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Resilient nations.*

# THE ROLE OF HOST GOVERNMENTS IN ENABLING OR PREVENTING CONFLICT ASSOCIATED WITH MINING

Full-length version







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# THE ROLE OF HOST GOVERNMENTS IN ENABLING OR PREVENTING CONFLICT ASSOCIATED WITH MINING

Full-length version

Prepared by

**Tony Andrews, Jonathan Gamu, Philippe Le Billon, Chang Hoon Oh, David Reyes  
and Jioung Shin**

For

**The United Nations Development Program (UNDP)  
The Canadian International Resources and Development Institute (CIRDI)**

*In essence, governments construct the garden, prepare the soil, plant the seeds and tend the garden,  
from inception through to maturity, and through their actions and non-actions produce the fertile  
ground for sustainable development or sustained conflict.*

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As indicated above each member of the team took responsibility for conducting individual components of the overall study. All members of the research team also contributed their ideas and creativity to the design of this study and the analysis and interpretation of the combined results. Jiyoung Shin, a post-doctoral research fellow at the Beedie School of Business, Simon Fraser University, assisted Chang Hoon Oh in the quantitative analysis.

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# List of Acronyms and Abbreviations

- ASM:** Artisanal Small-Scale Mining
- CIA:** Central Intelligence Agency
- CIRDI:** Canadian International Resources and Development Institute
- CSR:** Corporate Social Responsibility
- EIA:** Environmental Impact Assessment
- EITI:** Extractive Industries Transparency Initiative
- FPIC:** Free, Prior and Informed Consent
- GDP:** Gross Domestic Product
- GSD:** Geological Survey Department
- ICMM:** International Council on Mining and Metals
- IFI:** International Financial Institutions
- IMF:** International Monetary Fund
- LGL:** Local Government Legislative
- LSM:** Large-Scale Mining
- MLNR:** The Ministry of Lands and Natural Resources
- NASMA:** National Small-Scale Mining Association
- NDC:** National Democratic Congress
- NGO:** Non-Governmental Organisation
- NPP:** New Patriotic Party
- PDAC:** Prospectors and Developers Association of Canada
- PMMC:** Precious Minerals Marketing Co. Ltd
- SAP:** Structural Adjustment Program
- SLO:** Social License to Operate
- UNDP:** United Nations Development Program
- UNDRIP:** United Nations Declaration on the Rights of Indigenous Peoples
- WACAM:** Wassa Association of Communities Affected by Mining



## SUMMARY

This study is a continuation of an ongoing research project to improve understanding about the rise in conflict associated with mining operations around the world, particularly as it occurs in developing countries in the southern hemisphere. During Phase 1 of this global study, Andrews et al, (2016), examined conflict as a process involving the interplay of a number of key players, including government agencies, mining companies and local communities, all of whom contribute to conflict situations in different ways and demonstrated that while conflict inevitably manifests at the company-community interface, it has a much longer prior history and trajectory leading up to the point of conflict outbreak.

The role of host governments in achieving responsible, sustainable mineral development is the establishment and implementation of appropriate governance regimes which serve to optimize the economic benefits of mining to local communities and society as a whole, while minimizing environmental and social impacts. Andrews et al (2016) demonstrated that the ability of governments to effectively perform this role, that is, establishing the contextual environment in which mineral development will occur, is a critical determinant in enabling either the creation or prevention of conflict-prone environments.

The purpose of the current study is to focus attention on the role of government in conflict creation or prevention, to better understand the nature and process of governments' involvement and on this basis to recommend practical actions for governments to take for conflict transformation, mitigation and prevention. Our research consisted of three components a) a literature review of over 300 publications of particular relevance to the role of government in conflict associated with mining, b) a quantitative analysis of 334 recorded conflict incidents covering the period 2002-2013 and c) a field case study conducted in Ghana, augmented by Phase 1 field investigations in Madagascar, Tanzania, Bolivia and Peru (Andrews et al, 2016). This combined approach has the advantage of providing both high-level observations of a global nature, based on a relatively large sample base (the literature review and quantitative analysis) and a more specific and detailed ground-truthing based on the field case studies.

The results of this study are presented within the context of a *conflict pathway analytical framework* developed by Andrews et al (2016), in which conflict can be analyzed systematically as a process that occurs over space and time and described in terms of a conflict determinant hierarchy, moving from broad scale (global, international), long-term structural factors and narrowing down in terms of duration and geographic extent through contextual factors (national to regional), conflict drivers (regional to local) and finally conflict-triggering events (tipping points) which normally occur at the sites of operations.

