town of Mazuko, a connection was also made between the nervousness, mood swings and impatience caused by mercury poisoning and the high levels of domestic violence present in the mining towns (pers. comm. 2 and 3 September 2011).

What is important to note here is that the exposure to mercury is not a risk only near the mining sites, but also in the main population centers. As I witnessed in the city of Puerto Maldonado, as well as the town of Mazuko, the final refinement process (heating up of the amalgam in order to separate traces of mercury from the gold) is done *inside* the shops that buy and sell the gold. Most of these shops are located near the market place where foodstuff is sold. This situation represents a serious health risk that extends beyond the mining sites. Fraser (2011) underlines this point by describing how in 2009 researcher Luis Fernández, carrying out a pilot study, discovered a shop in Huepetuhe where the mean value of mercury per cubic meter of air was 20 times higher than the World Trade Organizations' (WTO) occupational health standard. Furthermore, urine samples collected from a small portion of the population found that a few individuals – not working in the mines – had mercury levels far exceeding the acceptable levels indicated by the WTO (Fraser 2011).

**DETECTED CASES OF HIV IN THE DISTRICTS OF MADRE DE DIOS IN  
THE PERIOD 2010 (NUMBER OF CASES x 100 000 HAB)**



Source: ESR PC ITS VIH/SIDA - Fichas de notificación Epidemiológica

Map 4.5. *The spread of HIV/AIDS in Madre de Dios.* (Source: DIRESA 2011)

The last point that I want to bring up in relation to health issues connected with informal or illegal gold mining in Madre de Dios has to do with sexually transmitted diseases, especially HIV/AIDS. According to the regional health authority (*Dirección Regional de Salud*, DIRESA), in the year 2010, the regional average of detected cases of HIV per 100,000 habitants was almost ten times higher than the national average (see Map 4.5). As Javier Chata (pers. comm. 26 August 2011), Coordinator of the Regional strategy for the prevention and control of sexually transmitted diseases and HIV-AIDS<sup>27</sup> explained, this can be interpreted as a result of high levels of prostitution and low levels of education in the mining settlements of the region. An interesting additional point mentioned by a police captain (pers. comm. 4 September 2011) responsible for domestic violence cases in the mining town of Mazuko was that, if a woman asks her husband to use a condom during

<sup>27</sup> *Estrategia Sanitaria Regional de Prevención y Control de ITS y VIH/SIDA.*



intercourse, it will often be interpreted as promiscuity on her part, leading to domestic violence. This is an example of ignorant attitudes that are, in my view, presenting a huge obstacle for controlling the growing HIV epidemic in the region. According to Chata (pers. comm. 26 August 2011) awareness raising is, indeed, a top priority for DIRESA, which is currently realizing sexual education campaigns directed at sex workers as well as offering free STD-testing in remote mining settlements. It is also promoting a program of “peer education”, where groups considered as the most vulnerable (i.e. sex workers and homosexual males) are trained to promote preventive measures among their peers. In addition, the peer educators offer support to people already infected with HIV.

#### *4.3.3 Social problems*

Discoveries of mineral deposits often lead to a surge of migration towards new mining settlements. This, in turn, leads to a boom in commerce: food stalls, bars, canteens, restaurants and amusement arcades emerge around the zone (ILO 2007). In popular media, news about such mining settlements are often sensational and represent a mix of human-interest stories peppered with (often serious) environmental concerns, shady businesses outside the boundaries of law-making, huge profits, and in general, paint a frightful future (Lahiri-Dutt 2007). International and domestic bodies and NGOs are often concerned with the social problems surrounding the illegal mining industry. These include, but are not limited to, human trafficking, child labor and social conflict. As sensational headlines tend to be dominant in the popular media, more structural issues such as poverty, inequality and a lack of alternative opportunities tend to be absent from statements and media coverage. Understanding the root causes of problems such as human trafficking is, however, crucial if one aims to develop efficient policies to tackle them. It is to these themes that I turn to next.

## *Human trafficking*

According to the Peruvian government, NGOs and international organizations, internal human trafficking to mining sites, such as the Andes or the Amazon jungle, is prevalent in Peru. Trafficked persons are predominantly children and young women from rural or poor urban areas, or other vulnerable persons such as the poor, disabled, abused, illiterate or illegal (Sharma 2006; US Department of State 2010). The Peruvian constitution prohibits slavery, servitude and trafficking of human beings<sup>28</sup>. However, there seems to be a general lack of knowledge and public policies on the issue of human trafficking. Government officials, at the local and national level, demonstrate conceptual and practical misunderstandings regarding trafficking (often viewed as prostitution or the “selling of people”) (Sharma 2006). For the general public, the main source of information regarding human trafficking in Madre de Dios is the media, which is inclined to present it as a process involving criminal organizations which, under false pretenses, lure under-aged girls to the cities and mining settlements, where they end up working as prostitutes (Garreta 2009; Movimiento El Pozo 2009).

In my view, the reality of human trafficking in Madre de Dios is, however, far more complex than that. First of all, the phenomenon is not limited to prostitution and does not only involve women or girls. A recent large-scale study conducted by the International Organization for Migration (IOM) and the Catholic University of Peru (2009) suggests that as many as 90 per cent of the victims are men from the high-Andean region who are trafficked to work in illegal logging activities and the informal gold mining sector. Twenty per cent of the males trafficked are boys between 12 and 14 years old. According to the study, the men arrive to the region after receiving false employment offers and end up incurring large debts that force them to work indefinitely without any salary in order to pay off the supposed debt.

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<sup>28</sup> Peru has ratified the United Nations Protocol on Trafficking in Persons (Palermo Protocol) in 2003.

In my interviews with heads of police, public prosecutors and local NGOs in Puerto Maldonado and Mazuko, similar stories were expressed in relation to the women and girls trafficked to the area. As the director of an established NGO told me:

“Girls are being lured here from all over the country with announcements that offer work as a waitress or in customer service. They receive money in advance for bus fare, food, and clothes, which means they are already in debt arriving here. The bus driver is paid to drop off the girls, who think they are going to Puerto Maldonado, at informal mining settlements by the Inter-Oceanic Highway. Some escape but the majority, who arrive without money, do not see another viable option but to get to work. After a while, they get used to the money and the lifestyle and don’t want to go back anymore” (NGO Director, pers. comm. 12 August 2011).

This view was also expressed by police officers and public prosecutors who had experience in raiding brothels in mining settlements. According to their testimonies (pers. comm. 9 September 2011), whenever under-aged girls are discovered in the brothels (representing a clear minority of the workers), it is very common for them to be hostile, uncooperative and to express willingness to return to their employment. I witnessed this myself when accompanying the police forces to raid brothels in a mining settlement near the Inter-Oceanic Highway, about 100 kilometers away from Puerto Maldonado. In this raid, we entered two locales, where there were around 40 to 50 young women present. Only six of them did not have proper identification to prove that they were not under-aged. During the raid the women expressed irritation about losing business and kept joking around and making sexual suggestions to the police officers. No-one seemed relieved to see the police, acted shocked or seemed to be having any kind of emotional break-down. Only when photographed by a couple of journalists some of them became aggressive and started throwing pints of beer at the police, who were carrying guns and bullet-proof vests. During my visit to their living quarters, which were very humble but had basic utilities like beds and

stoves, I could not detect any signs of forced captivity (there were no locks but plenty of cell phones in site). In an informal conversation with one of the girls she denied to have sexual relations with customers and said she would only engage in an activity known as “locking in” (*fichar*) which refers to making the customer buy you as many drinks as possible during the night and being paid a commission. She also stated (pers. comm. 9 September 2011) that she was working at the club to pay her tuition fees and that her family would be appalled if they saw her picture in the paper.

As a conclusion, I would say, that the issue of human trafficking in Madre de Dios clearly encompasses much more than just prostitution in mining settlements, which has been the center of attention of the media in recent years. It is also clear that in many cases women who have been trafficked to the region to work at “*prostibares*” (i.e. bars where women offer sexual services) are not mere victims with zero agency, but adults making a choice to continue a particular livelihood activity that appears to be much more viable in economic terms than most other available options<sup>29</sup>. This does not, however, exclude the possibility of forced labor or slavery in the sex industry of Madre de Dios. According to informal interviews with the police and the local population, this phenomenon would seem to be, however, confined to very remote mining settlements located deeper in the jungle, unreachable for most people, including local police.

### *Child labor*

An issue closely linked with human trafficking is that of child labor. According to Anti-Slavery International (Sharma 2006) and the ILO (2005), approximately 50,000 children work in small-scale gold mines in Peru<sup>30</sup>.

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<sup>29</sup> In an informal interview, the public prosecutor (*fiscal*) of Mazuko (pers. comm. 9 September 2011) estimated that women working as prostitutes at the mining settlements in “La Pampa” can earn up to 6,000 nuevos soles (~2,000 USD) a month. To make a comparison, a police officer working in Mazuko earns around 1,000 nuevos soles and an engineer working at the GOREMAD earns around 2,500 nuevos soles.

<sup>30</sup> The United Nations Convention on the Rights of the Child considers every human being below the age of 18 to be a child. The ILO considers work performed by those under the age of 18 to be child labour (Martínez-Castilla 1999).

Activities range from extracting rocks containing gold deposits from rubble and entering subterranean mines, to washing gold in rivers and using mercury in the amalgamation process. Child labor is mainly concentrated in the districts of Madre de Dios, Puno, Ayacucho, Arequipa and to a lesser extent, La Libertad (Sharma 2006).

