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Inter-Institutional Gaps and Diversity within Guyana's Gold Mining Sector: Multi-level Governance and Corrupt Natural Resource Management



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Abstract:

Natural resource extraction has served as the backbone to the Guyanese economy for decades. The country's reliance on gold and timber extraction has led to complex governance arrangements which are both influenced by various socio-political and economic factors. This analysis of natural resource governance reveals informal political arrangements between institutional actors, showcasing the hybridity and fluidity involved in such human-environment interactions. This thesis will analyze the inter-institutional gaps found in Guyana's gold mining sector in order to understand what conditions lead to these gaps and what the socio-ecological consequences of these gaps are. This exploratory study seeks to conduct an institutional analysis of Guyana's gold mining sector by looking at the distinctions between formal and informal institutional bodies and viewing how corrupt practices influences this extractive industry and society at large. This study shows that even though corruption and mismanagement are integral parts of Guyana's gold mining sector, the consequences of such arrangements have mostly led to latent conflicts and slow paced environmental destruction, providing Guyana with a relative amount of stability when it comes to national and international conflicts.

Tags: *Natural Resource Management, Political Ecology, Inter-Institutional Gaps, Corruption*

List of Abbreviations

Artisanal and Small-Scale Mining (ASM)
Large-Scale Mining (LSM)
Guyana Geology & Mines Commission (GGMC)
Guyana Gold and Diamond Miners Association (GGDMA)
Guyana Gold Board (GGB)
Guyana Lands and Surveys Commission (GLSC)
Guyana Police Force (GPF)
Guyana Defence Force (GDF)
Environmental Protection Agency (EPA)
Natural Resource Management (NRM)
Environmental Management Agreements (EMA)
Environmental Impact Assessments (EIA)
Ministry of Natural Resources and the Environment (MNRE)
Ministry Corp of Wardens (CoW)
Guyana Forestry Commission (GFC)
People's Progressive Party (PPP)
People's National Congress (PNC)
A Partnership for National Unity (APNU)
Extractive Industries Transparency Initiative (EITI)
Political Ecology (PE)
Sustainable Development (SD)
Institutional Analysis and Development (IAD)
Socio-Ecological Systems (SES)
Inter-Institutional Gap (IIG)
Hybrid Political Orders (HPO)
Guyanese Dollar (GYD)
United States Dollar (USD)

Preface:

Natural resources have driven societal colonization, industrialization, modernization, and globalization. Wars have been fought over them, nations toppled, people displaced, and an inconceivable number of conflicts are rooted in the power natural resources give to those able to extract and utilize them. Our entire global economic system is based on the extraction, manipulation, production, and sale of natural resources, where these processes influence most arenas in which individuals, organizations, corporations, and states interact. Therefore, the management of natural resources is a multi-dimensional topic which can be approached from a multitude of perspectives, schools of thought, and theoretically informed lenses. This obvious complexity showcases the importance natural resources provide. They allow for modern civilization to continue operating the way it has. They allow for us to be a mobile species, for some of us to have our energy, dietary, and housing needs met, for us to be interconnected across the globe through internet technologies, and are a source of both “real” and “imagined” value for almost everyone. However beautiful, innovative, and necessary human modernization and development has been, natural resources are mostly finite. What and how we take from our planet has critical consequences, which are starting to enter the international consciousness as climate change begins to alter the fabric of society. The unabated extraction of natural resources has fundamentally altered the relationship between humans and nature. This detachment has led to the gestation of human life in strictly material forms, where power is derived from natural resources, driving the need of money, greed, power, and “development”, justifying the totalitarian destruction of our planet and continued socio-ecological injustice. This is a problem that social scientists, philosophers, and certain government officials have been speaking about for over half a century, but non-sustainable capitalist extraction and the multifaceted destruction it brings continues, day-in day-out. Extraction related climate change is the most pressing existential crisis human kind currently faces and no amount of material production, GDP statistics, or “fair-trade” goods will change this reality. Just about any commodity is rooted in injustice, inequality, exploitation, human rights abuses, and conflicts at multiple interpretative scales.

This thesis aims at analyzing a complex natural resource management system, the Guyanese gold mining sector, in order to discern what types of power arrangements dictate rules and regulations across multiple analytical dimensions. Natural resources confer economic, social, and political power in any society and their extraction has wide ramifications.

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-Julian Lovreglio, Utrecht University, July 30th 2021.

Introduction

As the negative consequences of climate change are beginning to be felt around the world, academics, policy makers, and government officials have been coming to terms with how societies interact with the natural environment.¹ Natural resource extraction has provided the capital foundation for the societal progress and modernization of many developing countries, leading to a multitude of social, economic, ecological, and political consequences. In our modern capitalist driven world, access to lucrative extractive industries creates complicated power dynamics, with formal and informal actors contending for dominance and profits. Such contention can lead to more or less “sustainable” outcomes in terms of economic opportunity, environmental degradation, and civil conflicts (Salazar & Tavares, 2018).

Located on the northern coast of the Latin American continent, Guyana is seldom spoken about in international news or academic discussions. Its reliance on natural resource extraction (minerals, timber, oil) as primary GDP earners makes Guyana geo-politically prototypical for researching complex human-environment relationships. Gold mining has been a primary export earner throughout Guyana’s history. According to the Guyana Gold and Diamond Miners Association (GGDMA), in 2020 the country produced 485,552 ounces of gold, worth USD\$808,587,118.² The sector directly and indirectly benefits over 200,000 Guyanese citizens and accounts for roughly 15% of the country’s economic output.³ Over 70% of the gold production comes from Artisanal and Small-scale Mining (ASM) operations, which are substantially legalized and formalized.⁴

¹ Flash floods, wildfires, and droughts are disrupting societies across the globe, spurring international action against the dangers of environmental mismanagement such as the Paris Accords.

² Rodney, Alexis. “Over 200,000 Guyanese Benefiting from the Mining Sector.” *Department of Public Information*, 30 Jan. 2021, dpi.gov.gy/over-200000-guyanese-benefitting-from-mining-sector/.

³ UNEP. “Guyana.” *PlanetGOLD*, 2020, www.planetgold.org/guyana.

⁴Ibid.

The Covid-19 pandemic generated uncertainties within the global economy, spiking the price of gold to the highest it has ever been (USD\$1,980.57 per ounce).⁵ The pandemic has also strained governments across the globe, with formal institutional employees being spread thin, causing organizations such as Guyana's Geology and Mines Commission (GGMC) to operate as a skeleton staff.⁶ This global crisis has also expanded the opportunities of organized crime actors operating in underground economies, increasing the potential for illegally mined gold and related illicit activities (drug trafficking, human smuggling, etc.).⁷ Guyana serves as a transit point for both migrants and illegal goods traveling throughout Latin America and trying to reach the European market (cocaine) and more stable host countries.⁸ This makes the analysis of Guyana's natural resource management of the gold industry timely and necessary.

Guyana is home to variegated local dynamics which make researching this Natural Resource Management (NRM) sector both viable and interesting. The Guyanese government sits in a delicate situation, contending with both the economic development gold mining brings and the environmental degradation it causes, considering it is the leading cause of deforestation.⁹ Being one of the most densely forested nations in the world, Guyana has garnered international attention and funds aimed at conserving their natural environment.¹⁰ Coupled with high levels of institutional fluidity, informal power arrangements, and weak enforcement capabilities, the Guyanese gold mining sector is subject to corruption and mismanagement at various

⁵Kimberley, Neal. "Gold Price Spike Shows Central Banks Are Risking Inflation." *South China Morning Post*, 4 Aug. 2020, www.scmp.com/business/article/3095853/coronavirus-recovery-gold-price-spike-shows-real-fear-inflation.

⁶Thomas, Marcelle. "Gold Price High but Miners Say Limited by COVID-19, Other Factors." *Stabroek News*, 27 Apr. 2020, www.stabroeknews.com/2020/04/27/news/guyana/gold-price-high-but-miners-say-limited-by-covid-19-other-factors/.

⁷McDermott, Jeremy, and Steven Dudley. "GameChangers 2020: How Organized Crime Survived the Pandemic." *InSight Crime*, 2 Feb. 2021, insightcrime.org/news/analysis/gamechangers-organized-crime-pandemic/.

⁸Mostly Venezuelan and Haitian migrants fleeing humanitarian crises

Jones, Katie. "Corruption, Containers, Cocaine: Guyana's Role In Transnational Drug Trafficking." *InSight Crime*, 1 Dec. 2020, insightcrime.org/news/analysis/corruption-containers-cocaine-guyana/.

⁹Sutherland, Gaulbert. "Guyana Focuses Deforestation Prevention Efforts on Conservation and Management." *Mongabay Environmental News*, 24 Jan. 2017, news.mongabay.com/2017/01/guyana-focuses-deforestation-prevention-efforts-on-conservation-and-management/.

¹⁰GY Times. "Guyana Looking to Unlock US\$135M Climate Funds by Year-End – President Ali." *Guyana Forestry Commission*, 26 Apr. 2021, forestry.gov.gy/2021/04/26/guyana-looking-to-unlock-us135m-climate-funds-by-year-end-president-ali/.

interpretative levels. Guyana's geography, population distribution, polarized and bi-racial political composition, colonial history, and distinct cultural practices assemble a NRM mosaic which must be analyzed through a multidimensional academic perspective. Institutional arrangements spring up through both formal and informal networks, leading to Inter-Institutional gaps over the rules governing social interactions. The analysis of how institutions manage their natural resources can serve to develop a thorough understanding of how and why inequalities, civil conflicts, and environmental degradation rise and persist. The way in which power is constructed, negotiated, and shared between informal and formal institutions in this extractive industry is the subject of this research project. Considering this empirical complication, this thesis strives to answer the following research question:

What are the primary Inter-Institutional Gaps found in Guyana's gold mining sector and how does corruption influence the socio-ecological consequences of such gaps?

The purpose of this thesis is to critically analyze the inter-institutional dynamics present in Guyana's gold mining sector through a Political Ecology (PE) perspective by viewing how political and economic factors influence the natural environment, and how the control of the environment consequently influences and reflects politics (Black, 1990). This perspective approaches the social world through a critical realism epistemology, which posits that, "... scientific explanations of environmental change provide only partial insights into biophysical processes, and that existing models of explanation reflect the agendas of the societies that created them." (Forsyth, 2001, p.146). By coupling concepts and frames from distinct academic fields, PE engages with concepts of sustainable politics and global justice through the interdisciplinary recognition of the complexity of human-environment relationships (Minch, 2011).

Methodology

In this section I will explain the methodology and structure of my thesis. The epistemological position I approach this research project with is, according to Mason (2018), one of critical theory, which contends that, “life is determined through social and historical processes and power relations”, as the, “... researcher seeks to uncover these and question the taken-for-granted” (Mason, 2018, p. 8). This entails a holistic approach to data organization and analysis as I am interested in the uniqueness of the Guyanese context. This epistemological approach is consistent with my overarching theoretical framework, that of political ecology, and with my specific analytic framework, the Inter-Institutional Gap (IIG) framework (Rahman et. al, 2017). I wish to place an institutional and anthropocentric lens on the analysis of natural resource management in order to showcase how and why cooperation and/or dissonance amongst institutional actors influence governance arrangements and their ability to achieve sustainable outcomes. This choice is also consistent with my ontological position, one of moderate constructivism, as it, “...seeks to account for beliefs, roles, organizations, and systems as ongoing processes rather than established and stable things.” (Hamilton, 2015, p.614). My research question falls under the categorization of both a mechanical and developmental puzzle, as I am interested in understanding how something works, i.e institutional arrangements and illicit practices, by viewing how things have evolved and developed across time and space (Mason, 2018).

The data collected for this thesis comes from research conducted during a 5 month internship with InSight Crime, an investigative organization dedicated to the study of organized crime in Latin America and the Caribbean. I was on a team researching the dynamics of environmental crimes occurring in the Amazon basin, with Guyana as my country of focus. I

conducted 12 semi-structured interviews via online platforms with journalists, government officials, and academics in search of information that would expand our understanding of the variety and scale of environmental crimes affecting Guyana (illegal logging and mining, deforestation, wildlife trafficking, etc.). The information gathered through interviews was then coupled with secondary sourcing from the primary Guyanese media outlets¹¹ and relevant academic articles and reports on Guynaeese resource extraction and state response. Therefore, I ended up with a vast amount of information covering human-environment relationships found in Guyana, leading me to focus on one extractive activity in this thesis, gold mining, and the socio-ecological consequences of inter-institutional gaps and natural resource corruption found within the industry.

These choices showcase the limitations encountered through this research process.¹² This thesis does not aim to provide specific and focused claims, but is rather an exploratory study aimed at expressing a general overview of a convoluted natural resource management system and the role that corruption and institutional diversity play. A large part of my data collection and analysis comes from deconstructing the IIG framework and engaging with interdisciplinary literature. The framework serves to operationalize elaborate institutional interactions by viewing discords between formal and informal bodies using concepts which can be applied to a number of NRM situations. The IIG framework looks at the “structures” that come into existence as well as the actors involved, allowing me to analyze the characteristics of this NRM sector by applying its core concepts to the data I have gathered. Because my research focused on criminal dynamics, corruption was a resounding variable which required attention. The dissection of this framework

¹¹ Stabroek news, Demerara Waves, and Kaieteur news.

¹² My initial intentions were to analyze the border dynamics found on the Guyana-Venezuela borderland through notions of hybrid governance and resource territorialization, viewing the complex power sharing arrangements between organized crime and state officials. However, because of the Covid-19 pandemic I was unable to conduct the fieldwork required to analyze such a sensitive, unknown, and understudied phenomena.

and its application to the Guyanese gold mining context led to the following sub-questions which guided the organizational structure of my research:

1. *What are the geographic, historic, and political characteristics of Guyana's gold mining natural resource governance?*
2. *Who are the primary stakeholder and actors involved in the gold mining sector and what are their driving motives?*
3. *What are the main inter-institutional gaps found in Guyana's gold mining sector?*
4. *How does corruption influence Guyana's IIG and consequently the gold mining Natural Resource Management?*

In chapter one I present an extensive literature review addressing natural resource extraction and governance mechanisms. This entailed reviewing the grand perspectives of Political Ecology in order to conceptualize my own view of the world and the state of environmental knowledge production. I then introduce contentions found within the NRM literature by focusing on the debate questioning the role of resource abundance or scarcity in the creation of civil conflicts. Because my conversation follows institutional action, in section three of chapter one, I will introduce Elinor Ostrom's work in NRM and Social-Ecological Systems (SES) and her ensuing analytical frameworks to better explain the parameters with which I approached my empirical complication. The analytical framework I have chosen will be described through the definition and applicability of its core concepts. I then conclude the literature review chapter by exploring literature interested in hybrid governance and natural resource corruption, as my contribution to the IIG framework is to include notions of corruption, illegality, and fluidity.

In chapter two I present an in-depth overview of the unique dynamics found in the Guyanese context through historical, political, geographic, and social considerations. This section is meant to show the reader why Guyana is an interesting empirical starting point. Because my research deals with notions of illegality and informality, section two will address the

mining regulatory framework present in Guyana. After the general scene has been set, I will outline who the primary actors and stakeholders involved in the gold mining sector are by viewing distinctions between different types of mining, levels of formality, and the regulatory bodies meant to enforce rules and regulations. The last section of this chapter will introduce the empirical evidence of corrupt institutional practices. This will serve to contextualize corrupt natural resource management across the multiple scales of analysis presented by my framework.