The analytical framework reveals the conflict pathway, including the connectivity and causative relationships among the conflict determinants over time, from structural factors down through to conflict triggering events. Central to this, is the recognition of path dependency – that is, the tendency for events and decisions early on in the process to lock in courses of action that, as time proceeds, become more difficult to reverse. They shape the trajectory of the process and its eventual outcomes. Host governments are implicated at all levels of the conflict hierarchy, however, they predominate in their influence at the contextual level, in what we might refer to as the policy and regulatory space. Companies and communities on the other hand, contribute mainly at the level of conflict drivers and triggering events.

The conflict pathway analytical framework reveals that conflict is a systematic and understandable process and therefore one that is manageable and preventable.

## SECTION 1: LITERATURE REVIEW

The literature review considers the role of government through the frame of negative and positive peace, the former involving policies and activities resulting in conflict aggravation and/or suppression and the latter following a more strategic and deliberative pathway designed to manage and transform the negative consequences of conflict. While there is a clear preference in the literature to investigate examples of negative peace, it is not difficult to deduce from the available evidence that the approach adopted by the majority of host governments have fallen within this particular frame. The pathway to negative peace taken by host governments has its roots in historical *structural factors*, in particular colonialism and more recently neoliberalism. The reality that most host governments have continued along this trajectory in more recent times and to the present day is attributable to a number of determinants, residing mainly at the level of *contextual factors* and *conflict drivers*, and include the following:

1. While the state's role in enabling conflict is sometimes direct and causal, such as the tactics it employs in response to outbreaks of open protest (at the levels of *conflict drivers* and *conflict outbreak triggering events*), many of its roles precede the open conflict stage, and are of an indirect or enabling nature, included in the realm of policy and regulatory space (*contextual factors*).
2. Host governments have created fertile conditions for contention by focusing on attracting FDI in the absence of well-designed and adequately implemented mineral development strategies.
3. The move by host governments to assume the role of custodian of mineral resources on behalf of its citizens, often accompanying neoliberalism and structural adjustment programs has given rise to major determinants of conflict, especially when governments favor policies that promote the large-scale mining industry (LSM) over the needs and aspirations of local communities and the pre-existing artisanal and small-scale mining (ASM) sector.
4. Resource development in rural areas of countries has suffered increased conflict risk due to a centralist approach to governance, resulting in a lack of presence of government in rural areas, an absence of government initiated planning and social development programs, ineffective regulatory monitoring and enforcement of both the LSM and ASM sectors and a deep lack of trust of government by rural people.
5. Lack of capacity of central governments to govern in rural areas has been exacerbated by ineffective decentralization initiatives resulting in the persistence of weak local governance institutions, overdependence of communities on mining company-driven CSR and community development programs and inefficient and/or uneven distribution of benefits accruing from the LSM sector.
6. The lack of capacity of host governments have led them to employ reactive measures such as coercion, forceful repression and criminalization of protest to manage conflict (negative peace), as opposed to prevention and transformation of conflict through effective policies, governance and deliberative engagement (positive peace). More often than not the reactive/forceful approach results in exacerbation and further escalation of conflict and stoking resentment towards government authorities.

Capacity building to improve resource governance and particularly government presence in rural areas, including social development programs and more effective regulatory monitoring and control are obvious strategies required. However, analysis of the literature revealed a number of additional measures that would be effective in establishing a governance approach focused on positive peace and thereby more effectively managing and transforming the negative consequences of conflict as follows:

7. Institutionalized engagement; that is, government driven initiatives prior to the arrival of the LSM sector, to engage, plan and prepare rural communities for large-scale mining, including the provision of information, dialogue, free, prior and informed consent and participatory planning.
8. Attention to the importance of EIAs in the process of institutionalized engagement, including making them more accessible and understandable to rural communities and utilizing their full potential in participatory decision-making.
9. Adherence to high standards of procedural fairness in all formal interactions with rural communities.
10. The integration of government social development initiatives with company-driven CSR and community development programs to mitigate community dependency on companies and the propagation of company-centric social development systems.
11. Improvement in the capacity of government not only in regulatory monitoring and enforcement, but also in their role as neutral arbitrators of conflict, defender of human rights and facilitators for directing conflict pathways to positive outcomes.
12. Decentralization and devolution of governance responsibility to local authorities, and strengthening of local governance institutions, including building skills in the areas of municipal planning, administration and mechanisms of transparency and accountability, leading to more equitable distribution of the material benefits of mining, including increased efficiency in the use of resource rents for rural development purposes.
13. The application of 'No-Go' designations and non-extractive development models in ecologically and socially sensitive areas, included as key elements of a strategic approach to land-use planning.