Children working in gold mining experience dangerous conditions and face a constant risk of accidents. They often utilize old-fashioned techniques to grind the ores, which are extremely labor intensive. Due to children's vulnerable characteristics they risk more severe injuries, i.e. they have less strength and ability to free themselves out of hazardous situations, are less resistant to chemicals and experience more neuropsychological deficits (ILO 2005).

During my interview with a police captain and the director of a children's shelter (*Defensoria del Niño*) in the mining town of Mazuko, both admitted the existence of child labor in the area. According to the police captain:

“There is a lot of crime around the mining business. You will see, for example, cases of child labor here. Children work as *maraqueros* (throwing water in the *shute*) or they shake the material in order to separate the gold particles (*chichiquiar*). Unfortunately the police do not have enough resources to stop it. We are only ten police officers here in a town of 3,000-3,500 people. To enter the remote mining sites you need special equipment, like motorbikes, that we simply do not have” (Police officer and NGO Director, pers. comm. 3 September 2011).

Both interviewees remembered the particular case of “Ana” and “Pepe”. The director of the children's shelter told me the following:

“Not so long ago I witnessed a case where two siblings were trafficked here to work for a gold miner. The older sibling, an 11-year-old boy, was working in the mining site, while his 9-year-old sister took care of

children. The boy escaped, but his sister, who had been promised a bike, wanted to stay behind. He arrived at the police station angry because he had not been paid by the miner. Later the children told us that their mother had received two whole cheeses from the man that took them away” (NGO Director, pers. comm. 4 September 2011).

The Peruvian government has prohibited child labor in the mining sector for children under the age of 16 and is aiming to completely eradicate the labor of children under the age of 14 (CPETI 2005). It has been debated, however, whether adapting these “western” norms is desirable in a Latin American context, where it has never been unusual for children to start working at a young age either in the family farm or by participating in seasonal migration. Consequently, it has been suggested, that legislation prohibiting labor under the age of 18, or even 14 for that matter, might fail to capture local cultural customs, leading to policy failure. An ILO study from 2007 makes a contribution to this discussion by bringing up the agency of children under the minimum age. The study examines girl’s perspectives on labor in four mining communities and two processing zones in the province of Canta, which is situated in the department of Lima. There are an estimated 1,500 children involved in the mining industry in this province, and 48 girls were interviewed. Besides a sense of obligation (to family duties), the girls also showed signs of a desire for economic independence. In addition, working and contributing to the family income gave them a voice in the household, thus, ironically, linking their child labor to an increased access to rights. However hazardous or mundane it appears, child labor was also often viewed as a pathway to future employment. Once the girls would become adults with their own families, they were perceived to have relevant work experience. However, this is perhaps more a reflection of the lack of alternative opportunities, such as education, rather than a benefit of child labor. Furthermore, although it was noted that girls who worked were brighter, more outgoing and assertive compared to other girls their age – likely due to the effect the working environment had on their perseverance – they also showed stronger tendencies to violence than other girls their

age and exhibited a stronger level of moral abandonment, which was evident in their school attendance and performance level. It can be concluded then, that the girls' socialization happened in the midst of an adult working environment, where, while facing constant danger and the stress of poverty, they took on large responsibilities and took part in business decision-making. This, without a doubt, had an effect on their social development (ILO 2007).

### *Social conflict*

Informal mining sites are in general characterized by intense social conflict (Kuramoto 2001). This also applies to Madre de Dios, where the most violent conflict so far has taken place between the informal/illegal miners and the armed police forces. The situation escalated in early 2011, when the central government decided that since Emergency Decree 012-2010 was not being respected, it would take military action, and bombed 13 river dredges used in informal mining operations (AFP 20 February 2011). As a result the miners, mobilized by the Miner's Federation (*Federación Minera de Madre de Dios*, FEDEMIN), engaged in a large-scale revolt against armed police forces. In informal interviews conducted in Puerto Maldonado in July 2011, residents would describe how the miners occupied the streets of Puerto Maldonado setting fire to *mototaxis*<sup>31</sup> and businesses that did not want to take part in a general strike, while police forces were unable to restore order. Chief of Police, Miguel Navarrete, commented the events as follows:

“The problem with the use of force against the miners is the risk of uprisings and escalating social conflict. The confrontation at Km 117 in February<sup>32</sup> resulted in four casualties. Two miners and two police officers were killed. As a result the miners paralyzed the city by imposing two general strikes in February/March. During that time I had

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<sup>31</sup> *Mototaxi* refers to a motor bicycle functioning as a taxi.

<sup>32</sup> “Km117” refers to a mining settlement that is located 117 kilometres away from Puerto Maldonado, when taking the Inter-Oceanic highway to Cusco. A confrontation took place there between illegal/informal miners, who had blocked the highway as part of their protest, and the police, which was trying to ensure free mobility.

my hands full trying to keep 10,000 miners under control with just 500 men, while also trying to keep the *mototaxi*-drivers from confronting the miners. So, it's not that we don't *want* to act; we just lack the resources to tackle this complex issue. These miners don't have anything to lose, they're living on the margin of the law and don't have any economic alternatives. I mean, now with the price of gold you can't convince them to leave this sector. They don't care about any of the risks involved. With the informal ones, who want to formalize, you can have some dialogue. But with the illegal ones it's impossible. And since 70 per cent of all the miners in *La Pampa* are illegals, not informals, the formalization plan is not an adequate solution for the conflict" (Navarrete, Chief of Police, pers. comm. 7 September 2011).

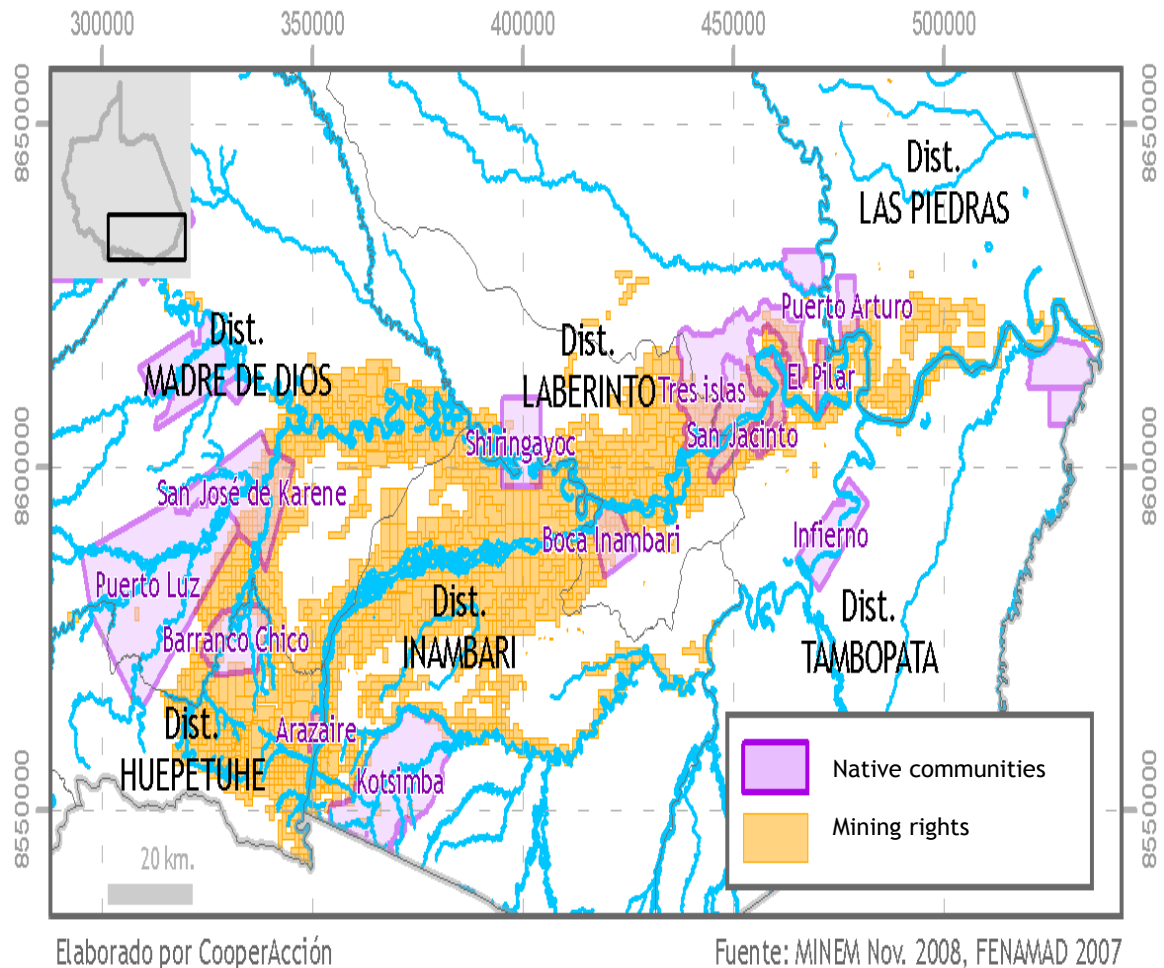
Conflicts also occur between the miners themselves. According to ILO (2007), new mineral deposits can attract thousands of migrants each year, thereby increasing the competition over the ores. Miners thus need to be quick and "clever" in their exploration which often leads to violent disagreements. In my focus group discussion with three informal miners that had a long history as labor union activists, I was also told that there is currently a significant division inside the Miners' Federation FEDEMIN due to the fact that many informal miners do not accept the operations of the illegal miners in "La Pampa" and, consequently, oppose their involvement with the FEDEMIN. According to these sources, the reason why an association of illegal miners (*Asociación de Mineros de Km 107-108*) was finally allowed to join the Federation was to guarantee more political influence to its leadership<sup>33</sup> (pers. comm. 15 September 2011).