Chapter three will serve as my analysis chapter, where I create a dialogue between the multiple theoretical approaches described and my interpretation of the Guyanese context. I will review the types of corruption that are most prevalent in the country and then describe what the different rule levels expressed by my analytical framework entail in this context. I will then apply the core concepts from the IIG framework to my case study in order to showcase which inter-institutional gaps exist. Eventually I will add the term of “dirty entanglements” to the framework in order to include corruption as an institutional dynamic to consider. I will conclude with an analysis of the potential socio-ecological consequences of inter-institutional gaps. The conclusion section will serve to reiterate the purpose of my research project, provide for some general claims over the complexity of Guyana’s gold governance, and indicate the multitude of further research that can be conducted on my thesis topic.

Chapter I

Institutional Considerations in Natural Resource Management

Systems

A Theoretical Review

The academic study of natural resource governance in developing countries can be approached from various schools of thought, depending on one's interpretation of the human-nature nexus. Understanding how the interactions between humans and their surrounding nature can lead to more or less sustainability (environmental, social, economic, or political) continually challenges academic researchers, policymakers and conservationists. This literature review has multi-fold purposes. I am engaging in multiple academic debates covering the relationship between natural resource extraction, governance, the environment, conflict, and sustainable development, by focusing on institutional capabilities and the role of government corruption, institutional fluidity, and hybridity. My research appropriates into a Political Ecology (PE) perspective, as its, "...epistemological roots lie in early writings that focused on how unequal power relations, conflict, and capitalist-driven processes of modernization are key forces in "reshaping and destabilizing human interactions with the physical environment" (Walker 2005, p. 74 cited in Hook 2019, p.6).

After covering PE history, approaches and tensions I will narrow my focus on Natural Resource Management (NRM) literature. Whereby I engage with a subsequent academic debate questioning: *What is the relationship between resource abundance or scarcity and socio-ecological conflicts?* After discussing criticisms and claims of the debate, I will narrow my academic focus towards one segment of NRM, the role that institutions play. Here, I'm reviewing Elinor Ostrom's work on institutional diversity (2005), common-pool resource governance (1994), and the frameworks that sprung from her work. The last segment focuses on

the need to interpret the “state” as a complex set of human interactions through the lens of hybrid governance (Bagayoko, 2016) and corrupt natural resource governance (Robbins, 2000). I wrap up my conversation by explaining how I apply the IIG framework to the Guyanese gold mining context in order to elucidate how corruption influences the specific power hybridity present and natural resource governance generally.

1.1 Political Ecology perspectives on Natural Resource Management: Overview and Contentions

Political Ecology is an interdisciplinary school of thought sprung from combining concepts from human geography, political science, rural sociology, environmental studies, and anthropology— and which has been used as a theoretical “tool” for analyzing human-environment dynamics and their socio-political underpinnings (Neumann, 2008). The field has grown and developed in many directions since the term was first mentioned in mainstream literature by Eric Wolf in 1972. Political ecology has been defined and interpreted through a political economy lense (Blaikie and Brookfield, 1987), by looking at formal institutional practice (Peet & Watts, 1996), by focusing on environmental changes (Watts, 1985), and through discourse analysis emphasizing narratives and the production of environmental knowledge (Escobar, 1996).¹³

Therefore, no consistent and overarching definition for the study of PE exists as the field has become broad and ambiguous. As Bebbington (2011, p.26) mentions, “Political ecology can be understood as a sort of umbrella underneath which co-exist various traditions and lines of

¹³ Bauler, Tom. “Environmental Justice Organisations, Liabilities and Trade.” *Environmental Justice Organisations Liabilities and Trade*, EJOLT, 2013, www.ejolt.org/2013/02/political-ecology/.

political and ecological research that share certain ethical-political and intellectual preoccupations. ... It is not a theory, but rather a common space for reflection and analysis.”; while there are fundamental assumptions shared by various PE thinkers. Primarily, the study focuses on notions of power and more specifically on asymmetric human-environment power dynamics encountered in modern societies, mostly focusing on phenomena in and affecting the developing world. Bryant & Bailey (1997, p.27-28) offer three fundamental assumptions of PE showcasing the field’s general epistemological position:

1. First, costs and benefits associated with environmental changes are generally distributed among actors unequally. Changes in the environment do not affect societies similarly: political, social, and economic differences account for uneven distribution of costs and benefits. Political power plays an important role in such inequalities.
2. Second, political ecologists assume that an unequal distribution of environmental costs and benefits either reinforces or reduces existing social and economic inequalities. This reiterates the interconnectedness between the environment and governance, and that changes in environmental conditions necessarily affect political and economic status quo’s, and vice versa.¹⁴
3. Thirdly, political ecologists argue that the differentiated social and economic impacts of environmental change also have political implications, altering power relations.¹⁵

¹⁴ This supports Anthony Giddens’s (1984) structuration theory which contends that social action must be analyzed by looking at the dynamic interaction between structure and agency.

¹⁵ This assumption is of critical relevance when discussing natural resource management and conflicts as a variety of actors can contend for power sourced from nature, i.e natural resource revenue.

As the PE school of thought developed, academics narrowed and broadened their scopes and definitions. Now the field can be roughly divided into three forms which approach the human-environment dialectic in slightly distinct epistemological ways. Outlining these forms allows us to view the evolution of the academic field as they correspond with time specific contexts. The form of PE research associated with Marxist political economy (70's-90's) takes a more material approach, focusing on structures like race, class, nations, and economies. Another form is the post-structuralist one, focusing on discourse analysis and the social construction of environmental issues (90's-00')(Tetreault, 2017), with academics turning towards critical realism and local, context driven, understandings of situations and events (Forsyth, 2008). Then, the third form of PE considers both the materialist and symbolic dimensions of dynamic human-environment relations and social conflicts (Tetreault, 2017, p.19). This moderate constructivist approach has gained traction in Latin American studies where local actions are analyzed while keeping historic, economic, and political structures in mind (Hook 2019, Mistry et al., 2009, Schilling et al., 2020, Khemraj, 2016). This approach offers the most comprehensive manner to conceptualize my research topic.

Underlying the need to interpret the social world and social conflicts through multi-scalar analysis and by viewing the plurality of power is the normative understanding that there are more sustainable, less exploitative and less environmentally and socially coercive ways to manage natural resources (Robbins, 2005). This shows the socio-environmental justice aims of political ecology, as academic researchers attempt to understand entangled relationships and contribute recommendations for more equitable governance. With increased attention to global climate change, this field has expanded tremendously as societies realize the consequences of unabated natural resource extraction. Recent works in political ecology cover conservation in violent

environments (Marijen et. el, 2021), view who the victims of low-carbon transition programs are (Sovacool, 2021), and even analyze large international development programs, such as China's One Belt One Road initiative, in their political and ecological dimensions (Harlan, 2020).

The appeal of political ecology is that it allows academics to view highly complex socio-political relationships through multiple scales of analysis, bridging vocabularies between distinct fields of inquiry. This led to a PE theorization of scale, building upon the politics of scale literature to include socio-environmental considerations. The seminal work of Blaikie and Brookfield (1987, p.17) explains that, “the contribution of different geographical scales and hierarchies of socioeconomic organizations (eg, person, household, village, region, state, world)”, are essential for understanding human-environment interactions. In this sense, scales are conceptualized as socially constructed, historically contingent, and politically contested (Neumann, 2008, p.399). Power is thus also interpreted in a scalar manner, leading political ecologists to focus on different units of analysis.¹⁶

Because of the interdisciplinary nature of this field, criticisms have risen over methodological approaches and operational definitions. Those in the biophysical sciences are less concerned with humanistic interpretation of land change, and aim to understand crude geomorphological data, e.g soil erosion, offering equally scientific recommendations for change. A critical PE approach to soil erosion however, views this environmental change as a consequence of a dysfunctional society and economy which negatively impacts the poor and vulnerable (Forsyth, 2008). These viewpoints entail vastly different methods of gathering and analyzing data. On the other side of the debate are those who believe that PE has relied rather heavily on structural approaches and fixed categories to understand power relations, and should seek to understand how the social imaginary creates social ecological realities (Clark, 2001). The

¹⁶ e.g the nation state, formal institutions, customary structures, and informal actor-arrangements

greatest strengths of the field, the ability of considering a multitude of dynamics which better explain any given empirical complication, are also considered its pitfalls. PE has been criticized for its, "... heterogeneity, diffuseness of theory, "developmental othering", eclecticism and virtually limitless horizons which would fatigue the most energetic synthesiser and theory builder." (Blaikie, 2015, p.770).

My research befits into PE, because natural resource extraction is vital to the historical development of the Guyanese state. The complex dynamics at play in Guyana's gold mining sector have everything to do with the relations of power across scales and throughout time. Limits are an important factor to realize. Political Ecology can be used to theorize and analyze a number of human-environment relationships within this focused gold-mining sub sector of society. I will focus my conversation on institutional action, which entails a specific understanding of state structures, governance, legal codes, and cultural landscapes. I now turn to the natural resource management literature to elucidate contentions found between developmentalist and conservationist discourses by analyzing the debate on the role natural resources play in conflict situations.

1.2 Natural Resource Management: Resource Curse or Blessing?

The PE field offers great insights and theories for a variety of empirical complications. To narrow my literature review and couple it with the research I conducted, I focus my analysis on the management of a highly valuable extracted mineral: gold. Mineral mining is historically one of the highest contributors to the economic development of humanity, being the basis for industries spanning from construction, energy, electronics, and aerospace, to glass, plastics, and

fertilizers (Azapagic, 2004). The way in which gold extraction is managed is crucial for understanding the costs and benefits which span the local, regional, and global dimensions.

This engendered vast literature dedicated to sustainable development (SD), aimed at understanding how to continue extracting natural resources while diminishing negative externalities (pollution, environmental degradation, resource contestation, etc.). Considerations span from economic, political, social, environmental, and cultural reflections while recognizing the intrinsic connection between human well-being, economic prosperity, and a healthy environment (Salazar & Tavares, 2018). This entails a great deal of balance between development and conservation, reflected by the economic and political decisions taken by those in power. This section will cover this precarious balance, including a discussion on the role of resource abundance or scarcity in the creation of civil conflicts.

The term sustainability has its roots in the ecological sciences, referring to an ecosystem's potential for subsisting over time, with almost no alteration. Once development was put into the equation, sustainability was redefined from the viewpoint of society and the economy (Jabareen, 2006). This showcases a great paradox of the SD field: human development and "sustainability" entail environmental degradation and the sourcing of non-renewable resources, while environmental "sustainability" entails the reduction or cessation of human activity in the environment. There are ethical considerations and questions of time-scale that must be considered too. Whose well-being should be prioritized when discussing socio-economic decisions? The general population's or the environment's? How do governments deal with the long-term consequences of short-sighted economic activities? Who are the real winners and losers in mineral extractive industries? A discussion and in-depth review of the contentions found within SD studies are beyond the scope of this thesis.

These dilemmas require social scientists to analyze how societies are organized and how politics influence economics, environmental decisions, and social conflicts. The relationship between natural resource abundance or scarcity and social conflicts has interested academics for decades, with theories having been proposed for both sides of the spectrum. On the resource scarcity side, authors such as Homer-Dixon (1999) posit that there is a positive relationship between resource scarcity and conflict, because depriving people of their livelihoods leaves them no choice but to fight for survival. They take on a neo-Malthusian line of argument, assuming that population growth will reduce natural resource availability, inducing competition and ultimately conflict (Mildner et. al, 2011). Conflicts are categorized as between states, as group identity conflicts, civil strife, and insurgency. Correlations between violent conflicts and environmental variables have been shown in places where depleted croplands, fisheries, forests, or water systems were poorly managed. However, in any given context there are many non-environmental conflict variables to take into account, subtracting from the academic prowess of these linear correlations. They have been criticized for their simplistic generalizations based on supply and demand economic principles dependent on population sizes and densities (Goldstone, 2001).

The other side of the argument, that violent conflicts are a result of resource abundance, is best conceptualized through the concept of a “resource curse”, or Dutch disease (Collier and Hoeffler 1998, Yates 2014, Hilson & Laing 2017). This term refers to resource rich countries which are unable to effectively manage their natural resource revenues, leading to poor economic growth, stunted democratization, and violent conflict. Many of these research projects focus on state capacity and the role of institutions. Of relevance to my conversation on Guyana, is the “rentier state model” (Beblawi and Luciani 1987) which claims that through informal

rent-seeking behavior, "...state authorities become stronger and more repressive, exacerbating grievances among the population." (Mildner, 2011, p.162). These behaviors breed corruption and nepotism, reducing economic efficiency, social equity, and any attempt to reprimand actors who extract natural resources illegally or unsustainably. These studies have tended to focus on oil rich states which open their doors to international investments, showcasing the cross-dimensional tensions between development and equitable environmental governance. However, as is the case in Guyana, some resource rich countries continue to extract their natural resources on small and local scales but are still riddled with resource dependency and lost state revenues due to mismanagement, political nepotism, and rent-seeking arrangements (Hilson & Laing, 2017). The Guyanese resource curse has led to economic underperformance and some latent conflicts but large scale violent conflicts have yet to occur, showing the uniqueness of the Guyanese context.

The two sides of the argument provide for compelling analysis on the links between natural resources and violent conflicts. What these tensions showcase is that there is not a one size fits all policy recommendation or conceptual framework that can be applied to resource rich developing countries. Context matters, leading researchers to further narrow the field of conflict studies by proposing more conceptual definitions and testifiable variables. Another resounding lesson from the review of this literature is that institutional interaction is a good place to start when analyzing natural resource governance. Reviewing Elinor Ostrom's work on NRM will elucidate this choice.

1.3 Elinor Ostrom's work: Frameworks for Analyzing Common-Pool Resources

Before turning to the role of institutions in the Guyanese gold governance system and proposing an analytic framework to analyze this phenomenon, I briefly review the work of Elinor Ostrom in Common-Pool Resource (CPR) management and collective action theorization (Ostrom, 1990, Ostrom, 2005, Ostrom, 2009, Ostrom, 2011). Ostrom was interested in the management of shared natural resources in a multitude of contexts and avoided statist or market-centered approaches. Alongside her colleagues of the Bloomington school of Indiana University, Ostrom developed the Institutional Analysis and Development (IAD) and Social-Ecological System (SES) frameworks to analyze human cooperation in CPR situations through field work, lab experiments using game theory, and meta-analysis of resource management literature.¹⁷ Their work relied on a multifaceted understanding of institutional power and governance, expressed in Ostrom's Nobel Lecture¹⁸ address stating, "We need to ask how diverse polycentric institutions help or hinder ... the achievement of more effective, equitable, and sustainable outcomes at multiple scales." (Jenkins et. al, 2020, viii).