## SECTION 2: QUANTITATIVE ANALYSIS

The quantitative analysis presents a robust investigation of data associated with recorded conflict incidents from around the world, examining the occurrences and likelihood of conflict in 98 countries at both the national and property levels, as a function of country-level macroeconomic indicators, quality of governance indicators, foreign ownership, mineral endowment and on-property reserves. Salient observations with regards the role of government in enabling or preventing conflict may be summarized as follows:

1. Conflict associated with mining activities decreases with increasing quality of economic, legal and social development institutions.
2. In all countries, regardless of whether they are developed or developing countries, host governments have capacity limits with respect to the number of companies they can regulate effectively at any given time.
3. At the country-level, the conflict incidents tend to increase when the total number of mining companies increase and the ratio of foreign mining companies to total mining companies increase.
4. These country-level effects, change in response to differing levels of country governance quality; that is, decreasing scores of country governance quality correlate with increasing numbers of conflict incidents when ratios of foreign mining companies to total numbers of companies increase and when total amounts of country mineral reserves increase.
5. While the quality of country governance is a modifier of mining conflicts in both developed and developing countries, the relationship is more significant for developing countries.

This implies that in developing countries, a decrease in conflict likelihood will depend on both government-driven regulatory controls at the country level as well industry-driven social development initiatives at the local level. On the other hand, in developed countries, where standards of regulatory monitoring and enforcement are already relatively high, the mitigation of conflict risk is more effectively addressed through the introduction of company initiatives at the property level.

6. While developing countries need to achieve better governance quality in order to lower the risk of conflicts associated with mining activities, progress in this complex area will require considerable time and effort. However, the collective results of the quantitative analysis suggest a strategy which host governments may apply in the interim. This strategy would involve:
  - a) Limiting the total number of operating companies to match the governance capacity of the host country;
  - b) Maintaining a low ratio of foreign companies to total number of companies;
  - c) Empowering and resourcing local government institutions;
  - d) Ensuring that mining companies possess the ability and experience to implement high quality social development programs and thus maintain stability in rural areas;
  - e) Being extra vigilant about how properties with large reserves are managed.

Regarding point (d), the literature review examined the concept of host government selectivity of companies based on their demonstrated ability to reduce conflict risk and concluded that the published literature was not conclusive on this topic. The results of the quantitative analysis, however, suggest that this as a potentially viable, interim strategy while host governments take the necessary measures to improve their capacity to govern.

## SECTION 3: THE GHANA FIELD CASE STUDY

The Ghana field case investigation serves to confirm many of the general observations emerging from the literature review and the quantitative analysis regarding the role of government in conflict associated with mining, but at the same time reveals important detail, specificity and nuance regarding the conflict pathway as it has manifested within the Ghanaian context. Selecting Ghana as a field case study provided the opportunity to examine the role of government in the context of an emerging democracy in a continent still dominated by authoritarian rule, a country that is rich in mineral resources, with a large, traditional artisanal and small scale mining (ASM) sector and an economically important large-scale mining (LSM) sector, both of which have experienced significant expansion in the last 25 years.

While Ghana has experienced significant progress relative to other developing countries in the region, it is emblematic of the historical challenges imposed on most African nations including slavery, colonial rule and an extended period of authoritarian and military rule. In spite of its successful emergence to democracy, Ghana is burdened by a disarticulated development process favoring urban versus rural societies, a centralist approach to government with limited capacity to govern in rural areas where both LSM and ASM activities are concentrated, weak local governance institutions and a traditional system of local authority whose power and influence have been deliberately eroded and transformed over time.

This has created a challenging environment for mineral resource development, which suffers from a high level of destructive conflict risk and displays many of the characteristics of the *negative peace* approach to resource led development presented in the literature review and outlined in points 1-6 above. Referring back to our conflict analytical framework, the conflict determinants all locate within the level of *contextual*



*factors*, the policy and regulatory space. Important conflict determinants specific to Ghana may be summarized as follows:

1. Lack of presence, influence and follow-through by the central government in critical activities including a) the process of land acquisition and compensation following the granting of concessions to the LSM sector, b) monitoring and enforcement of regulatory compliance in mining regions, and (c) development and delivery of alternative livelihood initiatives and social development programs in rural areas.
2. A governance approach with an emphasis on impact mitigation at the expense of the provision of benefits. In this respect the government has not been effective at translating minerals extraction into sustainable improvements and benefits. This leaves people disappointed by the stagnant or very slow pace of development and also feeling that they are not experiencing enough benefits from the LSM sector.
3. Whereas government has set the social and environmental standards for the LSM sector and encouraged them to meet those standards, for the most part they have transferred the responsibilities of both impact mitigation and the provision of benefits to the mining companies, resulting in exaggerated expectations and an unhealthy dependence of local communities on the mining companies. The mining companies have thus become the focus of the social, environmental and economic needs of local communities, and also of community resentment when these needs are perceived as not being fulfilled.
4. Lack of willingness by the central government to devolve power, authority, capacity and financial resources to local government institutions. As defined by its own laws, the central government is required to create and maintain an efficient process for the transfer of a portion of the royalties received from the LSM sector to district assemblies, traditional authorities (chiefs) and communities. However, for most district assemblies this rarely happens on a consistent basis, if at all.
5. The relative stability which characterizes the LSM sector is largely due to the vigilance, discipline and self-regulation of the mining operators themselves, their implementation of innovative, social development programs and on this basis, their ability to create and maintain what are for the most part, stable, constructive relationships with local communities. An additional important contributing factor to relative stability in rural Ghana is the ability of the ASM sector to stimulate local economies and keep 5-6 million people with enough income to sustain themselves.
6. Most of the potential for negative conflict outbreak now arises from the ASM sector which was encouraged and licensed by the central government, exclusively for Ghanaians, but is now dominated by illegal, mechanized, small-scale mining (galamsey in local terminology) controlled by Chinese operators. The ASM sector as a whole operates without regulatory monitoring and enforcement leading to major degradation of lands and waterways.
7. The lack of a strategic approach to the development of mineral resources meant that no consideration was given to how the LSM and ASM sectors would co-exist and how land and resources would be shared, giving rise to competition for land and resources between the two sectors and outbreaks of violent conflict following incursions by galamsey onto LSM concessions.
8. Given the positive economic impact of galamsey on rural communities there is little incentive for local authorities and traditional leaders to exercise any control over these illegal and environmentally damaging activities and more-often-than not, are encouraging and benefiting from them.