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<sup>33</sup> In 2011 the leader of FEDEMIN, informal miner Amado Romero, was elected to the National Congress as the only representative of Madre de Dios. According to informal interviews with the local population, Romero would not have won the election without the votes of the illegal miners.



## OVERLAP OF MINING CONCESSIONS AND NATIVE COMMUNITIES IN MADRE DE DIOS



**Map 4.6.** *The overlap of mining concessions and native communities in Madre de Dios.* (Source: Mosquera et al. 2009)

Finally, conflict arises when informal miners set up operations on already inhabited land (Kuramoto 2001). In these cases disputes can arise either between informal miners and landowners (i.e. farmers), illegal miners and holders of a concession title (i.e. formal miners or loggers), and between miners and native communities. According to Mendoza-Martínez (2011), early this year there were almost 50,000 hectares of mining concessions overlapping with lands inhabited by native communities (See Map 4.6). What is important to note here is that while farmers and indigenous communities may be landowners, they never own the subsoil, which is always property of

the state (DREMH 2011). In a case where a farmer's piece of land is located in an area considered as "mining region", priority is given to mining activities. That is, the state can grant a miner the right to extract minerals on the farmer's land. In these cases the miner has to do an evaluation of the economic damage caused to the farmer (i.e. an inventory of his or her property) and the farmer has a limited period of time to file a complaint to the DREMH if s/he disagrees with the evaluation (Ibid.).

While working at the regional mining authority (DREMH) I got to witness several cases in which informal miners who had already submitted all the required documents (including an Environmental Impact Assessment) were threatened by the landowner and were not allowed in the concession area. According to an informal miner (pers. comm. 23 August 2011), who came into the office to seek advice, the opposition of the farmer was mainly due to the fact that he wished to extract the gold himself, not because he opposed the activity in general.

Finally, based on interviews with the local population, NGOs, government officials, journalist and academics, I noted that the general attitude towards the informal/illegal miners was that since they were arriving from very harsh living conditions, their quest for a better life was quite understandable. However, the current mining techniques were widely condemned, and a need for regulation and the use of clean technologies was underlined by a majority of the respondents. In addition, some respondents, namely people who represented second or third generation inhabitants of the region, brought up how people from the *sierra* (Andean highlands) and the people from the *selva* (Amazon rainforest) had "different values", which was considered a cause for conflict. According to one respondent (pers. comm. 25 July 2011), the difference was most clear in attitudes towards the environment and the family – considered a bigger priority to people from the *selva*. On the other hand, interviewees representing both *sierra* and *selva* regions brought up the superior entrepreneurial talent of the *sierra* population (which was also seen in negative terms, i.e. connecting it to

materialistic values and human exploitation). In conclusion, I believe that it would make quite an interesting research project to conduct a more in-depth study on this type of perceptions, in order to better understand the complex nature of the social conflicts taking place in Madre de Dios.

#### **4.4 The economic significance of gold mining to the region of Madre de Dios**

Gold mining is the most significant economic activity in Madre de Dios. Between the years 1999-2001, mining represented 35-40% of the regional GDP, followed by agriculture (8.4%), manufacturing (7.3%), governmental services (7.1%), other services (6.6%), trade (5.1%), hotels and restaurants (4.1%), construction (2.2%), electricity and water (2.2%) and transport and communication (1.8%) (Mosquera et al. 2009: 14). However, since the majority of the activity is informal, the region is losing a significant amount of income in tax revenues. According to an unpublished report by DREMH (Huaman-Peña 2011), the region received around 56,000 nuevos soles (~ 18,000 USD) in taxes last year through the Mining Canon (*Canon Minero*).<sup>34</sup> To make a comparison, the neighboring Department of Puno – also characterized by ASM – received over 260,000 nuevos soles (~ 86,000 USD) in 2009 (INEI 2010); an amount that is over three times larger than the one received by Madre de Dios.

According to regional government authorities (GOREMAD staff, pers. comm. 15 September 2011), the regional government's plan to formalize mining activities in Madre de Dios aims at tackling this precise problem. What was stated to me in interviews was, that with the increasing revenues, GOREMAD would also be able to tackle some of the negative side-effects produced by the activity. This would include measures such as reforestation and investing in alternative economic activities. This formalization plan is not, however, an all-encompassing solution to the problem of informality/illegality in

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<sup>34</sup> The Mining Canon (*Canon Minero*) obliges the central government of Peru to return 50 per cent of the revenues paid to it in taxes by miners/mine companies to the regions and localities where the mineral is being exploited (See Figure 4.3).

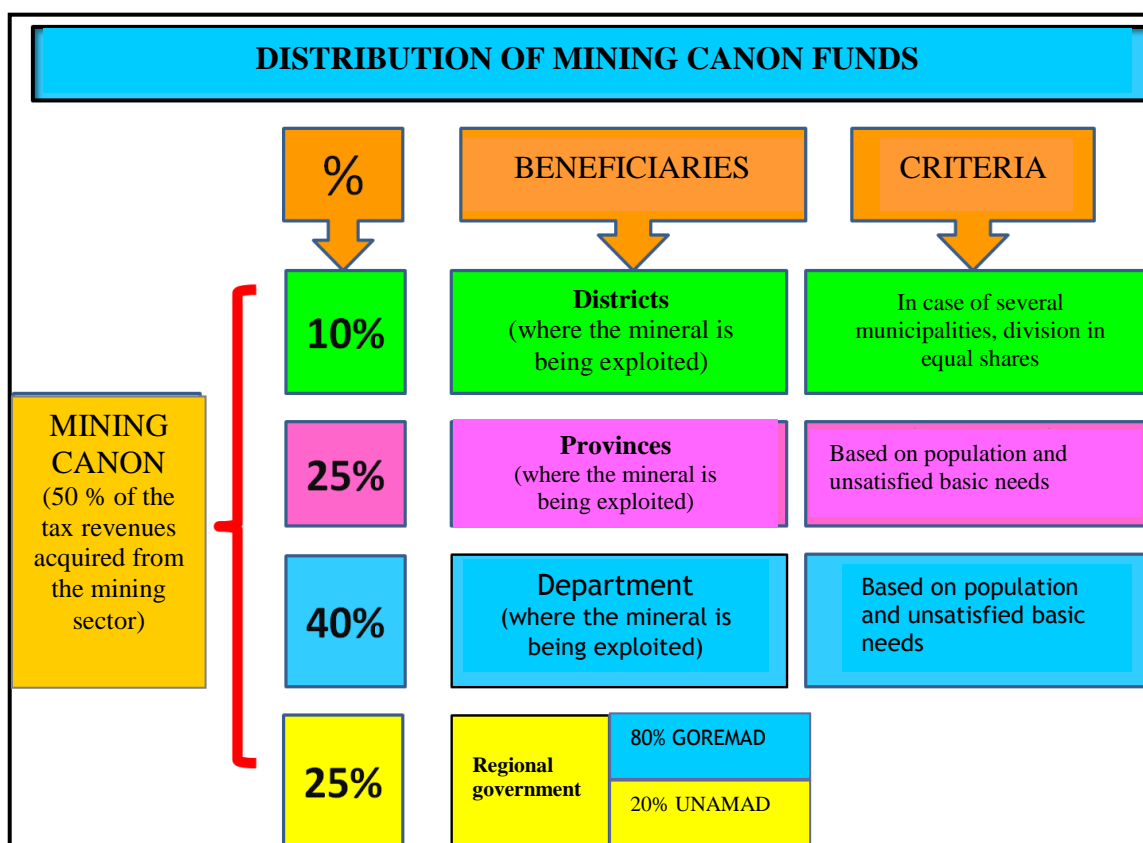


Figure 4.3. *The redistribution of tax revenues from formal mining operations in the Department of Madre de Dios.* (Source: Huaman-Peña 2011)

Madre de Dios, as will be argued in Section 4.5.4. Moreover, according to statements by local environmental organizations (pers. comm. various NGO staff, 4 and 5 August 2011), many of the concession title holders in the region are not registered in Madre de Dios, which means that the tax revenues generated by their operations will be redistributed to regions like Cusco and Puno where they maintain a permanent residence. Taking these factors into account, it can be concluded, that it is highly questionable whether the economic growth generated by gold mining in Madre de Dios should be considered more significant for regional development – defined in this study as an expansion of people’s entitlements – than the socio-environmental problems related to it.

#### 4.5 Reasons for the increase in illegal gold mining in Madre de Dios

A lack of economic alternatives is often viewed as the main reason to engage in informal mining activities. According to Kuramoto (2011), it is however incorrect to assume that all informal miners are driven by poverty, since mining is an old occupation and miners are also often involved in the business because it is what their parents and grandparents did. However, this view does not coincide with my experiences in Madre de Dios. In this specific region, illegal mining is a phenomenon that has grown exponentially in the last four years (DREMH staff, pers. comm. 5 August 2011). Therefore, based on my empirical field research and an analysis of secondary sources, I have reason to believe that the four major factors influencing the sudden increase in illegal gold mining in Madre de Dios are (i) the high gold price, (ii) the availability of unregulated mercury, (iii) the facilitated access to the region via the Inter-Oceanic Highway, and, finally, (iv) the inefficiency of policy measures designed to tackle the phenomenon.