Common pool resources are defined as resources made available to all by consumption and to which access can be limited only at high costs (Basurto, 2015).¹⁹ The classic examples of such resources are irrigation systems, fisheries, forests, and underwater basins; resources susceptible to overuse and prone to "tragedy of the commons".²⁰ Ostrom analyzed a wide variety

¹⁷ "Notes on Complexity, Communication and Trust: IU's Ostrom Delivers Nobel Lecture to Worldwide Audience." IU News Room, Indiana University Media Relations, 2009, newsinfo.iu.edu/news-archive/12811.html.

¹⁸ Elinor Ostrom was the first woman to be awarded the Nobel Peace Prize in economics in 2009.

¹⁹ As a natural resource, gold holds specific characteristics, such as it cannot be "consumed" and access costs to mining differ greatly depending on context.

²⁰ This concept was coined by American ecologist Gerret Hardin in 1968 when he theorized that through rational choices, humans have incentives to maximize their profits earned from common resources, inevitably leading to over-consumption and environmental depletion. Hardin was addressing the results of overpopulation on natural resources in a global and general sense. Ostrom does not refute this theory, but rather attempts to analyze which kinds of institutional interactions are best suited to solve common-pool resource issues by keeping both human development and environmental conservation in mind.

of common-pool resource situations, concluding that more often individuals join collectively to manage resources sustainably; contradicting Hardin's theory stipulating that privatization is the only way to sustainably manage natural resources. Her research in CPR situations shows that with the joint management of natural resources, regulations that are economically and ecologically sustainable are eventually established.²¹ This led to the development of the IAD and SES frameworks which strive to define the appropriate variables to make sense of formal and informal institutional management of natural resources.

The IAD framework is a multi-tiered conceptual map seeking to identify the major types of structural variables present in institutional arrangements (Ostrom, 2011). "The focal level of analysis consists of an action arena, composed of actors located within action situations and affected by a set of external variables. Actors' interaction within action situations leads to outcomes, which feedback into the external variables and the action arena." (Clement, 2010, p.132)(See Figures 1 & 2 from Ostrom, 2011). External variables to consider are biophysical conditions, community attributes, and rules-in-use; representing nature, society, and the rules governing their interactions. Each variable entails an array of sub-variables; biophysical conditions can refer to resource use, abundance, size; community attributes are the shared values or "culture" of communities collectively managing resources; the rules-in-use divide into seven sub-categories (Clement, 2010).²² Most academics have applied this framework to analyze the NRM practices of local communities, with little consideration of policy decisions taken at higher governance levels. As my conversation follows institutional action, I conceptualize institutions by following Ostrom (2005, p.3), who defines them as, "... the prescriptions that humans use to organize all forms of repetitive and structured interaction including those within families,

²¹ Elinor Ostrom – Biographical. NobelPrize.org. Nobel Prize Outreach AB 2021. Mon. 5 Jul 2021.

<<https://www.nobelprize.org/prizes/economic-sciences/2009/ostrom/biographical/>>

²² Position rules, boundary rules, choice rules, aggregation rules, information rules, payoff rules and scope rules.

neighbourhoods, markets, firms, sports leagues, churches, private associations, and governments at all scales.” This definition includes formal and informal prescriptions derived from government issued legal documents, implicit norms ruling policy implementation, and orally shared collective rules-in-use.

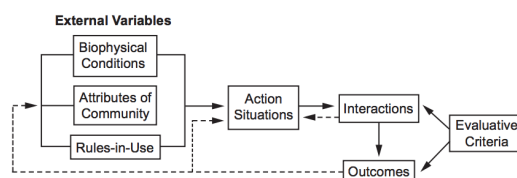


Figure 1. A Framework for Institutional Analysis.
Source: Adapted from E. Ostrom (2005, p. 15).

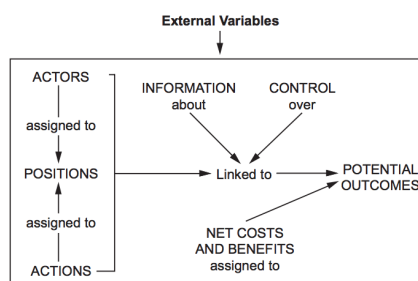
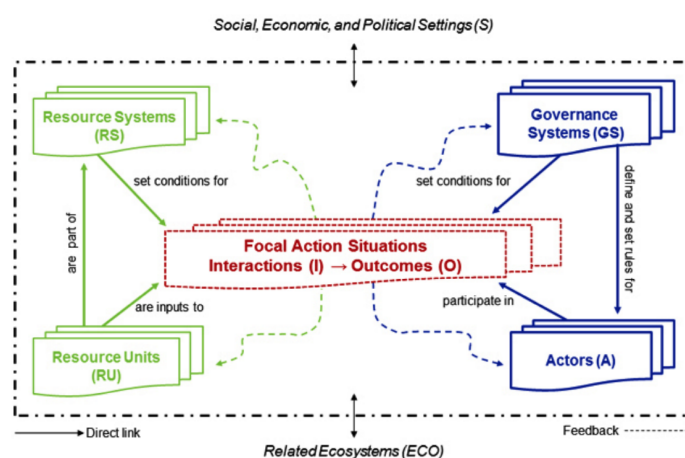


Figure 2. The Internal Structure of an Action Situation.
Source: Adapted from E. Ostrom (2005, p. 33).

Due to the interdisciplinary nature of this field, Ostrom strove to create a subsequent framework to bridge vocabularies between academic circles. In collaboration with other colleagues, Ostrom created the Social-Ecological Systems (SES) framework in 2007. It aims to expand the IAD ideas by categorizing variables into three hierarchical “tiers”. Tiers are understood as, “different logical categories, with lower-level tiers constituting subdivisions within elements of the next higher tier.” (McGinnis & Ostrom, 2014). Higher tier concepts include *resource users* which extract *resource units* from a *resource system*, directed by a *governance system* in the context of *related ecological systems* and broader *social political-economic settings*.²³ At the center of this framework are the processes of extraction and maintenance, identified as the most important forms of *interactions* and *outcomes* (Ibid, p.2).

²³ Showcasing the Political Ecology perspective implied in this framework.

Second tier variables hark back to these first tier considerations, i.e resource size falls under Resource System. Additionally, third tier variables relate back to second tier ones, i.e size of resource can be further understood as geographic expansion, size of market, etc. (See Figure 3, McGinnis & Ostrom, 2014). The formulation of this framework showcases the aims of academics interested in CPR, PE, and NRM; breaking down a series of highly complex interactions into smaller categories which are easier to define and analyze. The first two tiers of the framework are meant to be operationalized across different academic fields, providing for a similar form of organizing knowledge relevant to the diagnosis of the properties of specific SESs. As the framework can be approached by different theories, academics interested in human-environment relationships have expanded it and applied it to their research interests, increasing academic dialogue across fields.



(Figure 3. McGinnis & Ostrom, 2014, p.4)

For my research purposes, I apply Rahman et. al's (2017) Inter-Institutional Gaps (IIG) framework in order to analyze institutional gaps found in Guyana's gold mining sector. This framework builds on Ostrom's IAD and SES frameworks, focusing on multi-level interactions between formal and informal institutions. The "gaps" refer to situations with an absence of agreed upon 'rules of the game' between autonomous institutional regimes in SESs, undermining

collaboration and sustainable resource management. Some conceptual definitions are required as my research focuses on questions of formality, fluidity, and hybridity. North (1991) defines “formal” institutions, “... as a de jure body of rulemaking and enforcement in a hierarchical organizational structure, accompanied by codified norms of behavior and bureaucratic polity.” and “informal” institutions are defined as, “...a rule system that largely lacks such official codification, and thus typically comprises habitual, verbalized, or customary rules, and conducts, which function as the de facto rulemaking and enforcement body.” (Rahman et. al, 2017, p.825).

Rahman et. al (2017) conceptualize the governance challenges that rise from inter-institutional gaps by applying a list of concepts to their framework: legal pluralism, institutional void, structural hole, and cultural mismatch. None of these concepts take into consideration every rule level (constitutional, operational, and collective choice rules), hence the need to conceptualize the resulting gaps across different institutional dimensions (formal & informal) and the rule levels governing actions (constitutional & non-constitutional) (See figure 4, Ibid, p.833). I will apply these concepts in order to highlight the present inter-institutional gaps found in Guyana, requiring a brief definition of each.

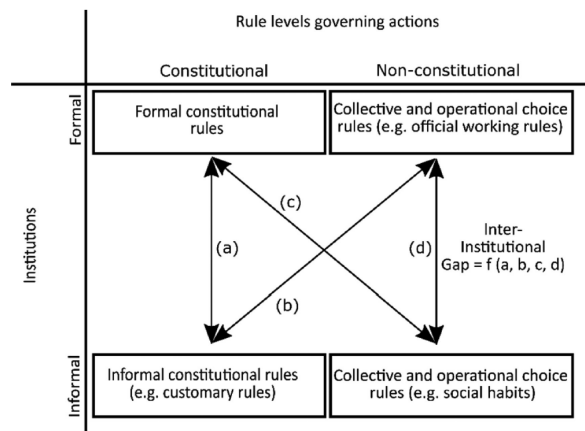


Figure 4: Rahman et. al, 2017

1.3.1 Legal pluralism

Legal pluralism refers to the coexistence of multiple sets of legal systems at the constitutional choice level which apply to the same natural resource jurisdiction (Bavinck and Gupta 2014). The term emphasizes, “... multiple sources and characteristics of law, varying according to degrees of codification, formality, legality, legitimacy, scope, content and process’.” (Ibid, p.80). The most common application of the term focuses on the imposition of centralized laws of colonial or postcolonial governments on the customary laws of indigenous resource users (Rahman et. al, 2017).

1.3.2 Institutional void

Institutional void describes institutional conflicts that result from a lack of agreed upon rules between formal and informal institutions. Such voids may result from the presence of weak intermediary agencies, such as a government resource regulatory body, which is supposed to create dialogue between policy actors operating in reference to constitutional choice rules and the collective choice rules of informal institutions (Ibid, p.831).

1.3.3 Structural hole

Structural holes refer to situations where there is a disconnect between two groups of actors (operating across formal and informal institutions), allowing for third parties, connected to both groups, to act as information brokers, appropriating or manipulating outcomes. These holes arise because of network enclosure within well-connected groups (Burt, 2004). In NRM, this reflects when efforts by institutional actors (resource managers, scientists) are ineffective in sharing information or changing the attitudes and beliefs of informal institutional actors (community members, resource users) (Ibid).

1.3.4 Cultural mismatch

Cultural mismatch focuses on the gap between informal constitutional choice rules and formal operational or collective choice rules in cultural terms. In NRM sectors of developing countries, there are often ethnic divisions which lead to different cultural practices concerning resource ownership and extractive processes. Due to their local origins, customary rules are often ignored by national governments who impose formal constitutional rules upon resource-using communities, considering them subjects of the state (Ostrom, 1996). Conversely, local communities may also be unaware of national level legal codes, consequently ignoring the collective choice rules decided in formal institutions.

The authors who formulated this IIG framework applied these concepts to four distinct case studies of common resource governance focused on coastal fisheries, forest resource management, tiger conservation, and indigenous wildlife management across vastly different contexts (South Korea, Bangladesh, India, and Canada respectively). They conclude that inter-institutional gaps are coexisting (because they are nested and may be hierarchical); some inter-institutional gaps may reveal hidden or latent ones; and intermediaries play a crucial role in addressing and creating inter-institutional gaps. In my analysis section, I apply this framework to showcase the present inter-institutional gaps found in Guyana's gold mining sector. My contribution to the academic field generally and to the IIG framework specifically is to expand the understanding of human-environment interactions across scales and dimensions by bringing in notions of institutional corruption, fluidity, and hybridity. The last part of this review seeks to conceptualize illicit government practice in natural resource management through a more

criminologist approach to state power, looking at hybrid political orders and corrupt natural resource management.

1.4 Hybrid Political Orders & Corrupt Natural Resource Management

The above mentioned academic discussions revolve around the complexities of governance practice found in natural resource management systems. Even though Ostrom's vocabulary does not directly include the notion of hybridity, her frameworks serve to understand how power is created and negotiated across institutional dimensions, which alludes to the hybridity of power. My original interest in Guyana dealt with hybrid governance approaches to understand power sharing dynamics between state agents and criminal organizations on the Venezuela-Guyana borderland. Due to feasibility and access, I was unable to pursue this research, but my interests in governance hybridity and the role of criminal action remained. Thus, in this section I wish to review literature which covers both the general interpretation of the "nation state" through the notion of hybridity and by looking at how interactions between levels of (in)formality breed corruption.

Concepts of political hybridity have been outlined by numerous academics in the fields of international relations, development, security, and conflict studies. These studies tend to focus on the dialogue of power between state and non-state governance found in post-colonial states, where a series of territorially grounded networks compensate for the lack of authority of the central, legally constituted state (Bagayoko et. al, 2016).²⁴ Along the lines of PE, the hybrid governance term seeks to expand the conceptualization of the state beyond a Weberian

²⁴ Most literature which uses the term hybrid governance focuses on developing African nations (Colona & Jaffe, 2016, Meagher, 2012, 2014, Reyntjens, 2015)

understanding as a unitary body with the monopoly on violence (Weber, 1987). Statehood is a dynamic process which is, "... enacted through performances of statehood such as the use of symbols, speech acts, uniforms, political rituals and other "sovereign" activities." (Kraushaar & Lambach, 2009, p.4). The pathways and outcomes of hybridization highly depend on contextual variables defining who the actors in contention for power are, revealing the strength or weakness of a central government.

Hybrid governance arrangements are employed to show both positive and negative social outcomes of shared power arrangements as, "The condemnation of non-state order as institutionally destructive has been replaced by its celebration as a vehicle of embedded forms of order and authority." (Meagher, 2012, p.2). Some academics posit that hybridity is the result of informal rule-making, providing for increased security, public goods, and effective governance when the central state is incapable of tending to all citizens. Other academics conversely believe that hybridity results in increased chaos, insecurity, and hindered development. Meagher et. al (2014) observed similar hybrid governance dynamics found in market places in West Africa and the DRC, where arrangements in the former place provided for more integration or cohesiveness than the latter, which proved to be chaotic and unsustainable. The authors contend that, "Hybrid governance interventions not only risk disrupting complex non-state ecosystems, but may strengthen or weaken elements within the state in unpredictable ways.", thus highlighting the "... 'dark side' of hybridity, in which violent or oppressive social practices become embedded in officially recognized governance systems." (Ibid, p.7, p.8). This shows the dynamism involved in (in)formal power construction. Therefore, research into hybrid governance must clarify whether negotiations between state and non-state actors are shaping a social contract, fragmenting formal authority, or empowering illegitimate social forces.

Academics have approached the concept of governance hybridity to explain complex interactions between state and non-state actors through numerous related concepts such as, “twilight institutions” (Lund, 2006), “rebelocracy” (Arjona, 2017), and “negotiated statehood” (Hagmann & Péclard, 2010). In Latin America, hybridity is studied by looking at interactions between states and criminal groups (Arias, 2018, Pinzón & Mantilla, 2020, Rosales, 2019). To analyze inter-institutional gaps in Guyana’s gold governance, I will expand the IIG framework and the conceptions of hybridity to include notions of corrupt institutional resource management by looking at the illicit institutional practices present in Guyana’s gold mining sector.