Tensions between the LSM and ASM-galamsey sectors persist due to competition for land and resources and the inability of the central government to regulate and control this burgeoning sector. The risk of conflict outbreak will remain elevated as long as the government resorts to forceful interventions alone to control the activities of galamsey, rather than implementing longer-term strategies aimed at the underlying causes of the problem.

The main way forward for Ghana is for the central government, in the near and medium term, to establish more presence and capacity in the mining regions of the country and in the medium to long-term, to devolve administrative authority, capacity and resources to strengthen local institutions and actuate politically autonomous, local governance. This is conceptually simple, operationally complex, but absolutely essential in our view for achieving three vital objectives, (a) maintaining stability of the LSM sector, (b) transforming galamsey activities and establishing a regulated, small to medium-scale mining sector and (c) setting a rational course for socio-economic development in rural Ghana.

## SUMMARY OF OBSERVATIONS, DISCUSSION AND RECOMMENDATIONS

Our observations serve to shed light on the main challenges that confront host governments in their struggle to follow a path towards sustainable development and the circumstances that can and often do propel them instead in a direction towards conflictive environments. Augmented by the observations from our Phase 1 study (Andrews et al, 2016), including field case studies in Madagascar, Tanzania, Bolivia and Peru, the main challenges for host governments may be summarized as follows:

1. *Structural factors* still persisting from the effects of colonialism, followed in many cases by authoritarian rule and neoliberalism, including:
  - a) A centralist approach to governance and development at the expense of rural areas and local government institutions;
  - b) A deep mistrust of government, especially by rural members of society.
2. These give rise to *contextual factors*, acting primarily at the national level, including:
  - a) The lack of a strategic approach to mineral development;
  - b) Weak presence and poor regulatory oversight by overly centralist governments in rural areas of countries where the activities of both the LSM and ASM sectors predominate;
  - c) Lack of effective decentralization accompanied by weak and often dysfunctional local government institutions.
3. Contextual factors sow the seeds for *conflict drivers* affecting mining regions, including:
  - a) Issues arising from land access, resource ownership, compensation and loss of livelihood;
  - b) Lack of reconciliation between the LSM and ASM sectors;
  - c) Dependency of local communities on mining companies for social and economic stability;

- d) Unfair distribution of benefits from LSM sector operations;
  - e) Lack of accountability and transparency of central and local government agencies.
4. Once tensions have escalated in conflict-prone areas there is a large variety of events that can trigger conflict outbreak (*conflict-triggering events*). Examples that we have encountered in our field case studies include:
- a) Forced displacement of ASM miners from mining concessions;
  - b) Perceived and real breaching of agreements between communities and companies and communities and government;
  - c) Change in management of mining projects leading to significant discontinuities in approaches to community relations and community development;
  - d) Change in government policies, rules and procedures without consultation with local communities.

## POLICY IMPLICATIONS

In testing the application of the *conflict pathway conceptual framework* on the basis of field case studies, Andrews et al (2016), demonstrated that policies and regulations exist primarily at the level of *contextual factors* and addressing conflict determinants at this level will involve initiatives driven primarily by government agencies. In contrast, the field of conflict drivers is a mix of conflict determinants involving a variety of key players, including government agencies (central, regional and local), mining companies, local communities and civil society organizations. It follows that successfully addressing conflict determinants at this level will require collaborative approaches involving all the key players involved. The suggested policy implications fall under the umbrella of a broad strategic approach to mineral development applicable to governments newly embarking on the road to mineral development and also to those contemplating the re-engineering of an existing one, including:

1. Building the governance capacity of host governments in mining regions, in the areas of administration, regulatory monitoring and enforcement, and with a particularly emphasis on land acquisition, alternative livelihoods and environmental protection of lands and waterways;
2. Employing institutional engagement to prepare rural societies and communities prior to the initial introduction or expansion of the LSM sector, particularly in regions of high mineral potential;
3. Strengthening and building capacity of local government institutions, particularly through processes of deconsolidation and decentralization which provide the architecture required for regulatory monitoring and enforcement and more equitable distribution of benefits from the LSM sector;
4. Building the capacity of central and local governments to utilize natural resources more effectively as an engine for socio-economic development of rural areas, integrating government social development programs with those of local mining operators, thus creating opportunities for collaboration and reducing the negative effects of existing company-centric models;
5. Developing mechanisms to enable the LSM and ASM sectors to co-exist, including a) the

- development of a mineral tenure system designed to serve both the ASM and LSM sectors, b) the elimination of illegal mining through both formalization and legal means, and c) the provision of technical services, including geological mapping and gold assaying to assist in the identification and designation of prospective lands for the ASM sector;
6. While host governments slowly build governance capacity, they might consider an interim strategy involving:
    - a) Limiting the total number of operating companies to match governance capacity;
    - b) Maintaining a low ratio of foreign companies to total number of operating companies;
    - c) Ensuring that mining companies who are granted concessions possess the ability and experience to implement high quality social development programs and thus maintain stability in rural areas.



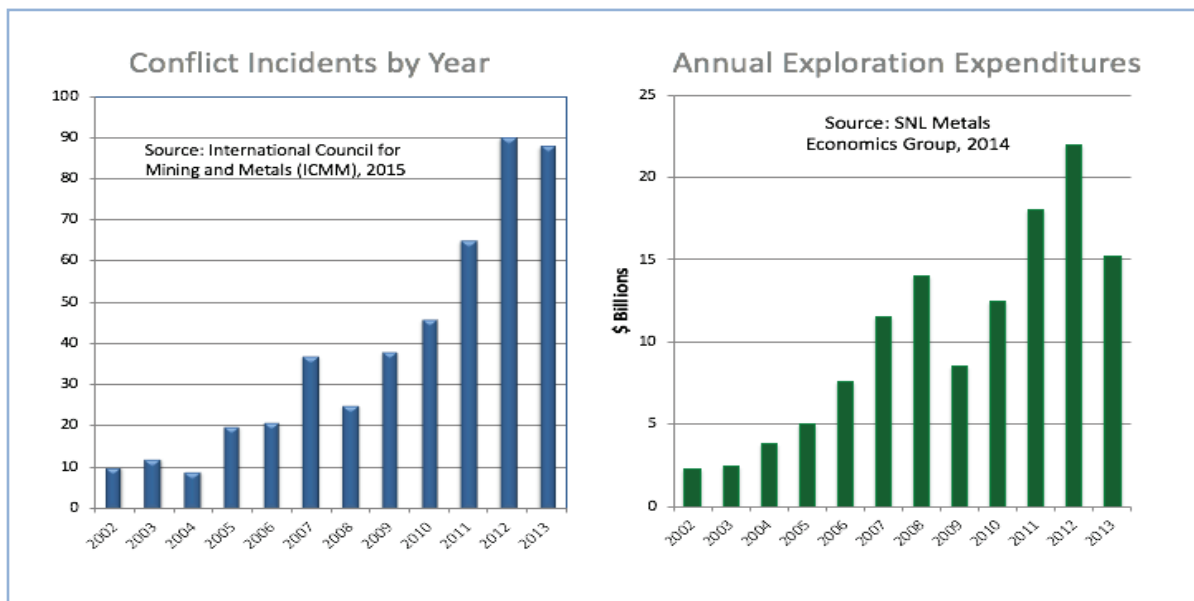
# INTRODUCTION





This study is an outgrowth of an ongoing research project to improve understanding about the rise in conflict associated with mining operations around the world, particularly as it occurs in developing countries located in the southern hemisphere (Andrews et al, 2016). The report recording the results of Phase 1 of this global study, funded by the Canadian International Resources and Development Institute (CIRDI), is available on the CIRDI website<sup>1</sup>.

There has been a dramatic rise in the frequency of conflict incidents associated with mining operations over the past 15 years which coincided with an unprecedented, worldwide increase in mining industry activity (Figure 0.1), a drive by developing countries to attract foreign direct investment for natural resources development in order to build economies, and a major shift in the location of mining activity and reserves from predominantly developed countries in the North to developing countries in the South. The significant increase in conflicts associated with mining operations also coincided with a general rise in large-scale protests globally<sup>2</sup>, particularly associated with land and environmental issues.