##### *4.5.1 The high price of gold*

As stated by Swenson et al. (2011), world demand for natural resources is increasingly driving local resource extraction and land use in developing countries. A current example of a global commodity having such an effect is gold. Over the last decade, the price of gold has increased 360 per cent with a constant rate of increase of 18 per cent per year (Ibid.). The price continues to set new records, rising to over 1,700 USD/ounce at the time of my fieldwork in Madre de Dios (See Figure 4.4). As a response to this trend, nonindustrial informal gold mining has risen in developing countries along with grave environmental and health consequences (Keane 2009). While a study by Veiga (1997) confirms that this has not been just a short-term trend, Fraser (2009) underlines that today's record high prices, spiked by investors' fears over the global economic crisis, are increasing the illegal/informal gold mining in Madre de Dios at an unprecedented pace (see Figure 4.5).

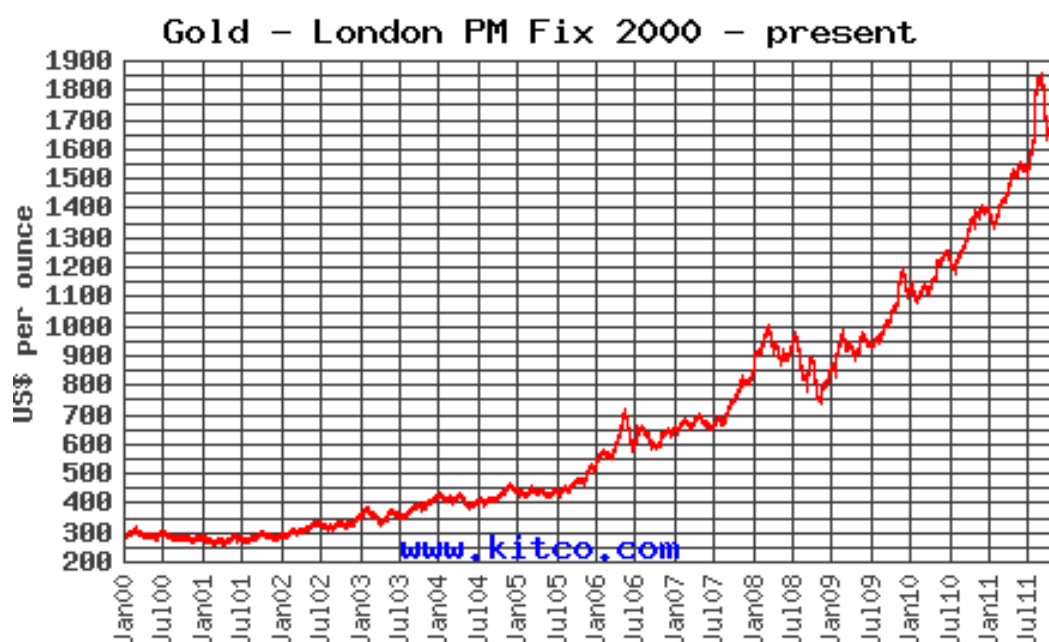


Figure 4.4. *The rise of the price of gold in 2000-2011.* (Source: Kitco Metals Inc. 2011)

#### 4.5.2 Unregulated mercury

Mercury pollution of air, soil and water is a major concern surrounding the ASM sector, which uses mercury to extract gold from tailings (mining residue). It has been estimated that, globally, artisanal gold mining is the second largest source of mercury pollution after the burning of fossil fuels (Swain et al. 2007). According to local environmental NGO staff (pers. comm. 3 and 4 August 2011), given the economic significance of informal/illegal gold mining in Madre de Dios, its control and regulation seem very difficult without national restrictions on mercury imports. In a study by Swenson et al. (2011), the researchers found that mercury imports to Peru were significantly related to the rise in gold prices (see Figure 4.5). Moreover, the researchers predict that Peru could increase mercury imports from around 280 tons in 2010 to around 500 tons a year by the end of 2011. Nearly all mercury imported to Peru is used by the ASM sector (Ibid.).

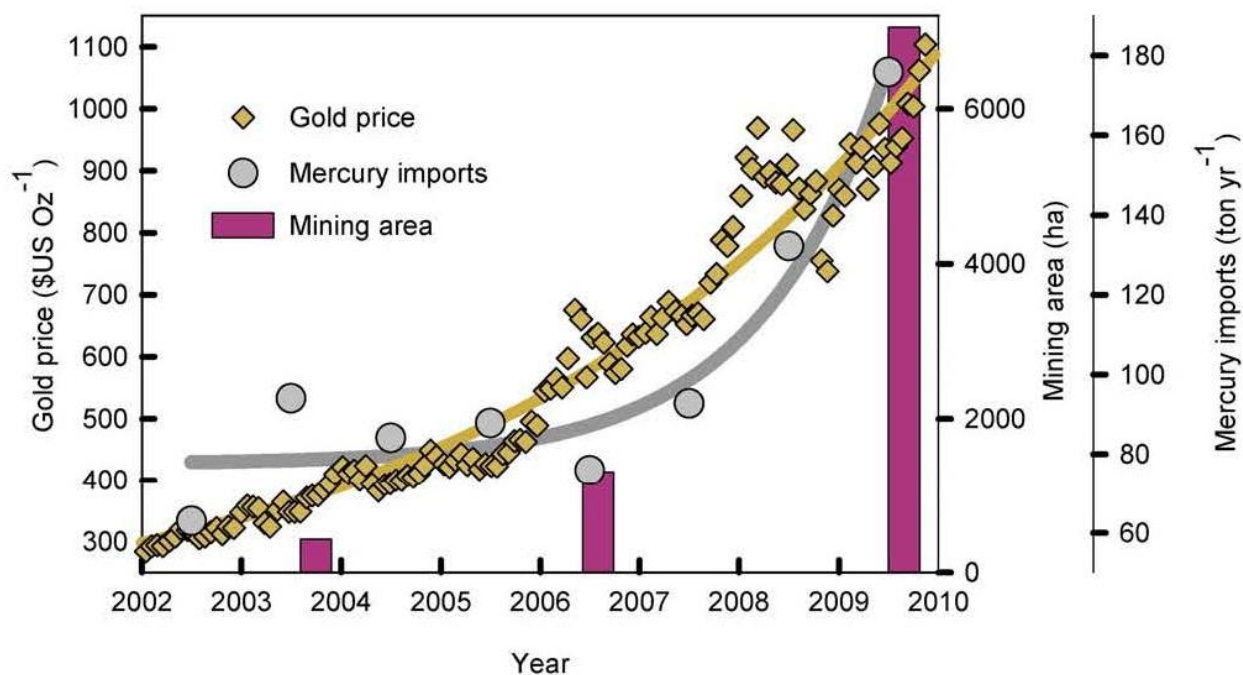


Figure 4.5. Gold, deforestation, and mercury import increases in 2002-2010. (Source: Swenson et al. 2011)

#### 4.5.3 The Inter-Oceanic Highway

A third element that is clearly influencing the sudden increase in illegal gold mining in Madre de Dios is the new Inter-Oceanic Highway (*Interoceanica*) (see Map 4.4). Previously, much of the Madre de Dios region could be reached only by boat or not at all. After 40 years of planning and construction, the road was finally inaugurated in December 2010, although structural problems found in a bridge in Puerto Maldonado delayed the full completion of the highway until August of this year. Today, the over 2,500 kilometres long highway runs through the region, linking the Atlantic ports of Brazil with the Pacific ones of Peru.

The 900 million dollar (USD) highway is viewed as South America's infrastructure project of the century (Daniels 2011). Every day hundreds of people arrive in Madre de Dios from neighboring poor highlands, seeking work and the promise of a better life. A majority of them head to illegal gold mining sites such as Guacamayo, which are situated deep in the rainforest, accessible only by motorcycle from the shanty towns that have sprung up almost overnight by the highway. The highway has also facilitated

the transportation of key supplies required for gold mining, such as petrol, bulldozers, heavy diggers and mercury (Ibid.). During my field trips to the mining areas I had the chance to witness a fuel company's truck that had stopped on the side of the highway in "La Pampa" in order to sell fuel illegally to the miners. According to the personnel of DREMH (pers. comm. 15 September 2011) this is not an unusual site – just another example of how the improved infrastructure is facilitating illegal mining operations in the region. In an interview with Jorge Castillo, professor of Economics in the National Amazonic University of Madre de Dios (UNAMAD) (pers. comm., 15 September 2011), I learned that while some studies have been undertaken concerning the socio-economic impacts of the Inter-Oceanic Highway on local populations, these studies have not really focused in the theme of illegal gold mining or the inter-related theme of human trafficking. I believe, however, that looking at connections between these two themes and infrastructure improvements – perhaps in a comparative perspective – would represent a fascinating subject for further research.