Studying corrupt practice in developing countries posits some real difficulties for researchers. Corrupt transactions are not recorded nor made available in databases. Empirical observation of corruption can put both researchers and informants in significant danger. However, literature mentioning corruption is increasing, suggesting it is an observable phenomenon.²⁵ Most academics have approached corruption through a Principal-Agent (PA) model, looking at relationships where one set of actors (A), e.g. elected officials, is able to make decisions which impact or influence the decision making process of another set of actors (P), e.g. the electorate. This model assumes that there are different motivations between P and A, namely that P is a “benevolent” principal, A is a self-interested agent, and P’s would hold A’s accountable if they had enough information (Carson & Prado, 2016). These simplistic categorizations have proved insufficient for analyzing multidimensional systemic corruption, leading to research which conceptualizes corruption as a collective action problem, fitting to my analytical framework (Mungiu-Pippidi, 2011, Zapata, 2018, Persson et. al, 2012).

Paul Robbins (2000) provides a theory of natural resource corruption in his journal article, “The rotten institution: corruption in natural resource management”. The term

²⁵ (Shelley, 2020, Tyburski, 2019, Mills, 2020)

“corruption” is a normative one that implies the change of a “good” thing to a “bad” thing, having been criticized because it is value-laden and analytically weak (Robbins, 2000). Robbins challenges these critiques and defines natural resource corruption as, “... the use or overuse of community (state, village, city, etc.) natural resources with the consent of a state agent by those not legally entitled.” (Ibid, p. 425). In the literature, most notably in modernization theory, operational definitions of corruption have emphasized the absence of a strong state and the lack of order, e.g the use of public office for private gains (Bardhan, 1996). In contrast, Robbins conceptualized corruption as an “institution” by viewing alternative norms and practices understood as, “... systematic “networks of deals among individuals”, involving “trust, betrayal, deception, subordination of common to specific interests, secrecy, involvement of several parties, and mutual benefits (material or pecuniary).” (Perry, 1997, cited in Robbins, 2000, p.426). Through case study application Robbins reaches multiple conclusions which are of interest to my study.²⁶

He concludes that corruption must be viewed as an institutional issue rather than individual choices of “bad apples” in government positions as, “... corruption represents the transformation of equitable rules of resource management into inequitable ones through the establishment and reproduction of persistent institutions along strong networks of cooperation between elites and officials.” (Ibid, p.439). His research showed how marginalized communities participate in corrupt systems, giving up particular rights in exchange for opportunities. The porous nature of state rules in local contexts show that civil society and the state are tightly interlinked, especially when it comes to natural resources. Robbins proposes localized institutional reconfigurations as a policy recommendation to curb corrupt practice in NRM, as, “Corruption represents the penetration of non-state relations of power into the state and vice

²⁶ Robbins analyzed a case of corrupt institutional practice in the context of a wildlife sanctuary in Latwara, India.

versa...”(Ibid, p.440), meaning that the state can only operate on the basis of existing power relations (Foucault, 1980).

Studying institutional practices of natural resource management systems is not a simple task. This literature review covered a broad array of conversations, academic fields of inquiry, and theoretical concepts. My aim was to express how NRM situations have been interpreted and discussed by academics and tying in ideas from CPR research, NRM studies, hybrid governance, and corrupt institutional practice. In the next chapter, I provide an extensive contextualization of Guyana’s natural resource management dynamics. Chapter 3 then analyzes the Guyanese context, opening a dialogue with the theoretical approaches here expressed, looking at the inter-institutional gaps of gold governance and considering the implications of corrupt practice across scales.

Chapter II

Gold Mining in Guyana

Actors, Institutions, Regulations, & Corruption

The aim of this section is to provide background on the uniqueness of Guyana's gold mining sector, to better contextualize the present dynamics of this natural resource governance field. I begin by providing information on four dimensions required to understand Guyana's gold governance structure, relaying some historical, political, geographic, and social background. An overview of the mining rules and regulations are discussed, to better situate concepts of legality and formality within the Guyanese landscape. I then move onto who the primary formal and informal actors in the gold mining industry are, to show what sort of interests lie behind their actions. I conclude by providing evidence of the illicit practices that state agents engage in. This context will serve to place my theoretical debate on institutional gaps and natural resource governance within the Guyanese perspective.

2.1 Guyana's Gold Mining Sector Uniqueness: Historical, Political, Geographic, and Social Considerations

Guyana has a complex colonial history, having been ruled by multiple European powers. Christopher Columbus sighted the Guyanese coast in 1492, leading to an early Spanish land claim. The territory was not settled by Europeans until the Dutch began erecting riverine trading posts in 1580. By the mid 17th century, the Dutch were importing large amounts of West African slaves to work on sugarcane plantations, which led to coastal settlements. During the Napoleonic Wars (1792-1815), ownership of the territory oscillated between the British and French, with the

former purchasing various townships and declaring a unified colony of British Guiana in 1831 (Richardson & Menke, 2020). With the abolishment of slavery by 1834, the colonial rulers lost their plantation labor force and resulted to importing roughly 240,000 indentured laborers from the Indian sub-continent.²⁷ There was scattered colonial rule and contested governance until the country's independence in 1966, marking the start of formal institutional building. The "colonial origins" of Guyana's economic underdevelopment are traced by Khemraj (2015), who focuses on colonial administrators' decision to settle on the coast, and the opening of migratory streams that led to an ethnically polarized civil society. He concludes that two exogenous factors, adverse geography and world price competition, created vicious socio-political cycles effective to this day, through price targeting (wage stagnation) and limited structural production change (Khemraj, 2015, 182). These variables partly explain the origins of Guyana's ethnically polarized political landscape.

Post independence, Linden Forbes Sampson Burnham became Guyana's first prime minister under the People's National Congress (PNC) party, supported by the Afro-Guyanese community. He ruled for the following 20 years under the banner of "Cooperative Socialism", nationalizing Guyana's main extractive economies and creating an unstable political landscape marked by the repression of opposition leaders, marred elections, and ethnic violence (Braithwaite, 2020). During this period, the United States government had vested interests in making Guyana a democratic country under Cold War implications, with the CIA funding splinter groups.²⁸ After his death in 1985, Burnham's PNC successor, Hugh Desmond Hoyte, took over and embarked on liberal economic reforms marked by the privatization of industry under IMF/World Bank-supported Economic Recovery Programmes. In 1992, the first free and

²⁷ Reporter, Staff. "EAST INDIAN IMMIGRATION (1838-1917)." Guyana Chronicle, 5 May 2014, guyanachronicle.com/2014/05/05/east-indian-immigration-1838-1917/.

²⁸ Bahadur, Gaiutra. "CIA Meddling, Race Riots, and a Phantom Death Squad." *Foreign Policy*, 31 July 2015, foreignpolicy.com/2015/07/31/guyana-cia-meddling-race-riots-phantom-death-squad-ppp/.

fair elections took place, turning power over to the People's Progressive Party (PPP) under Cheddi Jagan, backed by the Indo-Guyanese population. This saw the onset of increasingly polarized national politics, with Indo-Guyanese and Afro-Guyanese elites competing for power, resources, and votes.

Institutional development was highly hindered in the 1990's, as no local government elections occurred and nepotistic friendships were the primary means of retaining political and economic power (Khemraj, 2016). Divisions deepened and the 1997 and 2001 elections were met with resistance and violence in the streets of the capital city, Georgetown.²⁹ The early 2000's were volatile times, with politically motivated "phantom gangs" murdering elected officials³⁰, protesters, and ordinary citizens (Taylor and Grigsby, 2012). This political instability was further rattled in 2015 by Exxon Mobile's discovery of oil fields, with the PPP forming a coalition government, A Partnership for National Unity (APNU), leading to contested election results. Ethnic party politics increased in vigor and the government collapsed in 2018 after a vote of no confidence.³¹ This opened the stage for the 2020 election, which took 5 months to finalize as former President Granger (APNU) was forced to concede his victory, ushering in Irfaan Ali and his People's Progressive Party (PPP) into power.³² The uniqueness of Guyana's political history is reflected in the operational capabilities of its natural resource management institutions. Because of the bi-partisan and bi-racial makeup of Guyanese society, state officials working within the gold mining sector have been purged and replaced according to the party in power,

²⁹ "Curbing Electoral Violence in Guyana." *Centre For Public Impact (CPI)*, 25 May 2016, www.centreforpublicimpact.org/case-study/cooling-ethnic-conflict-over-heated-elections.

³⁰ Ishmael, Odeen. "Assassination of Agriculture Minister Satyadeow Sawh." *Guyana News and Information*, 21 Apr. 2007, www.guyana.org/sawh/sawh.html.

³¹ Ryan, Holly Eva. "Guyana Elections 2020: A Crude Awakening?: LSE Latin America and Caribbean." *LSE Latin America and Caribbean Blog*, 28 Feb. 2020, blogs.lse.ac.uk/latamcaribbean/2020/02/27/guyana-elections-2020-a-crude-awakening/.

³² Reuter Staff. "Guyana's Ali Sworn in as President after Disputed Vote." *Reuters*, Thomson Reuters, 2 Aug. 2020, www.reuters.com/article/us-guyana-election-idUSKBN24Y0PJ.

with elite connections, nepotism, and informal friendships dictating who the members of regulatory agencies are and whose interests they prioritize.

Another crucial dimension to consider when it comes to Guyana's particularities is its socio-cultural arena. Guyana has a population of only 787,000 people, with the following ethnic composition: East Indian 39.8%, African descent 29.3%, mixed 19.9%, Amerindian 10.5%, other 0.5%.³³ Guyanese emigration rates are some of the highest in the world, reaching about 30,000 people annually, resulting in a diaspora population of roughly 550,000 first-generation expatriate Guyanese (Matera et. al, 2020). More than 80% of Guyanese with a tertiary education level have emigrated, causing a massive "brain drain" issue, leading to a lack of skilled professionals in the fields of medicine, education, and governance.³⁴

The present Venezuelan crisis has driven a large number of asylum seekers across the border, with over 40,000 Venezuelans currently residing in Guyana (Ebus, 2019), of which only 14,125 are registered by the Department of Citizenship.³⁵ Chinese, Russian, Brazilian, and Surinamese nationals are also part of the Guyanese social fabric, many working in natural resource extraction. When it comes to mining, there are deeply rooted cultural implications resulting from both local and foreign dynamics. Many sub-sectors of the Guyanese population such as coastal & interior dwellers, political elites, and a range of foreign nationals are involved in gold mining. There are over 80,000 Amerindians living in the interior of the country across 138 communities (Bulkan & Palmer, 2016). They have a complicated relationship with gold mining, with some engaging in the extractive activity while others come in conflict with miners over environmental and social damages (Hilson & Laing, 2017). This indigenous perspective highlights the very same delicate balance the Guyanese state finds itself in, albeit at a different

³³“Central Intelligence Agency- Guyana.” *Central Intelligence Agency- World Factbook*, Central Intelligence Agency (CIA), 8 June 2021, www.cia.gov/the-world-factbook/countries/guyana/.

³⁴ *Ibid.*

³⁵ Valencia, Cristina. William R. Rhodes Global Advisors , 2020, pp. 1–59, *VENEZUELA'S REFUGEE CRISIS Guyana*.

scale; having to contend with development/modernization on one hand and environmental conservation on the other. The differences in the social fabric of Guyanese society heavily influence the fluidity encountered in the gold mining industry.

Finally, Guyana's geography is examined to garner a fuller picture of the present dynamics. It is one of the most densely forested countries, with approximately 93% of its land surface covered by trees.³⁶ Coupled with the aforementioned colonial legacies, geographic features have led to a divide between coastal populations and interior populations, mostly Amerindian and mining communities (Hilson and Laing, 2017). The lack of investment and development into the interior of the country has led to the majority of the country being considered a periphery, with the state largely absent from most civil interactions in distant forested locations.

Additionally, Guyana is flanked by three other nations (Venezuela, Brazil, and Suriname), marked by porous borders, smuggling activities, and uncontrolled migration (Ebus, 2019/2020). Furthermore, the Venezuelan border is contested by the two governments, resulting in situations of insecurity along the borderland characterized by the presence of Venezuelan organized crime gangs, Colombian paramilitary forces, and corrupt police officials³⁷(Ebus, 2019). Two rivers, the Essequibo and Orinoco, are the primary modes of transportation between the interior and the coast, flowing from the Amazon into the Atlantic ocean. Poor accessibility and a lack of road construction led to the development of informal institutional arrangements in the gold mining sector. The resulting incongruencies and coastal-interior dynamics from Guyana's geography must be considered when discussing the country's natural resource governance.

³⁶ "Guyana." *Rainforest Foundation US*, 13 May 2021, rainforestfoundation.org/our-work/geographies/guyana/.

³⁷ Youkee, Mat. "Guyana's Border Towns Threatened by Violent Gangs as Venezuela Crisis Deepens." *The Guardian*, Guardian News and Media, 2 Aug. 2018, www.theguardian.com/world/2018/aug/02/venezuela-crisis-violence-guyana-border.

The multiple dimensions of Guyana's historic, political, geographic, and social arenas are relayed here to best conceptualize the institutional interaction in the natural resource extraction sector. To further analyze the formal-informal institutional relationships, a more legalist approach is necessary. This next section provides for a brief overview of Guyana's mining regulatory framework, one of the most developed in the world, to understand what is formally considered (il)legal in this extractive industry.

2.2 Exploration of the Mining Regulatory Framework

Mineral extraction has driven Guyana's economic growth for several decades. Most of the mining activity is done by Artisanal and Small-Scale (ASM) miners, who access alluvial gold by dredging alongside the country's many river systems. There are over 15,000 people involved in the ASM mining sector, spread across the interior of the country.³⁸ These miners are often young coastal males venturing into the country's interior hoping to earn quick profits (Laing, 2018).³⁹ The development of Guyana's gold mining sector is heavily shaped by the regulatory framework placed by the state apparatus. A uniqueness of this mining sector is that while it is such an important staple economy, i.e a commodity which dominates an economy's exports (Watkins, 1963), much of the sector is dominated by small and medium scale local actors rather than large scale international companies.

The regulatory bodies involved in the gold mining sector are primarily the Guyana Geology and Mines Commission (GGMC), the Guyana Gold and Diamond Miners Association (GGDMA), the Guyana Gold Board (GGB), the Guyana Lands and Surveys Commission (GLSC), and the Environmental Protection Agency (EPA); most of which fall under the purview

³⁸ "Guyana-Converting to Mercury Free by 2025." PlanetGOLD, UNEP, 2020, www.planetgold.org/guyana.

³⁹ Baverstock, Alasdair. "Meet the Pork-Knockers of Guyana's Gold Rush." *VICE*, 15 Oct. 2014, www.vice.com/en/article/j544by/meet-the-pork-knockers-of-guyanas-gold-rush.

of the Ministry of Natural Resources and the Environment (MNRE) (Bulkan & Palmer, 2016). These organizations are the stewards of Guyana's mineral resources, administering the proper documentation, allocating concessions, monitoring for illegality, promoting and supporting direct investments, enforcing environmental regulations, collecting fees, taxes, and levies, providing permits and licenses, and in general continuing to grow and expand the mining industry while remaining within national and international regulations.⁴⁰

Gold mining has been primarily regulated by the Mining Act of 1989, the Environmental Protection Act of 1996, and the Amerindian Act of 2006.⁴¹ The law vests all subsurface mineral rights to the Guyanese state which has legalized, regulated, and promoted the small-scale mining sector (Laing, 2019). Over 80% of the country's land area is public, administered by the State and divided into three categories: State Forests (60 %), State Lands (23%) and Protected Areas (5 %) (Bulkan & Palmer, 2016). The lack of private property rights grants the State vast powers in regards to where mining can occur and who can conduct it.