**Figure 0.1. Rise in conflict incidents associated with mining coincident with the commodity boom**

Resource development, effectively governed, can stimulate sustainable economic growth, enhance equitable distribution of national wealth, broaden public engagement, improve access to justice and advance protection of human rights and freedoms. In many resource-rich countries, however, this potential is negated by the rise of conflict in the extractive sector. Mineral resources hold unique potential to lift nations and communities out of extreme poverty, yet until recently, the social drivers and political determinants of conflict in mining were poorly understood. In developing and fragile states, poor governance, corruption, illicit financial flows and weak institutions threaten the peace, security and fundamental human rights of the world’s most vulnerable populations. To address these emergent global trends, the **Canadian International Resources and Development Institute (CIRDI)** and the **United Nations Development Program (UNDP)** are seeking to collaborate to apply, mobilize and disseminate recent research findings on the processes, pathways and dynamics of mining-related conflicts.

The initial findings of Andrews et al (2016), emphasize the need for deeper investigation into structural and contextual determinants of conflict, particularly in regards to the role of host governments, which create the enabling environments for either sustainable development or sustained conflict risk.

1 <http://cirdi.ca/>

2 Not mining specific

Evidence suggests that researchers need to look beyond industry-community dynamics, adopting a multi-stakeholder perspective to truly understand conflict trajectories and their cumulative impacts.

## CONFLICT PATHWAY ANALYTICAL FRAMEWORK

Andrews et al (2016) examined the dynamics of the rise in conflict associated with mining operations based on field case study investigations in Bolivia, Peru, Madagascar and Tanzania, and supported by a literature survey and a quantitative analysis of a global database of recorded conflict incidents associated with mining. They demonstrated that the current reality of the mining sector in any region, including the behaviours of the various players involved and their relative contributions to an environment that either enables conflict or sustainable development, can be rationalized and understood in a systematic way through the lens of their historical context and development trajectories. They employed an *analytical framework*, (Figure 0.2) which systematically portrays conflict determinants within a hierarchy, proceeding broadly through space and time, from structural factors, contextual factors, conflict drivers (or inhibitors), and conflict-outbreak triggering events (see highlighted box below for definitions).