#### *4.5.4 Inefficient policy measures*

As presented in my conceptual scheme (see Figure 3.1), it is my view, that the measures that have been taken so far to solve the issue of informal/illegal gold mining in Madre de Dios have been insufficient. According to the decentralization legislation of Peru, issues related to artisanal or small-scale mining fall under the authority of regional governments (DREMH 2011). What was, however, expressed to me by several officials (representing both local and central government) was that the resources available for the local government to fulfil this function are not by any means sufficient. This is evident when looking, for example, at the local police force. As stated in the interviews cited above, the mining town of Mazuko has ten police officers for a population of 3,000-3,500 (a large portion of which engages in informal mining), while the whole Department of Madre



de Dios has a police force of under 500 men to supposedly control an activity undertaken by thousands of illegal/informal miners<sup>35</sup>.

In such circumstances controlling the situation by the use of force seems impossible. The main focus of regional government policies has, therefore, been the formalization of the informal miners. In institutions like the DREMH, the dominant view is that gold mining is the main contributor to the local economy and therefore the activity should not be demonized. Instead, by formalizing the miners and sensitizing them to the use of cleaner and more environmentally friendly technologies, the socio-environmental problems related to the activity can be overcome (DREMH 2011). In my view, there are, however, two major problems with this plan. First of all, the DREMH, solely responsible for the whole formalization process, simply does not count with the human resources to carry out the formalization of the miners<sup>36</sup>. Secondly, the formalization plan would only affect the status of the miners currently considered as informal. That is miners operating in the area designated for mining operations, whose petition for a concession title or whose environmental studies are still to be processed or have not been approved. It also concerns those miners who are operating in the buffer zone of the Tambopata National Reserve but who sent their petitions to DREMH before the inception of Emergency Decree 012-2010 (that is, before the mining zone was defined). The formalization plan does not, however, concern any of the miners who have started to work in the buffer zone after this date. These miners, along with anyone operating in the actual reserve, are considered illegal and they represent a huge majority of the overall operators<sup>37</sup>. In interviews with high-level local government representatives I

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<sup>35</sup> The exact number of illegal miners is not known by any of the authorities in Madre de Dios since new people arrive every day. A Miner Census has been planned by the statistical institution INEI, but so far no date has been set for the project.

<sup>36</sup> In August 2011, when I was working with DREMH, there were 1,540 concession title petitions and 522 Environmental Impact Assessments pending to be processed by a total of four members of the personnel, some of them submitted as long as eight years ago.

<sup>37</sup> According to an official at the Ministry of Energy and Mines (MINEM), there are under 100 completely formalized miners, around 3,000 informal concession title holders and around 10,000 miners operating without a title in Madre de Dios. Out of the last group, a majority works as “guest workers” (*invitados*) for a title holder. However, the amount of guest workers has been limited to 5 per concession, which means that a majority of them can never attain a formal status. In fact, if discovered, the title holder will often claim that the guest workers have invaded the property (MINEM official, pers. comm. 6 September 2011).

was told that the only options for these miners was either to relocate to formalized concessions (working for the title holder) or to wait for new concessions to become available (as a result of abandonment or negligence of taxes by the title holder). The interviewees admitted, however, that this did not represent a solution for everyone and that most illegal miners would be forced to stop their activities (GOREMAD officials, pers. comm. 15 and 16 September 2011).

However, since the regional government does not rely on a police force capable of such an undertaking, the forcing out of illegal gold miners depends completely on the involvement of the central government. So far the Armed Forces have entered the region twice, in February and November 2011. Both times it has retrieved due to protest and consequent negotiations between the miners and the regional government. After the military operation was called off last February, the former Environment Minister Antonio Brack (*Peru 21*, 1 March 2011) stated that the revocation “should not be seen as a sign of weakness, but as a gesture of good faith to facilitate dialogue”. Based on my interviews with different local actors in Madre de Dios, I am however convinced that the result was quite the opposite. Not only did the attack seem illegitimate – since none of my interviewees considered the dredges as a major problem compared, for example, with exploitation techniques used in the forest – but the following retreat under pressure made the situation even worse, convincing the miners of some level of immunity.

Overall, it can be stated, then, that the regional and central government have, so far, been unable to efficiently tackle the issue of illegal gold mining in Madre de Dios. The extent to which this has to do with the presence of multi-level corruption, will be discussed in the next chapter.

## 4.6 Summary

Gold mining is the most significant economic activity in Madre de Dios, representing almost 40 per cent of the regional GDP in 2001. Due to its great biodiversity and many protected areas, the only gold mining activities allowed in the region are those of artisanal and small scale. In addition, these activities are restricted to a specific area designated for mining, located in the south-east of the Department. Due to a combination of factors, such as a strong increase in the price of gold and a new highway facilitating access to the area, informal and illegal gold mining have, however, increased exponentially in the last four years. This increase went together with many socio-environmental problems, including deforestation, loss of flora and fauna, mercury pollution, human trafficking, child labor and social conflict. The policy measures undertaken so far to battle the problem of informal and illegal gold mining have included military attacks in February and November 2011 followed by protest and retreat, and a plan to formalize the activities that are currently undertaken informally in the mining zone (*Corredor Minero*). Both strategies have proven to be insufficient in stopping the constant influx of illegal miners to the region.

It is my view, that this inefficiency of policy measures is closely connected with the phenomenon of multi-level corruption, which I witnessed during my fieldwork. The ways in which corruption is facilitating illegal gold mining in Madre de Dios – consequently affecting regional development – will be analyzed in the next chapter.

## **5 THE INTERPLAY BETWEEN ILLEGAL GOLD MINING AND CORRUPTION IN MADRE DE DIOS, PERU**

In the previous chapter I presented an overview of the different socio-environmental problems that have been related with informal/illegal gold mining in Madre de Dios. The argument was made that while the activity does offers a livelihood to a part of the population, it is also causing serious health problems, destroying the environment and sparking social conflicts that are negatively affecting the entitlements of the entire population, including the miners themselves.

I also presented an analysis of the factors that are, in my view, promoting or facilitating illegal gold mining in the region. The last factor that I brought up in this connection was the inefficiency of government policies with the stated objective of dealing with the issue. After spending two months in Madre de Dios and having very good access to government officials, NGOs and other relevant actors, I came to the conclusion that there were two major factors impeding the design of truly efficient policy measures. The first one was a lack of resources at the regional level, which I connect with a lack of political will at the central government level. After talking to local actors and analyzing secondary sources (e.g. interviews with the Minister of Environmental Affairs), I have come to the conclusion that this lack of political will is closely related to the fear of an escalated social conflict (see Section 4.3.3). This factor alone, is not, however, sufficient to explain the submissive way in which the expanding problem of illegal gold mining is currently being dealt with in Madre de Dios. Here is where the phenomenon of corruption comes into the picture.

The most well-known tool for measuring corruption on a country-level is the Corruption Perceptions Index (CPI), developed by Transparency International (TI), which annually ranks countries by their perceived levels of corruption, as determined by expert assessments and opinion surveys. It defines corruption as “the abuse of entrusted power for private gain” and uses a

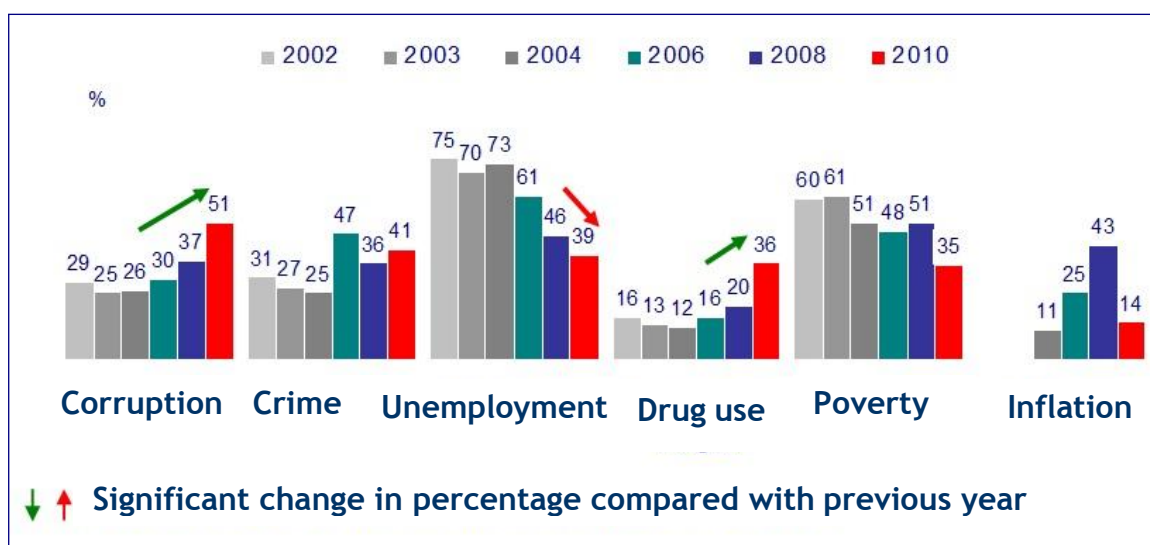


Figure 5.1. “What do you consider as the three principal problems facing Peru?” (Source: Ipsos Apoyo 2010)

scale from 10 (very clean) to 0 (highly corrupt) to score countries (TI 2011). In 2011, Peru received a CPI score of 3.5, ranking it 78<sup>th</sup> out of a total of 178 countries. TI considers any country scoring below five as having a serious corruption problem (Ibid.).