The Mining Act of 1989 provides rules and regulations relative to the prospecting, quarrying and mining of minerals, it regulates the exportation of radioactive materials, provides some safeguards for Amerindian land rights, and provides for a legal distinction between small, medium, and large scale mining operations (provision amended in 1993).⁴² This act was passed in a moment of economic liberalization with the aims of attracting foreign investments and entering the global gold market after the socialist experiment of Forbes Burnham (Bridge, 2002). Some interesting characteristics of this legislation are that one must have Guyanese citizenship to operate at small and medium scales, while large scale operations may be conducted by foreign

⁴⁰ "Who We Are." *Guyana Geology and Mines Commission*, Government of Guyana, 2020, www.ggmc.gov.gy/page/who-we-are#:~:text=To%2520provide%2520to%2520the%2520general,be%2520rationally%2520developed%2520and%2520utilized.

⁴¹ Her Majesty the Queen in Right of Canada, 2012, *A Mining Information ToolKit for Guyana*, www.goldsourcemin.com/_resources/guyana/Mining_Information_Kit_for_Guyana_2012.pdf.

⁴² "Mining Act (Cap. 65:01)." *Mining Act (Cap. 65:01)*. | *UNEP Law and Environment Assistance Platform*, UNEP, 2010, leap.unep.org/countries/gy/national-legislation/mining-act-cap-6501.

nationals (Sukrishnalall et al., 2017). It also clearly delineates the scale permitted for each type of mining concession, e.g distance permitted from river banks, private roads, residencies, etc., it provides for the requisites needed to obtain a license, e.g adequate financial resources, technical competence and experience, and comes with higher regulatory burdens, such as the need to submit Environmental Work Plans (Laing, 2019).

In August of 1995, Guyana's only large-scale mining operation at the time, the Canadian owned Omai Gold Mine, had one of its tailing dams breached, spilling 800 million gallons of cyanide-laced water into the Omai river.⁴³ This large scale environmental disaster led to the passing of the Environmental Protection Act in 1996, with the aims of regulating the management, conservation, and protection of the environment, the prevention or control of pollution, the assessment of the environmental impacts of economic development, and the sustainable use of natural resources (Environmental Protection Act (No. 11 of 1996). The act increased the duties to be performed by the GGMC prior to administering licenses, such as detailed geographic mapping and surveying, and began requiring Environmental Impact Assessments (EIA) (large-scale) and Environmental Management Agreements (EMA) (small-scale).⁴⁴ This act ushered in the Environmental Protection Agency (EPA), further institutionalizing environmental considerations. In 2005, increased environmental protections were passed under the amended Mining Regulations, including requirements to rehabilitate the environment post-mining and cleaning up in case of chemical spills (Bulkan & Palmer, 2016). These regulations also protect Natural Parks and conservation areas substantiating consequences with fines of up to GYD \$1000,000 and a maximum prison sentence of five years for recurrent

⁴³ Wilkinson, Bert. "Guyana in Uproar Over Cyanide Spill." *AP NEWS*, Associated Press, 25 Aug. 1995, apnews.com/article/4a312bc37f8f7a20527c6d4eb5c07ab3.

⁴⁴ Her Majesty the Queen in Right of Canada, 2012, *A Mining Information ToolKit for Guyana*, www.goldsourceminers.com/_resources/guyana/Mining_Information_Kit_for_Guyana_2012.pdf.

offenders (GGMC Mining Regulations). Guyanese law clearly dictates consequences for mining illegally.

Considering that 14% of Guyana's national territory is classified as indigenous tenured land, rules and regulations are crucial for ensuring conflict resolution mechanisms and adequate social and environmental protections. The Amerindian Act of 2006 provides a framework for distinguishing land use rights on indigenous titled lands. It declares that the State is still the sole proprietor of subsurface minerals, even in Amerindian lands, provided that the GGMC, "shall first (i) notify the Village and (ii) satisfy itself that the impact of mining on the Village will not be harmful" (Bulkan & Palmer, 2016)(Amerindian Act 2006, Section 53(i-ii)). Miners must also engage with village chiefs in "good-faith" negotiations, requiring the consent of at least two-thirds of those entitled to vote at Village Council meetings (Ibid). Villagers have the power to veto small and medium scale concessions. The GGMC may facilitate such negotiations, but cannot participate in them, leaving lots of room for informality to establish the rules-in-use. Additionally, Amerindian communities have the right to mine themselves on their own titled land, which oftentimes results in conflicts between miners and Amerindians as titled lands and mining concessions easily overlap (Hilson & Laing, 2017).

This section has shown Guyana's substantial regulatory framework in gold mining. These legal provisions are meant to prevent economic, environmental, and social injustice by providing explicit rules and regulations for those involved in gold mining. However, due to numerous variables, such as lack of institutional capabilities, under-staffed agencies, and the nature of ASM, the declared or "formal" rules are rarely followed, while rule-breakers are rarely prosecuted.⁴⁵ How informal or illicit practices, conducted by both government and

⁴⁵ Interview with Janette Bulkan & John Palmer, 21-03-03, on the record.

non-government agents, influence the natural resource extraction dynamics in Guyana will be examined in the analysis chapter. Further research should include a more robust conversation on the Guyanese police apparatus and its judicial system, both being beyond the scope of this thesis.

Let's now turn to who the primary actors involved in Guyana's gold mining sector are. This next section will provide some clarity in relation to who is involved in gold mining across scales, keeping in mind a few dichotomies (large vs small mining, formal vs informal, legal vs illegal, local vs foreign).

2.3 Primary Actors and Stakeholders in Guyana's Gold Mining Sector

Other than the aforementioned regulatory bodies, Amerindian communities, and the variety of ASM, there are other actors with vested economic interests in Guyana's gold mining value chain. The industry is divided in three stages: the extraction process, the transportation/processing stage, and the export stage. Each stage entails different interactions amongst actors on the ground as well as different institutional frameworks meant to regulate the industry. Overall, institutional bodies such as the GGMC, the EPA, and the Guyana Police Force (GPF) operate at each stage of the gold mining process, issuing permits and concessions, monitoring activity, and enforcing the standing rules and regulations. While institutions are the primary focus here, an overview of the complex actor networks found in the gold supply chain will help elucidate unique Guyanese dynamics. These actors are the miners, the brokers, the processors/exporters, the law enforcers, and the buyers.

As mentioned, miners are categorized as small, medium, or large scale miners. Large scale and artisanal and small/ medium scale miners differ primarily in the, "... (i) technology deployed, (ii) compliance with environmental and safety standards, (iii) formal declaration of

gold produced and payments of royalties...” (Sukrishnalall et al., 2017, pg. 3). The former follows a more centralized/formal power structure while the latter a more decentralized/informal one. Even though only Guyanese nationals are legally allowed to hold small scale concessions, there are a number of foreign nationals, mostly Brazilian *garimpeiros*⁴⁶, involved in ASM throughout the country. Foreign nationals also operate across scales of legality, formality, and size. There are Chinese nationals involved in medium and large scale mining, exemplified by the acquisition of the Canadian Guyana Goldfields company by the Chinese state affiliated Zijin Mining company in 2020.⁴⁷ Due to favorable political relationships between the Guyanese and the Chinese governments, Chinese nationals are known to have their Guyanese citizenships fast-tracked to grant them mining concessions.⁴⁸

There are two large scale mines registered on the market with active operations, the Aurora mine, operated by Zijin Mining, and the Karouni mine, operated by Troy Resources. Both companies are foreign owned and employ a relatively low number of local workers. They had a combined declared production of 186,584 ounces of gold in 2019, about 25% of the reported gold declarations for that year.⁴⁹ There are also a number of non-mining economic activities that exist because of the mining sector, such as the supply of equipment, food, fuel, mercury, and a range of other services such as banking, transportation, security, insurance, and equipment repair (Thomas, 2009). The ASM sector entails a much broader field of actors than large scale operations. These small-scale miners sell off their gold to various brokers, while large operations sell directly to the only authorized gold seller, the Guyana Gold Board (GGB).

⁴⁶ In Portuguese, *garimpeiros* are independent prospectors for minerals, i.e. illegal miners.

⁴⁷ Daly, Tom. “China's Zijin Mining to Buy Guyana Goldfields for \$238 Mln.” *Reuters*, Thomson Reuters, 12 June 2020, www.reuters.com/article/guyana-goldfields-zijin-mining-idUSL4N2DP2LZ.

⁴⁸ Interview with Timothy Laing, 21-03-03, on the record.

⁴⁹ ITA. “Guyana - Mining and Minerals Sector.” *International Trade Administration | Trade.gov*, 21 Jan. 2020, www.trade.gov/country-commercial-guides/guyana-mining-and-minerals-sector. (Bureau of Statistics).

Gold brokers in Guyana can operate formally and informally, legally or illegally. There are eight authorized gold dealers spread throughout the country, entities who purchase gold from miners and then pass it onto the GGB to sell internationally.⁵⁰ Through investigation, it has been made clear that some of these gold dealers buy illicitly sourced gold. Bram Ebus interviewed such a dealer who admitted to buying Venezuelan gold and laundering it through the legal system (Ebus, 2020). Small planes carrying roughly 200 kg of gold allegedly fly into Guyana from Venezuela as regularly as twice per month (Ibid).

Concession holders play a large part in how gold is transported from the miners to the eventual re-sellers. Oftentimes, elites with political connections own many concessions which they rent out to miners, charging miners a percentage of the mined gold (Bulkan & Palmer, 2016).⁵¹ These rent-seeking arrangements place concession holding elites in the position of brokers as they must pass on their gold earnings through the system, legally or illegally. When it comes to illegally sourced gold, brokers also play an important part in the value chain. Miners with proper authorization purchase illicit gold to then sell “legally”. Criminal organizations, such as Venezuelan *Sindicatos*, are known to have vested interests in Venezuelan gold mining, which inevitably pours over the Guyanese border in search for a legal exit point (Ebus, 2019).⁵² These groups need local contacts, the brokers, on the ground to keep their shady activities running. Once gold reaches the capital city of Georgetown, there are many people involved in the processing and exporting of the precious metal.

⁵⁰ GGDMA. “AUTHORIZED GOLD DEALERS OF THE GUYANA GOLD BOARD.” *Guyana Gold & Diamond Miners Association*, 1 Mar. 2019, ggdma.com/pressnews/authorized-gold-dealers-of-the-guyana-gold-board/.

⁵¹ Interview with Timothy Laing, 21-03-03, on the record.

⁵² These dynamics are exacerbated by the fact that many countries have placed sanctions on Venezuelan gold and that the Venezuelan state heavily relies on mining revenues for their state revenues (either gathered legally or illegally).

“Treasury Sanctions Venezuela’s STATE Gold Mining Company and Its President for Propping Up Illegitimate MADURO Regime.” *U.S. Department of the Treasury*, 19 Mar. 2019, home.treasury.gov/news/press-releases/sm631.

The smelting process of the gold mining industry is crucial for amalgamating small quantities of gold into ingots or jewelry. There are hundreds of informal gold shops found throughout the country. This process portrays an important quality of gold, the ability to melt it down together, making the tracing of the metal's origin impossible. There are no large scale refineries in Guyana, meaning that most of the smelting is done in precarious conditions by local laborers who face a multitude of health risks, most critically mercury poisoning (Ibid). The Guyanese jewelry business is another processing actor, buying gold either directly from the GGB, authorized dealers, or through a range of informal connections. There is cultural value associated with gold, with many Guyanese purchasing and wearing gold jewelry, formulating the local market.⁵³ However, a large portion of assembled gold jewelry is either sold or smuggled internationally, with goldsmiths often caught trying to travel while wearing over USD\$ 10,000 worth of undeclared gold.⁵⁴ Due to the vast array of actors, scales of formalities/legalities, and the high value that gold enjoys, there are various law enforcement actors commissioned to monitor for and prosecute illegal activities.

The Guyana Police Force oversees a broad range of local criminal activity; it is responsible for shutting down illegal mining operations, tracking smuggled goods, and seizing illicit equipment and materials. The Guyana Defence Force (GDF) is the military unit of law enforcement and their role in the gold mining sector is to monitor borderlands and serve against national security threats. The GDF has been beefing up its presence on the Venezuelan border ever since violence, extortions, and smuggling activities have ramped up after the onset of the Covid-19 pandemic.⁵⁵ Other organizations such as the Customs Anti-Narcotics Unit (CANU) and

⁵³ Stabroek News.. "All That Glitters." *Stabroek News*, 24 Sept. 2020, www.stabroeknews.com/2020/09/24/opinion/editorial/all-that-glitters/.

⁵⁴ Stabroek News. "Better Hope Goldsmith Sues Gov't for \$10M over Jewellery Seized at Airport." *Stabroek News*, 23 Jan. 2016, www.stabroeknews.com/2016/01/23/news/guyana/better-hope-goldsmith-sues-govt-10m-jewellery-seized-airport/.

⁵⁵ Staff, Writer. "Venezuelan Gangs Still Remain a Threat at Guyana's Borders – Army Chief of Staff, Bess." *Kaieteur News*, 15 Jan. 2021, www.kaieteurnews.com/2021/01/15/venezuelan-gangs-still-remain-a-threat-at-guyanas-borders-army-chief-of-staff-bess/

the Special Organized Crime Unit (SOCU) work alongside the broader law enforcement agencies and dip their toes in gold law enforcement. Shadow economies tend to follow each other and the same actors attempting to smuggle gold and mercury also transport drugs, people, and other illicit commodities. Guyana is a crucial exit point for South American cocaine to reach the European market, which is why CANU is interested in illicit smuggling networks.⁵⁶ SOCU primarily focuses on financial crimes such as money laundering, targeting elites and politicians.

On the environmental front, the EPA, the MNR, and the GPF work collaboratively to ensure environmental protections against mining. In 2017, the Ministry Corp of Wardens (CoW) Division was established in response to illegal mining practices in nature reserves. Operation “Forest Shield” was launched in 2020, teaming the CoW with the GPF to go into natural reserves and arrest culprits mining illegally or trading mining supplies in or near protected areas.⁵⁷ Additionally, Customs officers working at ports and airports, checkpoint officers working for the Guyana Forestry Commission (GFC), and private security forces may also be involved at some stage of the law enforcement of gold mining. The effects of the institutional overlap between various agencies will be analyzed next by looking at the illicit practices that institutional actors engage in.

The last actor in the gold supply chain is the buyer. In Guyana, depending on the scale of analysis, there are many gold buyers fitting the dichotomies previously presented. In mining towns such as Ethingbang, gold is used as a primary currency and one can purchase anything from foodstuff to prostitution services, and even pay rent with gold (Ebus, 2019). The informal or parallel gold economy can be found throughout the country as people barter and trade the high

⁵⁶ Jones, Katie. “Corruption, Containers, Cocaine: Guyana's Role In Transnational Drug Trafficking.” *InSight Crime*, 1 Dec. 2020, insightcrime.org/news/analysis/corruption-containers-cocaine-guyana/.