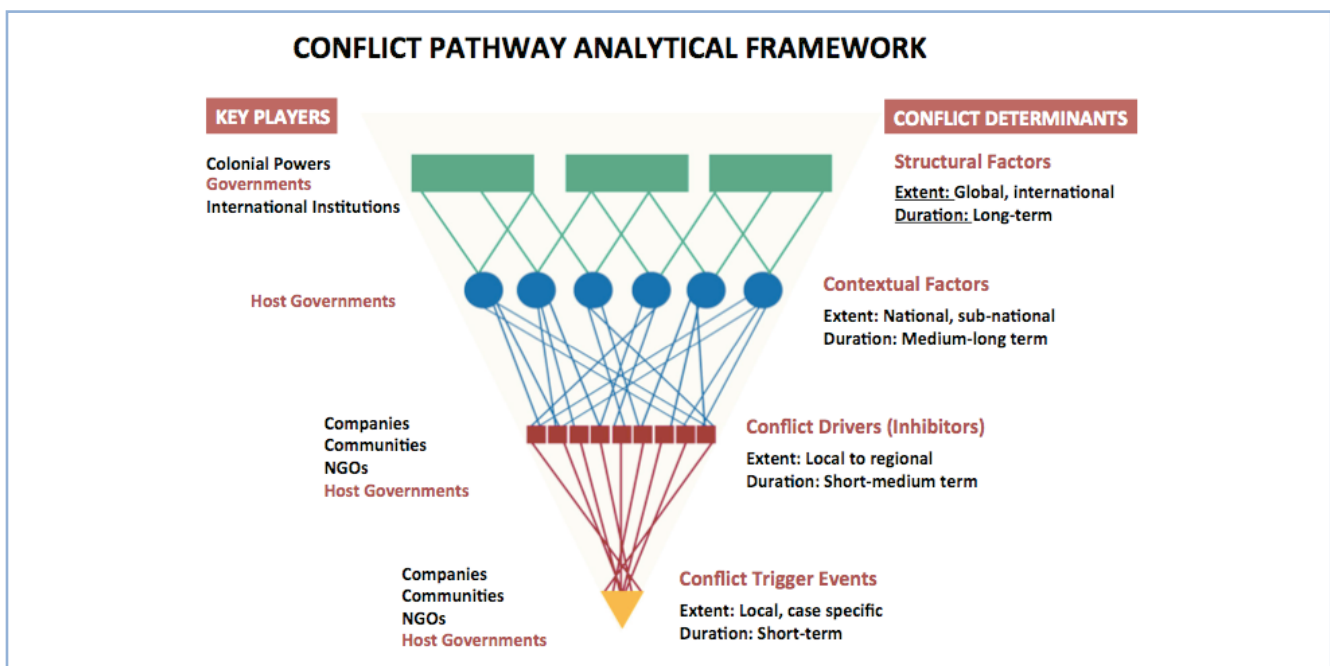
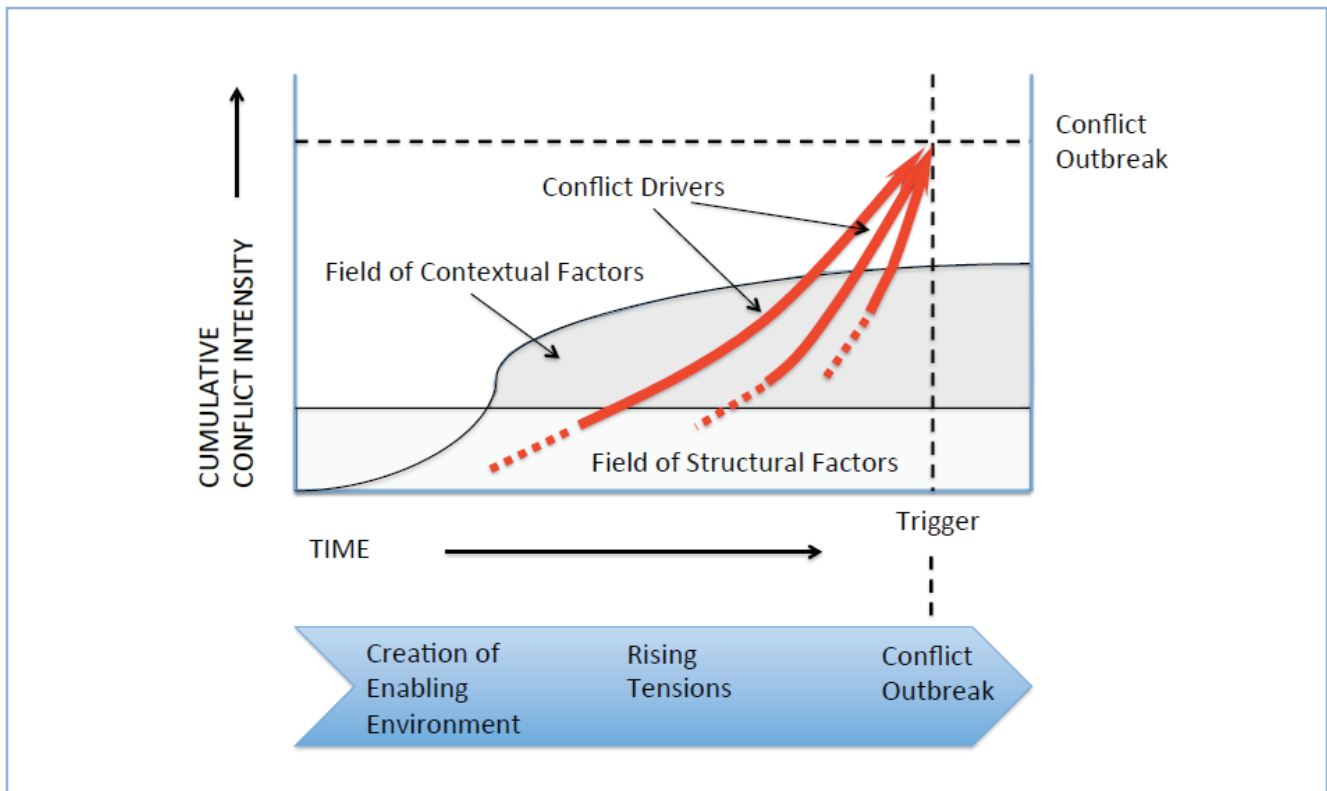


Figure 0.2. Conflict pathway analytical framework developed by Andrews et al (2016)

Note that the key players listed in this figure are reflective of the case studies examined.

As we progress down through the hierarchy from structural factors through to triggers, dimensions of space (geographic extent) and time (duration) progressively narrow. For example, structural factors tend to be international to national in scope and long-term, whereas triggers are highly localized to individual sites or communities and manifest as short-term events. In general there is interconnectivity and sequential causation from one layer to the next. The flow is predominantly top to bottom, proceeding from structural factors through contextual factors, conflict drivers and conflict-outbreak trigger events. Central to this flow is the powerful impetus of *path dependency*; that is, the tendency for events and decisions early on in the process to lock-in courses of action that, as time proceeds, become more difficult to reverse. They shape the trajectory of the process and its eventual outcomes.