These results are further reinforced by a public opinion survey undertaken in 2010 in Peru. The survey was solicited by Proetica (the local TI chapter in Peru) and realized by Ipsos Apoyo. The size of the sample was 5,900 and the respondents were proportionally distributed throughout the country (Ipsos Apoyo 2010). During the survey, the respondents were asked a series of multiple choice questions related to the theme of corruption. Figure 5.1 illustrates how a majority of respondents considered corruption as the main problem that the country was facing at the moment. It also shows an upward trend in this view when compared with previous years.

The respondents also considered the corruption of civil servants and authorities as the main obstacle for the further development of the country (see Figure 5.2). Against this backdrop, it is hardly surprising that corruption was a very dominant theme in the interviews that I had with different government officials, NGOs, journalists, miners and members of the local population in Madre de Dios. In the next sections of this chapter I will

present the different forms of corruption that I came across during my fieldwork in Madre de Dios. These findings will be analyzed using some of the theoretical tools presented in Chapter 2. First of all, in order to avoid “investigative journalism”, the structural as well as a cultural context will be integrated into the analysis. In addition, the findings will be divided into those related to the demand-side and those related to the supply-side of corruption. Finally, conclusions will be drawn concerning the role that corruption is playing in the continuous spread of illegal gold mining practices in Madre de Dios.

### 5.1 Demand-side corruption in Madre de Dios



Figure 5.2. “What do you consider as the main problem faced by the state, impeding the development of Peru?” (Source: Ipsos Apoyo 2010)

As defined in Chapter 2, this study looks at corruption as a morally or legally unacceptable exchange aiming at obtaining individual advantages. The clearest example of corruption that I came across in my interviews with different public, private and non-profit sector actors in Madre de Dios was the corruption in the police force. In fact the corruption of police officers is considered so commonplace in Madre de Dios, that you often hear the term

“slot machine” (*tragamonedas*) which, according to the local population, refers to the fact that police officers can be bribed to overlook a misdemeanor with a couple of coins. A female miner (pers. comm. 15 September 2011) told me that she had been recently stopped on the Inter-Oceanic Highway because police officers had spotted her transporting fuel to her informal mining concession. According to the interviewee, after arguing with the police officers for a while, she finally agreed to pay them a bribe and was allowed to continue her trip. The corruption in the police force does not, however, seem to stop at this “harmless” level. According to the Director of an established NGO (pers. comm. 11 August 2011), it is not uncommon to see police officers in Madre de Dios overlooking human trafficking in exchange for bribes:

“The police here are subordinate to them [traffickers]. No-one is controlling the trafficking and sexual exploitation of children. The police are just worried about how much they can ask the driver for not checking the buses that are coming here. There are about 14 buses arriving every day from Cusco and other places with lots of children aboard. And they’re not official passengers that have boarded the bus in the terminal. Instead, the buses make stops for them in the countryside and drop them off at the mining camps” (NGO Director, pers. comm. 11 August 2011).

Another NGO Director (pers. comm. 4 August 2011) went even further in his accusations:

“The miners here have done what they’ve done because the state hasn’t been interested in seeing this problem getting solved. The corruption is everywhere. In Huaypetuhe there’s even a brothel owned by a police officer! A farmer who cuts down a few trees to start his plot (*chakra*) can go to jail, but a miner who cuts down hectares and hectares of forest gets away with it. If you try to start a business here you’re immediately faced with several authorities demanding paperwork. But if

you put up a business by the [Inter-Oceanic] highway that serves the mining sector, nobody will say anything. There you can also see power lines that have been torn down and reoriented towards the mining camps and again nobody says anything. So the state is involved in all this. It has been corrupted, subordinated or it has interests related to the informal mining business [referring to officials being concession title holders]” (NGO Director 4 August 2011).

Since I was naturally interested in hearing the other side of the story, I interviewed several police officers during my fieldwork in Madre de Dios. In one interview, a female police officer (pers. comm. 3 September 2011) did not directly admit that she had witnessed corruption among her colleagues, but she did make it clear that such a phenomenon would be quite understandable under the following circumstances:

“A big problem for the police department is the lack of resources. Not only are the salaries miserable (1200 soles [400 USD] a month) but we don’t have the necessary equipment to carry out our work. These old computers that you see here were received only last year as donations. Before that, all the reports were done with a typewriter that we had to buy ourselves! We also buy our own uniform, shoes, etc. They help us with the food, but still it’s not enough. So no wonder there are cases of corruption. People simply can’t survive with these salaries. I have a small baby and after I’ve paid my rent, the diapers etc., I’m left with nothing. You can’t even dream about buying your own home in the future. It’s totally out of reach” (Police officer, pers. comm. 3 September 2011).

The connection between low salaries and corruption was also mentioned in interviews with low-ranking governmental officials. According to an engineer working for the regional government (pers. comm. 10 August 2011), the salary that he was making by working 12-hour-days was around 2,400 nuevos soles (800 USD) – half the amount that he would have been paid in



the private sector. In addition, he complained about the incompetent staff that was hired after every election, due to nepotism and party politics (GOREMAD official, pers. comm. 10 August 2011).

In addition to the structural issue of low salaries, my interviewees also mentioned a more cultural factor that they perceived as affecting corruption in Madre de Dios. It was labeled by some interviewees as the “culture of corruption” and it referred to a widely accepted view that since “everybody is corrupt anyway”, engaging in low-level corruption is more a sign of astuteness or resilience than immorality. According to Serapio Rosa, the Public Anti-Corruption Prosecutor of Madre de Dios, (pers. comm. 6 September 2011) the only way to attack the “culture of corruption” would be by educating and sensitizing the general public on the theme of corruption from an early age and by satisfying the basic material needs of civil servants.

Another structural factor that I consider crucial in facilitating demand-side corruption in Madre de Dios has to do with a weakened judiciary. According to Rosa:

“The Decentralized Anti-corruption Prosecutor’s Office was established in Madre De Dios in 2000. There are a total of 29 of these offices in the whole country and they work under the supervision of the Ministry of Justice. Effective work is impeded, however, by a lack of resources. In Madre de Dios we only have two members of staff. We are expected to cover our own travel expenses and assist audiences (hearings) which are eating time away from investigating cases. Another major problem has to do with the judicial system. The criminal code, which dates from 1940, makes the trial a very long process during which there is time for the evidence to disappear (*espumar*). A new Criminal Code was approved in 2004 but so far it is only used in Lima, in order to test how it works in practice. Moreover, the sentences that are given to public officials for corruption are ridiculously mild. During my time here no-one

has gone to jail. They just get suspended and are able to return to work after a while” (Rosa, Public Anti-Corruption Prosecutor, pers. comm. 6 September 2011).

Finally, the fact that a single regional government department (DREMH), with around 20 employees, is responsible for the whole process of formalization of mining activities does not seem like the best way to prevent corruption. This is especially true when it is only up to a few individuals to actually approve or disapprove the petitions. So, even though I did not personally witness cases of corruption during my time working at DREMH, I did, however, come to the conclusion that the monopoly power and the degree of discretion granted to the staff there, combined with their low salaries and the high incomes of many of the petitioners, can be viewed as structural weaknesses that are creating strong incentives for corruption. According to an expert at the MINAM (pers. comm. 10 August 2011), the widespread corruption that currently connects Peruvian high-level politicians and public officials with the illegal gold mining in Madre de Dios, became evident in February 2011, when the secretly planned military attack leaked to the miners, giving them a chance to move and hide their equipment.

In conclusion, it seems like both structural and cultural changes are required in order to improve the current levels of corruption in Madre de Dios. This would suggest increasing public sector salaries, creating overlapping jurisdictions for official duties, strengthening the judiciary, and investing in education and training aimed at sensitizing public sector employees as well as the general public.

To end on a more positive note, I also noticed something encouraging during my fieldwork in Madre de Dios. It is the fact that the Peruvian media seems to be able to unrestrictedly and effectively exercise its role as “watchdog” and expose cases of high-level corruption. In September 2011, while I was still in the field, the oldest newspaper in the country called *El Comercio*

published an investigative article with the title “Illegal miners claim to pay 5 kg of gold every month to the Congressman” (Amancio and Grau 2011). As a result of the article, the Peruvian Congress decided to press charges against Congressman Amado Romero, an informal miner representing the Department of Madre de Dios. One of the main stated objectives of the recently elected Romero has been to abolish Emergency Decree 012-2010, which, according to local NGOs, would equal uncontrollable environmental destruction in Madre de Dios.

## 5.2 Supply-side corruption in Madre de Dios

As stated in Chapter 2, there are many factors which make the mining sector vulnerable to supply-side corruption. These include the idea of “time is money”, heavy government regulation, lack of choice of location, sudden wealth and easy money image, and a sense of entitlement.

Based on my interviews with high-level regional government officials, it is my view that the last-mentioned factor, *sense of entitlement*, is what is driving much of the corruption related to illegal gold mining in Madre de Dios. According to several interviewees, the central government is not regarded as being “present” in the region. In addition, the profits made with informal/illegal mining activities are not seen as benefitting the region as much as they could be. That is, while the region has to deal with the environmental degradation caused by the activity, the profits are directed outside Madre de Dios. According to one high-level government official (pers. comm. 14 September 2011):

“Investing in the region is not a priority for them [miners]. They don’t see this as their home. And it’s not that they lack money. If you go to Huepetuhe you’ll see big cars. There are also rumors that they have huge houses back in Cusco and enormous sums of money. Still their living conditions in the mining area are terrible. The infrastructure of Huepetuhe, which has been there for 40 years, is a disaster. There is no

Pablo Escobar [a Columbian drug dealer] with motivation to invest in public infrastructure projects. Initially, the miners had a lot of support from the local population, because they were seen as the motors of the local economy. That has changed with time when people have noticed that mining has not benefitted them directly. The only visible impact has been that the prices here in Puerto Maldonado have gone up, making it a very expensive city inside Peru” (GOREMAD official, 14 September 2011).”