⁵⁷MNR. “Press Release – Ministry of Natural Resources Wardens Corp Leads Monitoring and Enforcement Exercise to Combat Illegal Mining in Iwokrama Protected Area – Operation ‘FOREST SHIELD’ a Success.” *Ministry of Natural Resources*, 11 Aug. 2020, nre.gov.gy/2020/05/13/press-release-ministry-of-natural-resources-wardens-corp-leads-monitoring-and-enforcement-exercise-to-combat-illegal-mining-in-iwokrama-protected-area-operation-forest-shield-a-s/.

value commodity. When it comes to international buyers, the transactions tend to be more formal and “legal”. Guyana sells its gold globally to governments and private companies. The Canadian Mint purchased Guyanese gold for a long time to fill its coffers, recently having ended all business deals after they suspected the El Dorado trading company of selling illegally sourced Venezuelan gold.⁵⁸ Jewelry companies, tech companies, and other powerful international companies such as Tesla are also buyers of Guyanese gold, incorporating the metal into millions of consumer products.⁵⁹

This overview of the actors involved in the Guyanese gold mining industry serves to understand how complex and multi-dimensional the institutional interaction with natural resource extraction is. I now turn to the evidence, accumulated through interviews and secondary sourcing, highlighting cases where state agents collude with criminal dynamics or engage in illicit activity, undermining their regulatory powers.

2.4 Empirical Evidence of Illicit Practice

Government corruption, nepotism, and state-crimes are not uncommon in Latin America. Illegality can be interpreted through numerous analytical lenses, depending on the type of crime (financial, violent, environmental, etc) and who the culprits and the victims are. The definition of criminality has been debated thoroughly in academia, depending on the interpretation of the “State” and the legal frameworks erecting international and domestic law. In order to better operationalize this conversation on the illicit practices performed by Guyanese authorities within the gold mining sector, I build upon the definition offered by the American criminologist

⁵⁸ “Canadá Dejó De Comprar Oro a Una Empresa De Guyana: Sospecha Que Está Ligada a La Minería Ilegal En Venezuela.” *Infobae*, Infobae, 4 Jan. 2021, www.infobae.com/america/venezuela/2021/01/04/canada-dejo-de-comprar-oro-a-una-empresa-de-guyana-sospecha-que-esta-ligada-a-la-mineria-legal-en-venezuela/.

⁵⁹ Tomaselli, Wes Micheal. “The Illegal Gold In Your Phone Is Slowly Poisoning the Amazon.” *VICE*, 18 Sept. 2020, www.vice.com/en/article/m7jy9a/the-illegal-gold-in-your-phone-is-slowly-poisoning-the-amazon.

William Chambliss, who defined state-crime as, “acts defined by law as criminal and committed by state officials in pursuit of their jobs as representatives of the state” (Chambliss, 1989. p184). However, when it comes to the motivation of government officials in Guyana, this definition does not suffice as their primary aims are not only to retain their political position, but to also benefit personally in financial terms and provide kick-backs to their voters.⁶⁰

Guyanese criminality must thus be conceptualized not only as state officials breaking international or domestic laws, but also performing illicit practices in states of ambiguity, which may be considered “legal” in legislative terms but are still unjust and problematic. In accordance with Heyman and Smart (1999:1) I, “...view the state as complex, not unitary, and the state-society relationship as processual, not static.” Complex state-society relationships showcase how informality and illicit practice dialogue with standing rules and regulations, resulting in governance fluidity and hybridity. These illicit practices range from large scale financial frauds to low scale bribery rings and officials turning a blind eye to illegality. By talking to a range of local journalists, GGMC officials, and academics who have researched the gold mining sector, I have discerned some of these illicit practices and potential consequences.

Corruption was mentioned in each of my 12 interviews I conducted on behalf of InSight Crime, a very logical development considering I was in search of information regarding environmental crimes in Guyana. Janette Bulkan and John Palmer of Vancouver University were very critical of the GGMC, GFC, and of politicians in the higher echelons of society. Throughout their research they consistently encountered instances of bribery found at various interior checkpoints that are meant to monitor the transportation of natural resources.⁶¹ Timothy Laing of Sussex University also alluded to such schemes, mentioning that GFC and GGMC officers are

⁶⁰ Kick-backs are the results of negotiated bribes, implying collusion rather than extortion.

⁶¹ Interview with Janette Bulkan & John Palmer, 21-03-03, on the record.

poorly paid and tasked with a broad range of responsibilities, leading to bribes being accepted in order to pass on illicitly sourced timber or gold.⁶² Logistically, it is impossible for the 11 GGMC officers to monitor the 9000+ legal gold mining concessions in the country (Bulkan & Palmer, 2017). Because there exists a complex parallel gold economy, it is relatively easy for officials to request bits of gold in exchange for not prosecuting those mining illicitly. A reporter for the Demerara Waves newspaper said that oftentimes, inspecting officers are in cahoots with illegal miners and communicate the date of their inspections ahead of time, allowing for makeshift operations to escape before law enforcement arrives.⁶³ The government has been aware of these dynamics for years, with the Natural Resources and Environment Minister in 2013, Robert Persaud, admitting to the presence of, “shakedowns, getting officers to look the other way and preferential treatment in the gold-mining sector”.⁶⁴ As a response, Guyana signed onto the internationally renowned Extractive Industries Transparency Initiative (EITI) with the hopes of ensuring a higher level of transparency and accountability when it comes to natural resource management. However, 8 years later the same nepotistic and opportunistic bribery scenarios still play out. Local journalist Alva Solomon explained how police officers are also involved in a variety of illicit activity indirectly related to gold mining, such as the smuggling of fuel and drugs in borderland areas.⁶⁵

When discussing state-crimes, people in high levels of government must be considered. In this sense, it is difficult to discern exactly how illicit practice unfolds behind closed doors and through informal network arrangements. These relationships depend on who holds political office within an analyzed time-space. However, it is evident that a lack of government action and

⁶² Interview with Timothy Laing, 21-03-03, on the record.

⁶³ Interview with anonymous reporter from the Demerara Waves, 21-03-15, on the record (Anonymous)

⁶⁴ Stabroek News. “Guyana Looks to International Mining Sector Transparency Standards.” *Stabroek News*, 5 Sept. 2013, www.stabroeknews.com/2013/09/06/business/guyana-looks-to-international-mining-sector-transparency-standards/.

⁶⁵ Interview with Alva Solomon, Guyanese freelance journalist. 2021- 02-25, on the record.

legal prosecution on behalf of the state against gold smuggling and illegal mining also constitutes “soft” criminal behavior. Ex-president and current vice-president Bharrat Jagdeo has been accused on multiple occasions of facilitating money laundering and corruption at a massive scale during his time in office (1999-2011).⁶⁶ Samuel Sittlington who worked for SOCU also spoke of this scale of criminality, mentioning that both the current and former president have been audited for financial crimes related to gold and drug smuggling, but that no politicians ever get brought to justice in the Guyanese court system.⁶⁷ The US Department of Homeland Security and the FBI also attempted to launch a probe into gold smuggling operations in 2016, as they suspected that up to 50-60% of gold mined by ASM was being smuggled out of the country.⁶⁸ The probe was swiftly abandoned; Janette Bulkan believes that political motives and involvement were to blame.⁶⁹

Another area susceptible to “soft” criminality is found in political decisions taken prior to mining, in the concession administration process. Oftentimes, mining concessions are granted to political allies who rent out their concessions to small scale miners. This is not a necessary step considering that the costs for miners to earn concessions are less than USD \$100 and yearly fees only USD \$5 (Hook, 2019). Additionally, mining concessions renew automatically each year, leading to overlapping concessions and contested territorial claims between miners and between miners and Amerindian communities (Ibid). These informal dynamics make it much harder for organizations such as the EPA to monitor environmental assessment plans and for the GGMC to know where active mining sites are.

⁶⁶Chabrol, Denis. “International Documents Show ‘Massive Scale of Corruption and Money Laundering’ during Jagdeo Era -SARA.” *Demerara Waves Online News- Guyana*, 20 Apr. 2018, demerarawaves.com/2018/04/20/international-documents-show-massive-scale-of-corruption-and-money-laundering-during-jagdeo-era-sara/.

Interview with Janette Bulkan & John Palmer, Vancouver University, 21-03-03, on the record.

⁶⁷Interview with Samuel Sittlington of SOCU, 21-02-16, on the record.

⁶⁸Wilkinson, Bert. “US to Help Guyana Crack down on Gold Smuggling.” *AP NEWS*, Associated Press, 7 Jan. 2016, apnews.com/article/19732da7efa84a47a37a7601234c0c9c.

⁶⁹Interview with Janette Bulkan & John Palmer, 21-03-03, on the record.

These informal arrangements, illicit practices, and outright collusion with illegal actions place Guyanese institutions in the precarious situation of having to balance between enforcing their own rules and profiting, either personally or in elite enclaves, from the illegality present in the gold mining sector. The various entanglements and network arrangements found in Guyana's gold mining sector create a high level of hybridity when it comes to natural resource governance. The next section of this thesis will place this Guyanese context into an institutional development analysis by applying the Inter-institutional gap framework presented by Rahman et. al (2017) and adding the concept of "dirty entanglements".

CH III

Inter-Institutional Gaps in Guyana's Natural Resource Management

Multi-faceted Corruption in the Guyanese Gold Mining Sector

Guyana's natural resource management is riddled with a motley of actor interactions spanning across formal-informal, legal-illegal, small-large scale, state-non-state, and private-public divides. Gold mining is a dangerous and environmentally destructive activity that brings in a substantial amount of revenue for individuals, corporations, and the Guyanese state. It is thus subject to a number of discrepancies, parallel sets of informal rules, and corrupt practices which *may* lead to conflict situations, unequal distribution of resource wealth, and environmental degradation.

In order to better understand these dynamics, this final chapter seeks to uncover the inter-institutional gaps found in Guyana's gold mining sector, narrowing my analysis on corrupt institutional actions. I will begin by identifying the types of corruption present, explaining how the three different levels of analysis from the aforementioned literature play out in Guyana. I then apply the core concepts from the IIG framework to see the gaps existing across levels of institutional (in)formality. A concept contribution will then be made, looking at how "dirty entanglements" (Shelley, 2014) can serve to understand inter-institutional gaps arising from corruption. I conclude the section by presenting discovered gaps, explaining their influence on Guyana's socio-ecological landscape. This analysis is meant to be an exploratory process employed to handle the complexity found in this NRM sector and therefore does not aim to provide insight into the relative weight or importance of the types of corruption present nor of the inter-institutional gaps analyzed.

3.1 Types of corruption & the different rule levels found in Guyana: Operational choice, Constitutional choice, & Collective action choice arenas.

As an industry, gold mining impacts multiple sectors of society. My research focused on the multi-level governance found in the sector, emphasizing informal dealings and illicit practice. Therefore, corruption is present in numerous forms and can permeate through all three levels of analysis presented in the IIG framework (operational, constitutional, and collective choice). I will begin by providing an overview of the types of corruption most prevalent in Guyana, then analyze the action arenas these choices are taken in.

Corruption in Guyana, similarly to many developing countries, can be conceptualized on three scales. On one hand there is bureaucratic “petty” corruption, characterized by the corruptibility of low-wage public servants, i.e bribes, extortions, pay to play, nepotism, etc. (Chêne, 2010). Examples include GGMC officers who take bribes from illegal miners and customs officers turning a blind eye to under-reported gold exports.⁷⁰ On the other hand, is grand scale political corruption, characterized by the misappropriation of public funds, granting government contracts to favorable allies, and political involvement with underground criminal organizations (Ibid). Examples include Guyana’s rentier arrangements over mining concessions and the syphoning of international funds into private political hands (Bulkan & Palmer, 2017). Graycar (2015) provides for a great analogy for this distinction, with petty corruption falling in the realm of the “flies”, between lower power positions, while large-scale, systematic corruption is conceptualized as in the realm of “tigers”, in the higher echelons of politics.⁷¹ The distinction

⁷⁰ Interview with Janette Bulkan & John Palmer, 21-03-03, on the record.

⁷¹ This vocabulary comes from a 2013 speech given by Chinese President, Xi Jinping. In it, he vowed to fight corruption against both “flies” and “tigers” by, ““resolutely investigating law-breaking cases of leading officials and also earnestly resolving the unhealthy tendencies and corruption problems which happen all around people.”

Branigan, Tania. “Xi Jinping Vows to Fight 'Tigers' and 'Flies' in Anti-Corruption Drive.” *The Guardian*, Guardian News and Media, 22 Jan. 2013, www.theguardian.com/world/2013/jan/22/xi-jinping-tigers-flies-corruption.

showcases the scales of power found in institutions able to manipulate state instruments for their own personal benefit through kleptocratic behavior. Flies are much easier to swat than tigers. The third scale of corruption present in Guyana can be understood as “state capture”, a situation which can, “...arise where legislation, formally developed and properly passed by the legislature or parliament, grants benefits in a corrupt manner.” (Graycar, 2015, p.88). This last scale of corruption is not evident in the gold mining sector and has been analyzed by looking at how ethnic divisions play out in politics, with political parties “capturing the state” in order to benefit their voting base (Edwards, 2017).

The way in which corruption plays out in a NRM sector highly depends on institutional and democratic integrity and information transparency in governments. This involves the public’s perception of these variables. Guyana ranked 83/180 in the 2020 Transparency International Corruption Perceptions Index, with a score of 41 (Transparency International, 2020). The index uses a scale of zero to 100, where zero is highly corrupt and 100 is very clean. Guyana is also one of the poorest South American countries, with 43.4% of the population earning less than US\$ 5.50 daily per person, and a 39% emigration rate.⁷² Civil society and the media are acutely critical of Guyana’s poor political, economic, and environmental governance systems. They implore politicians to transform governance practice and increase civil society’s participation in decision making at the national, regional, and local levels (Da Silva, 2021). These voices represent the members of society who do not directly benefit from the gold mining sector.

The flies and tigers present in Guyana’s gold mining sector operate at each of the action levels presented by Ostrom’s frameworks, guided by the corresponding rule levels. Operational

⁷² “The World Bank in Guyana.” *World Bank*, 26 Jan. 2021, www.worldbank.org/en/news/factsheet/2020/09/02/the-world-bank-in-guyana.

choice rules are, "... the day-to-day decision making rules, which determine the actions of different institutional actors in a system." (Rahmen et. al, 2017, p.828) Decisions taken at this level directly affect resource access and use and can be formulated in formal and informal institutions. In Guyana's gold mining sector, actors making decisions at this level include GGMC officers (formal), Amerindian community leaders— *Toshaos* (informal), managers of protected areas, miners (legal & illegal), and criminal organizations. Operational rules may rise in an informal manner from the collective demands and actions of mining communities outside the formal state's purview.

Guiding operational rules of natural resource management are collective choice rules, involving decisions, "...to determine, enforce, continue or alter action authorized within institutional arrangements." (Schlager & Ostrom, 1992, p.76). These rules structure institutional arrangements for rule enforcement. The actors involved are the state's regulatory bodies, including GGMC officers, GPF officers, customs officials, and ministers working in the EPA. This is where official working rules are decided within formal institutions. Informal collective choices are social norms decided by communities, drug & gold trafficking organizations, concession holding elites, and the plethora of local and foreign small-scale miners who operate in Guyana.