It is my interpretation, then, that since government officials in Madre de Dios feel unsupported and unable to deal with the problem of illegal gold mining, while also feeling like the negative side-effects are accumulating on them while the profits are directed elsewhere, the result is a false sense of entitlement. That is, government officials feel like they are entitled to take their cut from an activity that is generating profits to everyone else except to them and which seems impossible to stop without central government support. When this sense of entitlement is further fuelled by the *easy money image* expressed in the citation above, the result is “widespread corruption in the regional and local governments” as described by several interviewees, including the Public Anti-Corruption Prosecutor of Madre de Dios (Rosa, pers. comm. 6 September 2011).

On the other hand, I believe that the idea of “time is money” and the lack of choice of location are fuelling supply-side corruption in Madre de Dios in situations where informal/illegal miners are dealing with the police force. According to one miner (pers. comm. 15 September 2011), refusing to pay a bribe of 2 soles (0,70 USD) to the police on the highway is not worth losing a day's work, which equals 20-100 grams of gold extracted per worker. Another factor in this equation is the fact that the miners cannot choose the location of the mineral. This means that supply-side corruption is undertaken in order to assure mobility of illegal workforce, fuel and equipment to the remote mining areas.

The final and most obvious factor that is, in my view, fuelling supply-side corruption in Madre de Dios has to do with the heavy government regulation of mining activities combined with the widespread demand-side corruption present in the public sector. According to Jorge Castillo, professor of Economics at the National Amazonic University of Madre de Dios (UNAMAD) (pers. comm. 15 September 2011), the most clear-cut solution to this problem would be the privatization of the mining operations in Madre de Dios. According to Castillo, this would not only guarantee more environmental- friendly operations (since large mining companies care more about their image than the current operators) but it would also resolve the conflicts related to overlapping and invaded concessions, which can be seen as a result of public sector inefficiency.

It seems, however, that currently there is a strong pressure in Madre de Dios to maintain things just as they are. Moreover, this pressure is not just generated by concession title holders making huge profits through their guest workers. Public sector officials seem to be urged to look the other way, give preferential treatment or remain passive by several other actors as well. According to a local NGO Director:

“Many people are benefitting from selling mercury and fuel to the miners. In addition, there are the people selling the machinery and the motors. So, the informal activities are generating a big business. There are companies from China, Brazil and Spain involved. Those entrepreneurs continue corrupting the authorities so that this situation doesn’t get fixed. There are just too many actors benefitting from the chaos! You can sell gold produced here without anyone being able to trace the origins. Once the bar gets to the refinery all traces are lost. So there are people who are winning while we are losing. And it is all facilitated by the level of corruption” (NGO Director, pers. comm. 11 August 2011).

It seems, then, that it will take a lot of effort to make a change of course in Madre de Dios. I do not believe, however, that the current dynamic is impossible to change. As has been shown many times in history, the influence of international political pressure as well as international consumer demand can be crucial in influencing distorted or inefficient national policies. These issues, as well as suggestions for further research will be discussed in the concluding chapter.

### **5.3 Summary**

After conducting interviews with various public, private and non-profit actors in Madre de Dios, I am able to conclude that corruption is clearly affecting the efficiency of the law enforcement in the region, which facilitates illegal and informal gold mining as well as other illegal activities related to it, such as human trafficking. According to several testimonies, corruption is also common among leading public officials, which partly explains the submissive attitude taken by the regional government in relation to the illegal/informal miners. This submissive attitude manifests itself in statements about the “risk of escalated social conflict”. At the same time, the problem is left to grow exponentially without any efficient plan of action. What is suggested in this study is that this inaction is related to a culture of corruption present in Madre de Dios, which has been further fuelled by the informal/illegal gold mining sector. Options for discouraging corruption as well as reforming current mining practices into a more sustainable livelihood will be discussed in the concluding chapter.

## **6 CONCLUSIONS AND RECOMMENDATIONS**

In this final part of my study I will present a summary of my research findings and give some suggestions for further research. I will end the chapter by highlighting some factors that I view as crucial for reforming current mining activities in Madre de Dios and, consequently, expanding the entitlements of its population.

### **6.1 Summary of research findings**

The main research question that guided this study was how corruption is affecting illegal gold mining and, consequently, development in Madre de Dios. Sub-questions included (i) Why are informal/illegal gold mining practices expanding in Madre de Dios? (ii) How is the expansion of informal/illegal gold mining affecting development in Madre de Dios?, (iii) What policy measures have been taken to control the expansion of informal/illegal gold mining in Madre de Dios? and (iv) How is corruption in Madre de Dios undermining the effectiveness of these policy measures?

There are several reasons for the expansion of informal/illegal gold mining in Madre de Dios which include factors that are completely out of control of regional or even national policymakers, such as the international price of gold. This does not mean, however, that the situation is completely out of control of national policymakers. The effect that restricting mercury imports is suggested to have on informal/illegal gold mining illustrates this point.

As regards the second research question, it is quite evident that the current forms of informal/illegal gold mining practices in Madre de Dios are critically affecting the socio-environmental development of the region. That is, they are not only having a negative effect on the entitlements of the general population in the form of environmental degradation, health risks

and social conflicts, but they are also posing a serious threat to the vigor of the miners themselves.

With regard to the third research question, I conclude that the policy measures suggested so far to tackle the problem of informal/illegal gold mining in Madre de Dios are not considered sufficient neither by local authorities or representatives of the civil society.

Finally, a range of different local actors perceive that corruption plays a significant role in facilitating informal/illegal gold mining practices in the region, and that there are actors with private interests who benefit from seeing the situation in Madre de Dios remain unchanged. Hence, the conclusion to the fourth research question is that corruption in Madre de Dios is undermining the effectiveness of the policy measures taken to deal with the problem.

The answer to the overall research question therefore is that corruption is affecting illegal gold mining and, consequently, development in Madre de Dios by (i) undermining the enforcement of existing environmental, health, labor and human rights legislation, and (ii) discouraging the development of effective policy measures to tackle the problem.

## **6.2 Suggestions for further research**

Since the problem of widespread informal/illegal gold mining in Madre de Dios is quite recent, there are not many academic publications available on the topic. The most extensive analysis available at the moment is “*Estudio Diagnóstico de la Actividad Minera Artesanal en Madre de Dios*”, written in Spanish, and published by Conservation International (2009). As a consequence of this scarce amount of publications, there are several subjects that would, in my view, benefit from further research.



The first issue that deserves further attention is the theme of social conflict. An interesting observation that I did during my fieldwork was that the people from the Andean highlands (*sierra*) and those from the Amazonian rainforest (*selva*) consider each other quite different in terms of values and culture. Therefore, conducting a more in-depth study on these types of perceptions, in order to better understand the complex nature of the social conflicts taking place in Madre de Dios, could prove to be a very interesting research project.

Another topic for further research that I would like to mention concerns the social impacts of the Inter-Oceanic Highway (IOH). A recent study by Perz et al. (2011), underlining the concepts of *connectivity* and *resilience*, offers an interesting example of this type of research. An analysis that connects the IOH directly with the theme of illegal gold mining and human trafficking is, however, lacking. In order to balance out the one-sided image of under-aged mine workers and adult sex workers as “victims”, this type of research would, in my view, benefit from taking also into account the *agency* of the different persons transported to Madre de Dios via the IOH.

Finally, *phytoremediation* is an innovation that presents promising possibilities for controlling mercury pollution in Madre de Dios. The term refers to the use of a plant’s natural ability to contain, degrade, or remove toxic chemicals and pollutants, such as mercury, from soil or water. It is a method that is currently being tested by scientists around the world, including researchers at the National Amazonic University of Madre de Dios (UNAMAD staff, pers. comm. 15 September 2011).

In addition to recommendations for further research, I have also drawn some conclusions concerning the measures that I consider most crucial in improving the current situation in Madre de Dios. These measures will be presented in the next, concluding section of this study.

### 6.3 The way forward – recommendations for policymakers and civil society

It is my view that there are several strategies that could be implemented in the context of Madre de Dios in order to reduce the negative effects that the informal/illegal mining sector is having on the entitlements of the local population and the sustainable development of the region. These strategies include (i) reducing opportunities for corruption, (ii) increasing international pressure via the active participation of civil society, (iii) promoting fair trade gold, (iv) promoting clean technologies and restricting mercury imports, and, finally, (iv) developing alternative economic activities for the region.

#### 6.3.1 *Reducing incentives and opportunities for corruption*

Several factors that are currently stimulating corruption in Madre de Dios have been presented throughout this study. The first has to do with low public sector wages, especially in relation to police officers. It is my view, that the only way to efficiently tackle the low-level corruption present in the police force, which is clearly generating a “culture of corruption” and undermining the legitimacy of public authorities in the eyes of the general public, is by increasing public sector salaries and by offering adequate anti-corruption education to police officers and the general public alike. In addition, only individuals that demonstrate personal integrity and personal competence should be hired to work as public authorities. This means that recruitment procedures in the public sector should be monitored by a third party in order to avoid hiring staff due to nepotism or party loyalties. After a public sector employee has been appointed, his or her activity and reports should also be monitored by a third party. This could be done by an “Anti-corruption unit” operating inside the regional government, but whose funding or staff would not depend on it<sup>38</sup>.