Guiding these collective choice rules are constitutional rules. Constitutional rules are the highest level of the rule hierarchy, determining who takes part in the collective choice making process (Clement, 2010). Formal constitutional rules are legislative policies dictating who holds legal access to mining concessions, the consequences of illegal mining, and any official rule included in the mining regulatory framework presented by the state. Informal constitutional rules usually relate to customary sets of rules, passed down through generations to local villagers by

elected elders. In both cases, they are top-down rules dictating who holds power to influence lower tier rules. When it comes to gold mining in Guyana, these constitutional rules were described in the section on the mining regulatory framework. Informal constitutional rules most aptly apply to the Amerindian population, which includes over 70,000 people.⁷³ These villages operate at a range of formality, some being represented in regional government, thus following formal constitutional rules, and others operating on the state periphery, guided by traditional (informal) constitutional rules. Guerilla groups such ELN and other organized crime groups operating near the Guyanese border can also be considered informal institutions, considering that the formal Venezuelan state claims sovereignty over a large part of Guyanese territory, instigating these criminal organizations to exert territorial control.⁷⁴

The Guyanese gold mining sector is managed through a web of formal and informal institutional decisions taken at different rule-making levels. Different actors with different motives (opportunity vs necessity) can make decisions across these dimensions, impacting the entire system. By viewing the polycentric nature of NRM and the resulting gaps between informal and formal institutional management practices, a more complete view of Guyana's gold mining sector can be garnered. Fluidity and hybridity are crucial concepts to keep in mind as both state officials and private individuals are involved in multifarious power sharing arrangements, oftentimes involving illicit exchanges of money, resources, favors, and goods. By applying the IIG framework I intend on demonstrating some potential consequences of inter-institutional gaps and NRM corruption.

⁷³ Bulkan, Janette, and John Palmer. "Indigenous World 2020: Guyana." IWGIA, 2020, www.iwgia.org/en/guyana/3623-iw-2020-guyana.html. International Human Right Clinic, Human Rights Program, Harvard Law School, 2007, All that glitter: gold mining in Guyana <http://www.law.harvard.edu/programs/hrp/documents/AllThatGlitters.pdf>

The 9 groups are the Arawaks, Akawaio, Arecuna, Macushi, Warrau, Wapisiana, Wai Wai, Patamona, and Carib, collectively known as Amerindians.

⁷⁴ Staff. "ELN in Venezuela." *InSight Crime*, 28 Jan. 2020, insightcrime.org/venezuela-organized-crime-news/eln-in-venezuela/.

3.2 Applying the Inter-Institutional Gaps Framework and Concepts to the Guyanese context.

Through the application of their IIG framework, Rahman et. al (2017) aim to better conceptualize the interconnectivity of different rule levels between formal and informal institutions in natural resource management systems. The framework is divided between the formal-informal categorization of institutions, and constitutional and non-constitutional rule levels governing actions across the three levels of rules-in-use. For analytical clarity, the authors combine collective choices and operational choices under the non-constitutional rule level due to their similarities when it comes to levels of rigidity and enforcement (Ibid, p.833). Because there are so many actors involved in Guyana's gold governance system, the application of this framework is appropriate as it demonstrates where & why certain incongruencies exist and what the socio-ecological consequences of such dissonance are.

In this section, I situate the aforementioned core concepts of the IIG framework in the Guyanese gold mining context, determining if they are of analytical relevance to my research case. Each term represents a certain inter-institutional gap, requiring analysis by considering local, regional, national, and international context dynamics. After analyzing how legal pluralism, institutional void, structural hole, and cultural mismatch help explain Guyanese inter-institutional gaps, I contribute an additional term to the framework, "dirty entanglements", in order to see if the confluence of crime and corruption lead to further inter-institutional gaps.

3.2.1 Legal pluralism: gap between constitutional rules of both formal and informal institutions

Legal pluralism explains situations where the formal authoritative constitutional rules do not recognize parallel informal constitutional rules. In Guyana, this gap is clearly present in the

interactions between Amerindian communities and miners regarding overlapping concessions. Amerindians are granted the right to mine on their own lands by state law (formal) but may choose to view gold mining through their own customary rules (informal). Mining concessions are granted and renewed ad hoc, without the proper monitoring or land assessments, leading to misunderstandings and violent conflicts between miners and Amerindians (Hilson & Laing, 2017). This term has been restricted to viewing dichotomous relationships between former colonial powers and indigenous customary constitutional rules. However, I argue that this concept can also be employed to understand a gap within Guyana's formal constitutional rules. Guyana has signed on to various international agreements for environmental conservation⁷⁵ and mercury use reduction (UN Minamata Convention, 2014). These international constitutional rules are not followed as deforestation at the hands of legal and illegal mining continues and mercury is still used by 99% of ASM, thus showcasing a legal pluralism gap between Guyana's national and international regulatory promise and its performance.⁷⁶

⁷⁵ Guyana signed a Voluntary Partnership Agreement (VPA) on Forest Law Enforcement, Governance and Trade (FLEGT) with the European Union in order to curb the trade of illicitly sourced wood in 2018. As part of the agreement, Guyanese regulatory agencies were supposed to update their monitoring systems and ensure compliance with international rules and regulations.

Sharples, Carynia. "Guyana Signs on to Forest Management Agreement with the EU." *Mongabay Environmental News*, 28 Jan. 2019, news.mongabay.com/2019/01/guyana-signs-on-to-forest-management-agreement-with-the-eu/.

The REDD+ program is a carbon emission trading scheme launched by the United Nations which allows more developed countries who emit high levels of CO₂ in the atmosphere, to pay developing countries with a lower carbon footprint in order to off-set their emissions. Norway has been in partnership with the Guyanese government since 2009, offering USD\$ 250 million to help conserve Guyana's rainforest and better monitor environmental crimes. The effectiveness of these efforts has been contested, with many alluding to high level corruption impeding the positive implementation of such programs.

Popkin, Gabriel. "Guyana Refutes Findings That Deforestation Skyrocketed after REDD+ Payments Stopped." *Mongabay Environmental News*, 25 Nov. 2019, news.mongabay.com/2019/11/guyana-refutes-findings-that-deforestation-skyrocketed-after-redd-payments-stopped/.

⁷⁶ Michelle Kalamandeen and David Galbraith. "Gold Mining Leaves Deforested Amazon Land Barren for Years, Find Scientists." *The Conversation*, 21 Aug. 2020, theconversation.com/gold-mining-leaves-deforested-amazon-land-barren-for-years-find-scientists-141639.

3.2.2 Institutional void: gap between constitutional rules of formal institutions and non-constitutional rules of informal institutions

Institutional void refers to situations where formal institutional actors are not present in a place specific context, leading to a lack of cooperation or synchronization with informal institutions guided by local collective choice rules (Rahman et. al, 2017). In Guyana, geopolitical developments are the principal culprits for this gap. Most gold is mined in the interior of the country, far away from population centers and the eyes of state regulators. An understaffed and underpaid GGMC staff is unable to make state presence felt in all mining towns, leading to an institutional void filled by local power dynamics (International Human Right Clinic, 2007). The town of Ethingbang is a concrete example, where even police officers who are representing the state follow the informal institution's (the mining town) non-constitutional rules as they engage in gold bartering, extort miners, and continue allowing illicit practices like drug trafficking and prostitution (Ebus, 2018). Another potential institutional void is seen through the absence of state authority in providing security for the country's interior, leading many landowning elites who manage mining concessions to hire private security forces, filling a security void through non-constitutional action⁷⁷. This gap demonstrates the power and authority shared between the formal state and informal institutional arrangements.

⁷⁷ Interview with Alva Solomon, Guyanese freelance journalist. 2021- 02-25, on the record.

3.2.3 Structural hole: gap between non-constitutional rules of both formal and informal institutions

A structural hole is understood as a gap between institutions who have complementary sources of information but no direct or indirect repetitive relations (Burt, 2004). Actors on either side of the structural hole have access to different flows of information, requiring brokering actors to mediate between them. Government bureaucrats, local community leaders, and natural resource users can act as information middle men, bridging formal and informal institutions in order to increase cooperation and positive relationships. If these brokering actors are inexistent, inefficient, or corrupt, the structural hole allows for the hijacking of information flows for personal benefits. In the Guyanese gold mining context, a structural hole is present between GGMC officers, Amerindian communities, landowning elites, and ASMs. Government agencies are supposed to keep the public informed in terms of active concessions, provide for justice mechanisms, and ensure an equitable extractive process. The polycentric nature of the natural resource governance arrangements creates enclosed networks (miners, officers, Amerindians) which operate based on their own wants and needs, with a relatively low number of legal brokering agents. Illegal practice is worth noting here. Gold mining brokers hold vast power in Guyana, illicitly buying mined gold in the country's interior and funneling it into legal markets. Foreign criminal organizations such as Venezuelan *sindicatos* heavily rely on local brokers for continuing their illegal operations (Ebus, 2020). These brokers are guided by operational choices made in states of ambiguity between formal and informal non-constitutional rule levels. Lack of clear channels of communication hinder the legal gold mining sector while open channels of

communication between illicit actors, corrupt gold buyers and officers prone to bribes, allow for the continuation of the illegal market.

3.2.4 Cultural mismatch: gap between constitutional rules of informal institutions and non-constitutional rules of formal institutions

Inter-institutional gaps also arise from a disconnect between members of formal and informal institutions because of misunderstood cultural practices (Hodge, 2011). This applies to formal institutions not recognizing local power structures, as well as from the viewpoint of informal natural resource managers, who view the presence of state regulators as an intrusion. In Guyana, this results from the cultural differences of the actors involved in the gold mining sector. A vast majority of ASM are coastal dwellers with an entirely different relationship to nature and the environment than local Amerindians or mining communities. Coastal miners are less likely to conduct environmental assessments as they view the forest primarily as an economic opportunity rather than an ecosystem that sustains their way of life.⁷⁸ On Amerindian lands, the illegal practice of “tributing”⁷⁹, is a popular norm arising from misunderstandings with the laws (Hook, 2019). Cultural mismatches also occur because of the high number of foreign nationals working in the Guyanese gold mining sector. There are Brazilian, Surinamese, Chinese, and Venezuelan nationals working in Guyana, each bringing their own set of cultural practices and ethical parameters. Brazilian *garimpeiros*, for example, are known for unsustainable and dangerous mining, often accused of invading indigenous territories and human rights infringements.⁸⁰

⁷⁸Interview with Timothy Laing, 21-03-03, on the record.

⁷⁹Where both indigenous and non-indigenous miners pay indigenous villagers in order to mine on their lands.

⁸⁰HR Watch. “Brazil: Remove Miners from Indigenous Amazon Territory.” *Human Rights Watch*, 24 May 2021, www.hrw.org/news/2021/04/12/brazil-remove-miners-indigenous-amazon-territory.

Because the Guyanese law states that all ASM must be local citizens, most foreign nationals operating in the country work illegally.

3.2.5 “*Dirty Entanglements*”: gap between non-constitutional rules of informal and formal institutions

Based on my research process and the responses of my interviewees, I focused my analysis on corrupt practices found within institutional levels. Corrupt practice itself demonstrates fluidity between the formal and informal, requiring additional analysis into the gaps it creates. I aim to contribute to the IIG framework by adding a sensitizing concept from the field of criminology, that of “dirty entanglements”. This concept looks at the nexus between crime, corruption, and terrorism and is able to expand the IIG framework by including notions of illegality and systematic corruption, which are missing from the current analysis of NRM systems.

In her 2014 book, “*Dirty Entanglements: Corruption, Crime, and Terrorism*”, public policy scholar Louise Shelley explores how government corruption facilitates criminal activity and terrorism across regions of the world. In explaining modern criminal dynamics heavily influenced by globalization, Shelley speaks of “new” transnational crime. These new age criminal organizations have short sighted economic interests which clash with the interest of any particular state. They thrive in environments of institutional weakness or absence, depending on high levels of systematic corruption, while banding with terrorists also interested in illicit economic gains (Shelley, 2005). For the purpose of my analysis, the terrorism link is less relevant than the interconnectedness of crime and corruption.⁸¹ The deep connections between

⁸¹ Guyana does not deal with terrorist threats per say, but criminal organizations that smuggle drugs, gold, and people operating across the Venezuelan border into Guyana may represent a terrorist threat. For more information on narco-terrorism see Santacroce et. al (2018).

crime and corruption in the Guyanese gold mining sector represent an inter-institutional gap between non-constitutional rules of formal institutions (corrupt GGMC officers, customs officials, and high level bureaucrats) and non-constitutional rules of informal institutions (illegal miners/traffickers and organized crime). Revenues from illegal mining end up in the hands of both formal and informal actors, keeping the illicit system afloat because of this symbiotic relationship. The process of illegally extracting, processing, and transporting gold is followed by a number of other illicit activities such as drug trafficking, human smuggling, illegal logging, and wildlife trafficking, also incentivized through corruption. The extent of systematic corruption must be analyzed for a holistic approach to NRM practice and can inspire future research into Guyana.

3.3 Presenting the gaps and showcasing the socio-ecological consequences of such Natural Resource Management Arrangements

Approaching NRM by viewing institutional multiplicity and the ensuing governance hybridity allows researchers to dissect a complicated phenomena into more digestible variables towards reaching conclusions. As mentioned, studying corruption is difficult, requiring a multi-dimensional and interdisciplinary approach, such as the collective action framework, in order to better contextualize corrupt practice within an institutional perspective.

This approach fits with Ostrom's work on NRM and with a Political Ecology perspective more generally. My research into Guyana's gold mining sector showed how power is shared by many actors and how a collective action approach to understanding illicit practices is beneficial. The effects of the hybridity and fluidity found in the sector are equally as multifaceted. Gold mining itself has a varying degree of positive and negative effects on Guyanese society and environment. On one side, mining is the leading cause of deforestation, it devastates local

ecosystems through toxic wastes and river dredging, leads to civil conflicts, and poisons those who extract it using mercury.⁸² On the other side, the sector provides the Guyanese state with a “reliable” source of tax income, employment for thousands of local and foreign families, and Guyana’s general industrial progress. The existing inter-institutional gaps also have relatively positive and negative socio-economic and ecological consequences.

On one hand, gaps found because of legal pluralism and structural void make it hard for actors involved in the ASM sector to know what the rules and regulations governing a specific place are. This leads to insecurity in mining towns as formal institutional actors do not prosecute those breaking constitutional rules and to opportunistic behavior by gold miners looking to sell their product to the highest buyer rather than selling it directly to the GGB. A structural hole increases brokers’s bargaining power, providing opportunities for a select few illicit actors, and obstructing legitimate gold mining processes. Because of the informality, fluidity, and corruptibility of the system, individuals act out of personal interest regardless of their position in their respective institutions. This inevitably brings profits for individuals involved in the illegal side of the gold mining sector. Cultural mismatches between foreign nationals may also increase the potential for civil conflict. For example, because of political friendships, Chinese nationals are given preferential treatment when it comes to concession allocation and citizenship in comparison to Venezuelan or Brazilian migrants, who tend to be more criminalized.⁸³ The actors benefiting most from inter-institutional gaps are those who earn profits easily because they rent out mining concessions, allowing for illegal activity, or broker information. ASMs also “benefit” from such gaps considering that they provide employment opportunities. However, in relative

⁸² Dillard, Keenan. “Artisanal Gold Mining Threatens Riverine Communities in Guyana.” *New Security Beat*, 14 Aug. 2012, www.newsecuritybeat.org/2012/08/artisanal-gold-mining-threatens-riverine-communities-in-guyana/.