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<sup>38</sup> A similar idea was suggested to me by a high-level GOREMAD official (pers. comm. 12 September 2011), with the difference that in his view the unit was perceived more in terms of an intelligence agency.

Another factor clearly affecting incentives and opportunities for mining-related corruption in Madre de Dios has to do with the degree of discretion currently granted to a hand-full of staff in the regional government department responsible for granting mining permits (DREMH). The only situation where jurisdiction falls under the Ministry of the Environment (MINAM) is regarding mining permits in the buffer zone of the natural reserve (DREMH 2011). It is my view, that, if the rules and regulations regarding mining permits were clarified and simplified and more human resources were granted to the regional mining authority DREMH for processing the petitions (while a third party would monitor this process via methods like random testing<sup>39</sup>), several incentives and opportunities for corruption in this context would be addressed.

The monitoring of public officials should not, however, depend solely on other public sector institutions faced with similar vulnerabilities. Here the watchdog role of the media and the civil society are also crucial.

### *6.3.2 Increasing international pressure via the active participation of civil society*

When government authorities and private sector actors seem to be engaged in corrupt activities which are negatively affecting the entitlements of the general population, the active participation of civil society becomes indispensable. Currently, there are many NGOs in Madre de Dios that are doing important work in trying to combat the negative effects of informal/illegal gold mining by helping victims of human trafficking, promoting cleaner technologies and fair trade gold initiatives or supporting the development of alternative economic activities in the region. What is suggested, however, is an increased level of interconnectedness between

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<sup>39</sup> This would require a high level of transparency on the part of DREMH during the process of evaluation of a petition. That is, the whole evaluation process - including the basis for rejection or approval - should be reported, thus enabling random testing.

these local NGOs and international organizations (both inter-governmental and non-governmental) that focus on development, the environment and corruption, in order to further develop the watchdog potential of the local actors as well as to improve their chances to raise consciousness on a global scale. If the socio-environmental problems related to informal/illegal gold mining in Madre de Dios would reach the wider public, including the consumers of gold, the necessary international pressure might be created to affect both central government policies and regional dynamics. While the central government would feel increasing international political pressure to direct more attention and resources to dealing with the situation in Madre de Dios, the informal miners would be motivated to change their practices due to a changing consumer demand (i.e. a demand for fair trade and “green” gold).

It should be kept in mind, though, that although an active civil society is generally considered as a sign of a truly democratic political system (seen to curtail the power of government and private companies), what is suggested here is not a completely uncritical attitude towards NGOs. At the end of the day NGOs are human organizations subject to many of the same weaknesses that public or private sector organizations are, which means that they should also be held accountable to society in general. That is, NGOs are not flawless actors that possess all the relevant information or are immune to personal interest. At times this can lead to questionable practices such as the misrepresentation of other actors or phenomena. In my view, in order to decrease this risk, more structured interaction between the informal/illegal miners in the area and the different local NGOs is badly needed. The benefits of an established forum for interaction include a chance to share knowledge, experiences and points of view and expose some of the misunderstandings and prejudices that are currently fuelling social conflict.

### 6.3.3 Promoting fair trade gold

An initiative that I consider especially promising in its potential to curtail socio-environmental problems related to informal gold mining in Madre de Dios is *fair trade gold*. It refers to gold that is produced in a way that meets the standards of the Fairtrade Labeling Organization (FLO) and the Alliance Responsible for Mining (ARM). For gold to be certified as Fairtrade and Fairmined, producers have to meet strict standards on working conditions, child labor, women's rights, cleaner technology, health and safety, management of chemicals and responsibility to the environment (ARM 2011). In return, the miners gain market access and receive a Fairtrade premium equivalent to 10% of the internationally agreed price of gold, which must be used to improve their business or for community development projects. Those miners' organizations that produce their gold without the use of mercury or cyanide can earn an additional ecological premium of 5% to recognize the additional costs involved in using cleaner technology (Ibid.).

According to the ARM (2011), artisanal and small-scale miners – who account for 10% of the global gold supply and 90% of the labor force in gold extraction – are characterized by high levels of poverty. Since it has been concluded that the activity taking place in Madre de Dios is not strictly artisanal and small-scale, the economic reality of miners in this particular region is not quite as straightforward. However, while some concession title holders are rumored to be making fortunes with their informal mining operations, most guest workers (*peones*) live in unsanitary conditions in temporary mining settlements, spending their pay-checks on alcohol, prostitutes and other “luxury goods” (NGO Director, pers. comm. 11 August 2011). Consequently, these workers – usually young men arriving from the poverty stricken highlands – get trapped in a vicious cycle of poverty.

It is my view, then, that an increasing consumer demand for fair trade gold has the potential to improve these conditions. This requires, however, the formalization of mining activities in Madre de Dios. That is, for the fair

trade gold initiative to work in this region, the miners have to actually be engaged in formal artisanal and small-scale activities, which means that they have to be title-holders of a concession situated in the mining zone, only use the allowed mining techniques and work with a limited number of guest workers. A strong international demand for fair trade gold, resulting from consciousness-raising campaigns by local NGOs supported by international organizations (possibly combined with a consumer boycott on uncertified gold) could, in my view, be an efficient approach to motivate this change.

#### *6.3.4 Promoting cleaner technologies and restricting mercury imports*

An issue that is closely related to the concept of fair trade gold is the use of cleaner technologies. In the context of ASM, this usually refers to the use of retorts in the amalgamation process. By using a retort, the vaporized mercury is not released into the air but is captured and can be reused, hence offering an economic incentive for acquiring it. According to scholars like Hilson (2006) and Spiegel (2009), the reason why strategies to educate miners about the impacts of acute mercury exposure and new clean technologies have, in general, been marginally effective at best, is due to a lack of a bottom-up approach. That is, the miners have not, for example, been personally involved in the process of designing cleaner technologies. According to Spiegel (2009) and Spiegel and Veiga (2005) a concrete example of a more bottom-up approach to mercury abatement is presented by the UN-initiated *Global Mercury Project*, which takes into account the socio-economic dimensions of mercury abatement, such as the currently relatively high prices of retorts, in its effort to develop ASM into a more sustainable livelihood.

During my visits to mining sites and capacitation workshops in Madre de Dios, I noticed that the miners seemed very informed about the negative health effects associated with mercury. The risks involved were, however, not

taken very seriously. The following statement by an informal miner in Colorado illustrates this point (pers. comm. 31. August 2011):

“They came here already 20 years ago to measure levels of mercury in our hair. But I'm perfectly fine, there's nothing wrong with me. And I'll tell you something else: when my son was 3 years old, he found a bottle where I had stored 2,5 deciliters of *azogue* (metallic mercury). He swallowed the whole thing, over two deciliters of mercury, and was perfectly fine! Naturally we were worried at first, but eventually it just came out in the normal way. We could even reuse the mercury afterwards [laughter]” (Informal miner, Colorado, pers. comm. 31 August 2011).

In conclusion, there seems to be a serious misperception among informal miners in Madre de Dios about the effects that mercury has on human health, while, at the same time, the risks are considered exaggerated. Consequently, one miner told me that she had bought retorts to “make a good impression” on the regional mining authority (DREMH) but that the retorts were not actually used by her guest workers (pers. comm. 18 August 2011). In these circumstances, the restriction of mercury imports seems to me like a more efficient way to curtail the massive environmental destruction caused by current illegal/informal mining practices. According to Swenson et al. (2011), the recently approved agreement to tackle mercury contamination by the United Nations Environmental Program may encourage the Peruvian government to take this necessary step.

#### *6.3.5 Developing alternative economic activities for the region*

Finally, the development of economic alternatives for people living in Madre de Dios is a factor that I consider important in reducing the impacts of informal/illegal mining activities in the region. In this context, it is important to keep in mind, that the alternative economic activities

presented here will never represent similar opportunities for sudden wealth than the gold mining sector. Therefore, they do not represent a solution to the problem on their own. I do believe, however, that developing and supporting alternative economic activities is an important strategy for complementing other measures, such as formalization and more efficient enforcement.

According to my interviewees, there are several sectors that can be developed into more significant economic activities in the region. These include agriculture, agroforestry and ecotourism. In the agricultural sector, the further development of the harvesting of Brazil nuts and other non-timber forest products, as well as the cultivation of cacao, coffee and fruit trees in an integrated agroforestry system has been suggested (GOREMAD 2011). In an academic conference organized by the UNAMAD in September 2011, the commercialization of different mushrooms currently growing in the rainforest as well as the cultivation of certain species that are highly valued in international markets was also brought up (Garcia Roca 2011).

In conclusion, it can be stated that the widespread illegal/informal gold mining in Madre de Dios represents a highly complex problematic, combining issues like poverty and the lack of alternative livelihoods; environmental degradation and human rights abuses; infrastructure improvements and the demand of international markets; the lack of political will and human resources; and, finally, multi-level corruption. In my view, this situation is not, however, beyond repair. A truly affective reform strategy will require the active participation of not only governments but civil society as well. It will also require admitting the role that international markets play in the current dynamic. What is needed, then, is an active consciousness-raising campaign by a coalition of civil society and governmental actors aiming at converting the way consumers view gold – thus creating the preconditions for change.



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