⁸³ Interview with Timothy Laing, 21-03-03, on the record.

comparison, miners earn pennies compared to gold traders or politicians benefiting from systemic corruption.

The environmental consequences of such inter-institutional gaps are, for the most part, bleak. The inability of formal state institutions to monitor, assess, and manage the multitude of mining actors in the country has exacerbated deforestation, mercury pollution, and territorial conflicts. Structural holes diminish regulatory capabilities as informal institutional actors, such as concession holding elites, fill certain formal state roles, providing for their own security and ensuring continued operations. These elites care about personal profits over sustainable mineral extraction, showcasing the negative environmental consequences of such power arrangements. On the other hand, the Guyanese state has made it a point to maintain a large local and decentralized ASM rather than inviting massive international companies to mine for gold. Even though gold mining is disastrous for the environment, one could argue that a relatively formalized ASM sector destroys forest lands at a lesser rate than LSM. Therefore, the informality and illegality present in the sector may actually diminish large-scale environmental degradation over time when compared to other extractive contexts. As alluvial gold is running out, large companies are trying to come up with viable alternatives to continue extracting gold, potentially altering the extent of environmental degradation and the informal dynamics discussed here.⁸⁴

The inter-institutional gaps found in Guyana's gold mining sector also influence local and international political dynamics. Miners have a strong political lobby, making the demands of local miners heard by pressing formal institutions to push back a ban on mercury⁸⁵ and asking for

⁸⁴ The Australian Troy Resources company has recently announced the first underground mining exploration project, attracting further international investments. This showcases the Guyanese state's willingness to move away from a ASM focused gold mining sector and expand the role of LSM companies

Birney, Matt. "Troy Draws Gold Major Barrick into Guiana Shield Gold Hunt." *The West Australian*, The West Australian, 1 July 2021, [thewest.com.au/business/public-companies/troy-draws-gold-major-barrick-into-guiana-shield-gold-hunt-c-3281145](https://www.thewest.com.au/business/public-companies/troy-draws-gold-major-barrick-into-guiana-shield-gold-hunt-c-3281145).

⁸⁵ The Guyanese state has been trying to ban mercury use in ASM since 2012 but with little luck. Even though they passed the UN Minamata Convention against the use of mercury, mercury has been imported and used in the country daily. However, as of mid July 2021 the EPA has announced a massive project to improve environmental regulations and reduce the use of mercury in the field.

disaster relief funds after severe flooding.⁸⁶ Other political consequences which arise due to institutional void, legal pluralism, and dirty entanglement gaps have to do with Guyana's international image as a "Green" state committed to protecting its natural environment. International donors such as the Norwegian government may withdraw conservation funds if they see that the money and efforts are not being spent on environmental conservation. The corruption of institutional "tigers" is crucial here as international funds are garnered through diplomatic interaction of politicians in the higher echelons of society. If Guyana is viewed as prone to natural resource corruption by the international community, the probability of the state earning further environmentally directed investments diminishes, revising Guyana's ability to protect its forests.

Overall, the institutional multiplicity and the power sharing arrangements found in Guyana's gold mining sector have the potential to make or break this extractive industry. When comparing the Guyanese context to other extractive economies in developing countries, relativistic claims can be made. Even though corruption, illegal gold mining, mercury usage, Amerindian-miner conflicts, and continued deforestation are emblematic of a poorly functioning natural resource management system, Guyana still evades large scale conflicts.⁸⁷ Guyana has never descended into civil war nor has it had prolonged violent confrontations with neighboring states. The fluidity and multidimensionality of the gold mining sector has therefore provided for

Wilkinson, Bert. "Guyana Seeks to Shield Gold Miners from Mercury Ban." *Inter Press Service*, 27 Nov. 2012, www.ipsnews.net/2012/11/guyana-seeks-to-shield-gold-miners-from-mercury-ban/.

Stabroek News. "EPA Spearheads Project to Push Environmentally-Friendlier Small-Scale Gold Mining." *Stabroek News*, 17 July 2021, www.stabroeknews.com/2021/07/17/news/guyana/epa-spearheads-project-to-push-environmentally-friendlier-small-scale-gold-mining/.

⁸⁶ Reporter, Staff. "Miners Affected by Floods to Get Much-Needed Assistance." *Guyana Chronicle*, 18 June 2021, guyanachronicle.com/2021/06/18/miners-affected-by-floods-to-get-much-needed-assistance/.

⁸⁷ An interesting development considering the borderlands between both Venezuela and Suriname have been contested territories for decades.

Charles, Jacqueline. "Venezuela's Border Dispute with Guyana Just Got Even Testier." *The Miami Herald*, 28 Jan. 2021, www.miamiherald.com/news/nation-world/world/americas/article248798040.html.

a sense of relative stability in this extractive industry, albeit not in a progressive, just, or equitable fashion. Efforts should be made to improve the dialogue between formal and informal actors in order to diminish the negative consequences of such arrangements, viewing corruption as a critical variable without normative implications. One could argue that an acceptance of systemic corruption may lead to an overall symbiosis between the many actors trying to earn profits from mineral extraction.

Conclusion & Discussion

The purpose of this thesis was primarily to outline the multitude of actors, stakeholders, and inner workings of Guyana's gold mining sector in order to discern the consequences of inter-institutional gaps between formal and informal arrangements and of corrupt institutional practice. This mining context provides for insights on how institutional multiplicity and the resulting informal and illegal transactions operate across decision making levels. In this conclusion I provide for a discussion on my research findings, answer my principal research question, and mention recommendations for future academic research.

Research Findings and Recommendations for Future Research

To analyze the data gathered by researching Guyana's human-environment interactions, methodologies, theories, and concepts were bridged from distinct schools of thought starting from broad perspectives and narrowing my analysis in stages. The thesis was based on the assumption that natural resource extraction systems are built upon asymmetric power structures which exploit vulnerable populations and benefit the elite, inspired by the Political Ecology literature (Forsyth, 2001). This showcases the importance I placed on viewing political and economic conditions through an environmental lens, thinking that the corruption and informality present in Guyana's gold mining sector would inevitably lead to problematic socio-ecological consequences. However, after applying the IIG framework to my research case I realized *just* how complex this Social-Ecological System is, leading me to draw different conclusions than anticipated. Even though there are many negative social and ecological externalities to these NRM arrangements, the same hybridity and corruption responsible have also led to a relatively

stable extractive industry when compared to other developing countries. Similar informal and corrupt conditions are found in neighboring Venezuela, but there they lead to more severe consequences when considering human rights abuses and environmental degradation.⁸⁸

The inter-institutional gaps highlight, "... the interconnectivity of rule-level changes between formal and informal institutions and across their multiple sets of rules used in a social-ecological system." (Rahman et. al, 2017, p. 845). Gaps are created when information and organizational structures are unclear, contradictory, or poorly managed. Conceptualizing institutional arrangements through the formal-informal dichotomy appears to highlight the separation of these institutional forms. However, as the IIG framework and this research project show, rules are bargained, followed, and broken across scales and there is a substantial amount of communication and collusion between formal and informal institutional actors. IIGs add to the complexity of the gold mining governance system as different actors must navigate both formal and informal institutional decisions without clarity for what the rules governing certain contexts are. This thesis was interested in the interaction between formal and informal actors, thus conceptualizing them as coexisting rather than separate institutions.

Additionally, because my research exposed the corrupt behavior present in this NRM sector, I strove to expand institutional analysis by including the conditions and consequences of illegal behavior. Illegality can be interpreted in a narrow legalist sense, viewing any action breaking constitutional rules. However, in this thesis illegality, corruption and illicit practice are used interchangeably to signify any shady action which is opportunistic, opaque, and which may or may not break formal laws. Informality and illegality are thus interpreted similarly as institutional actions can be defined on a spectrum of *how* illegal or informal a certain exchange

⁸⁸ HR Watch. "Venezuela: Violent Abuses in Illegal Gold Mines." *Human Rights Watch*, 28 Oct. 2020, www.hrw.org/news/2020/02/04/venezuela-violent-abuses-illegal-gold-mines.

is. Any comprehensive analysis of a NRM sector should include corruption as a potential variable influencing the sustainability and equity of a given extractive industry.

Therefore, to answer my research question, the primary inter-institutional gaps present in Guyana's gold mining sector are gaps in understanding formal regulations (legal pluralism), gaps showcasing the inability for regulatory agencies to perform their role as enforcers (institutional void), gaps expressing the power that middlemen or brokers hold (structural hole), gaps between actors operating under distinct sets of cultural norms (cultural mismatch), and gaps which undermine the validity of formal institutions (dirty entanglements). Following the conclusions of Rahman et. al (2017), these gaps are nested and hierarchical, meaning that if one gap is identified, others may be expected. For example, gaps in legal pluralism are reflected in cultural mismatches as Amerindians and coastal miners conceptualize both culture and mining practice in different terms, with little legal mediation present. Another critical conclusion is that intermediaries are key to addressing and creating IIG. In Guyana, legal and illegal gold brokers are crucial for dirty entanglement gaps to persist as they connect corrupt state actors with criminal ones, undermining legal action and empowering systemic corruption. Researching the role of these middlemen would be an effective way to engineer policy recommendations aimed at reducing natural resource corruption.

The consequences of such gaps are varied and extensive. The hybridity and fluidity which characterizes the Guyanese gold mining industry has allowed for local small-scale mining operations to dominate the industry, providing economic opportunities to thousands of people while potentially destroying the environment at a smaller scale than in countries where large scale mines dominate the industry. It has also allowed for organized crime to flourish and economically benefit from corruption and lack of legal enforcement. This results in situations of

insecurity, especially on the Venezuelan border, continued lack of legitimacy for the Guyanese government, and a loss of legal revenues for both private and public actors. Flies and tigers represent multi-scalar forms of corruption and operate together in a messy system. If law enforcement were to actually prosecute those not abiding by national and international regulations, many informal workers would lose their jobs, foreign migrants would be deported, and mercury would be banned from the country, effectively ending the ASM sector.⁸⁹ Therefore, corruption and illegality should not be narrowly interpreted as “poor governance” and do not necessarily lead to exclusion and conflict, but may provide for some relative stability.

The role of corruption in the Guyanese gold mining sector points to some lessons and paradoxes. Gold mining will always be detrimental for the environment, something that should be respected and rehabilitated in coming years. However, gold mining also provides opportunities to underprivileged communities and cannot be considered detrimental when considering larger socio-economic implications. Rules and regulations are meant to provide for equity, justice, and sustainability but can also be confusing and erroneous. Humans have the ability to communicate and formulate informal rules in situations of ambiguity or uncertainty, which may or may not lead to “better” circumstances. The paradoxical conditions created by the corruption present in this extractive industry are similar to the sustainability paradox discussed in the literature review chapter.

Thus, the multiple forms of corruption present play a crucial role in regulating how the gold mining industry operates through ways that are still unclear from an academic perspective. Future research should continue to include informality, illegality, and corruption as variables when studying natural resource management practice and institutional development. For

⁸⁹ Mercury free technologies for mining gold do not apply to ASM as they require expensive machinery and chemicals available only to large-scale miners. (Ebus, 2020)

example, in Guyana future works could attempt to better understand the territorial dynamics present in lawless areas such as the Venezuela-Guyana border, further scrutinize who the primary winners and losers of mineral extraction are, could investigate the role that Chinese nationals and the Chinese state play in developing countries, and potentially research how inter-institutional gaps influence the management of other resources, e.g oil and timber. Much more work needs to be done to understand how corrupt practice becomes normalized or institutionalized over time, what the consequences of collusion between politicians and criminals are, and the role that informal institutions play in mediating conflict, increasing corruption, or providing for sustainable extractive practice.

Even though this is an exploratory thesis considering the peculiarities found in Guyana, the analysis and conclusions on inter-institutional gaps and the role of corruption can be generalized to other natural resource management situations across the globe. This study is relevant because informal arrangements and illegal action are present in most of the natural resource extraction industries of developing countries. Depending on context, corruption and informality may lead to much more disastrous consequences. Conversely, corruption and informality may also provide a relative sense of stability as the Guyanese gold mining context has shown. Therefore, corruption should be studied in its multiple forms while staying away from the assumption that it is a societal “evil” to be eradicated. An open mind to illegality can serve to better understand the dynamics at play in complex NRM systems. This research study represents a case of a relatively stable NRM system which is heavily influenced by multi-scalar corruption and informal institutional arrangements. I still believe that natural resource extraction is rooted in social and environmental injustice and that there are better ways to govern these complex human-environment interactions. I now also recognize that the development of state

authority, regulatory agencies, and environmental protection consciousness are highly dynamic processes which are influenced by a multitude of structural factors and that negative externalities cannot be blamed on any one corrupt official, politician, or gold miner.

It will be interesting to see how Guyana develops over the coming years considering it is set to become one of the wealthiest countries in Latin America due to newfound oil reserves.⁹⁰ As alluvial gold is running out across the Guiana Shield⁹¹, I suspect that the oil economy will swiftly overtake the gold mining industry as a primary GDP earner. The institutional context of the oil industry is completely different than the gold mining sector, but similar nepotistic behaviors attempting to benefit a political party's voting block can be expected. This new oil wealth is also attracting a substantial amount of international attention to the small country, further complicating inter-institutional interactions. Guyana's conservation image will also be tainted, potentially leading the state to refocus environmental protection efforts. As the government increases state revenues through oil exploration, collusion between criminals and politicians in the gold mining sector may become unnecessary and may allow for the regulatory agencies entrusted to protect the Guyanese environment to actually enforce the substantially developed regulatory framework which exists.

⁹⁰Maybin, Simon. "Will Guyana Soon Be the Richest Country in the World?" *BBC News*, BBC, 8 May 2019, www.bbc.com/news/world-latin-america-48185246.

⁹¹ The Guiana Shield is a geological feature which spans 270 million hectares across Guyana, Suriname, French Guiana, Venezuela and small parts of Colombia and northern Brazil. It holds vast ecological importance for plant and animal biodiversity. Alluvial gold is running out across the Shield, leading mining companies to move their operations underground in order to find new gold deposits.

Thompson, Akola. "The Guiana Shield, the 'Greenhouse of the World'." *Mongabay Environmental News*, 20 Dec. 2016, news.mongabay.com/2016/10/experts-warn-more-monitoring-needed-for-the-guiana-shield-the-greenhouse-of-the-world/.
Birney, Matt. "Troy Posts Maiden Reserve, Advancing Guyana's First Underground Gold Mine." *The West Australian*, The West Australian, 26 July 2021, thewest.com.au/business/public-companies/troy-posts-maiden-reserve-advancing-guyanas-first-underground-gold-mine-c-3512450.

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