On Figure 0.3 we show the causes and their interrelationships as a dynamic ‘process’, which evolves as a function of time. The structural and contextual factors lay down the groundwork for the existence of long-term tensions and the breeding ground for the emergence of conflict drivers. The persistence of structural and contextual factors produce an enabling environment for conflict drivers to expand to the point where conflict erupts, precipitated by trigger events characterized by a relatively high degree of variability and unpredictability. Differences in the structural and contextual factors, lead to case specific conflict drivers. The conflict drivers and triggers, combined with historical and cultural features characteristic of the locale, give rise to the reactions and behaviors of the players involved and to the variability of conflict manifestation at the company-community interface. As described below, the current study revealed that government institutions are highly significant and uniquely implicated in the conflict process:



**Figure 0.3. Conceptual Conflict Continuum**

Note: In reality the fields defining the structural and contextual factors do not remain smooth or flat but vary over time in response to changing economic, political and regulatory conditions and company practices.

- a) Government influence begins with the imposition of occupying colonial governments which established deep patterns and behaviors of governance that endure to the present day;
- b) Recent and current host governments are implicated across the complete hierarchy of the conflict process, from structural determinants through to conflict triggering events;
- c) Recent and current host governments are the primary architects of contextual factors, which can be referred to as the policy and regulatory space. They are key to setting the enabling environment for the creation or prevention of conflict on the basis of the approach they take to initiating, governing and managing the development of their country’s mineral resources.



## CONFLICT DETERMINANT DEFINITIONS

### Structural Factors

Conditioning or generic factors (often historical) usually taking place at the global or international level and existing in the medium to long-term (e.g. colonialism, income disparity, international commodity prices).

### Contextual Factors

Factors defining the broad environment in which specific mining conflict cases reside at the national or sub-national level; pre-conditions conducive in some way to the onset, continuation or redirection of particular conflict cases, and existing over the medium to long term (e.g. government policies and regulations, corruption, lack of trust in government).

### Conflict Drivers

A condition which exists at the regional and/or local level that propels a specific (potential) conflict situation in a positive, neutral or negative direction; typically existing in the short to medium term (e.g. poor consultation or engagement; a concern over water quality that is not addressed; economic downturn leading to layoffs and community program cuts).

### Conflict-Triggering Events

An action or event at the local (site) level that acts as a tipping point, transforming otherwise latent tensions into open conflict, or escalating or de-escalating existing conflict; typically existing in the short term or a moment in time (e.g. death of a community leader during protests; an accident related to traffic increase; a tailings spill into a local river).

The purpose of the current study is to focus attention on the role of government in the creation or prevention of conflict associated with mining operations, to better understand the process of their involvement and on that basis to recommend practical actions for governments to take for conflict transformation, mitigation and prevention.

## METHODOLOGY

This research investigates how government agencies at all levels (including national, regional, municipal and local) mitigate, manage or contribute to conflict associated with mining projects.

We chose a broad definition of conflict to encompass the potential for both negative and positive outcomes of the conflict process as follows:

*The interaction of two or more parties with perceived incompatible goals, who engage each other through a range of practices including dialogue, persuasion, negotiation, arbitration, legal action, protest, intimidation and physical violence.*

Conflict does not always have negative outcomes - it can also have positive outcomes if managed appropriately. We distinguish these two scenarios as destructive and constructive conflict respectively. The main objective therefore is not the prevention of conflict, but the prevention and/or transformation of the negative consequences of destructive conflict.

The research consists of three elements:

1. Literature Review
2. Quantitative Analysis
3. Field Case Study

This combined approach has the advantage of providing both high-level observations and relationships based on a relatively large sample base (the literature review and quantitative analysis) and a more specific and detailed ground-truthing based on the field case study.

**Literature review:** Building on the base provided by the Phase 1 research and findings, the Literature Review identifies additional studies and publications of specific relevance to the role of government, including the significance of political factors, policies, regulations, specific initiatives, decision-making processes and the potential role these factors play in conflict creation or prevention. The literature also looked for insights with regards to the interrelationships among government agencies and other stakeholders and how those relationships contribute to the creation or prevention of conflict.

**Quantitative Analysis:** Our Phase 1 study included a global, quantitative analysis of conflict incidents associated with mining during the years 2012 and 2013. For the purposes of this study we have extended the range of this analysis to cover the period 2002-2013, including 458 recorded conflict incidents worldwide. The analysis will apply econometric methods to look at whether the relationship between institutional quality and the occurrence and nature of conflict vary based on the ownership characteristics of mining companies.

**Field Case Study:** A field case study on the role of government in managing and preventing conflict has been conducted in Ghana considering both the large-scale mining sector and the artisanal and small-scale mining sector. The field investigation were based on interviews with representatives of government agencies, companies, communities, civil society organizations and small-scale miners.

Each of the three study components were conducted concurrently by different members of the research team, as indicated in the table above. This approach maximizes efficiency and increases objectivity. The study components are presented as three, separate, independent reports in Sections 1, 2 and 3 below. In Section 4 the observations of all three studies are brought together in an integrated discussion of their combined observations, along with policy implications and recommendations.



# PART 1. A REVIEW OF THE LITERATURE



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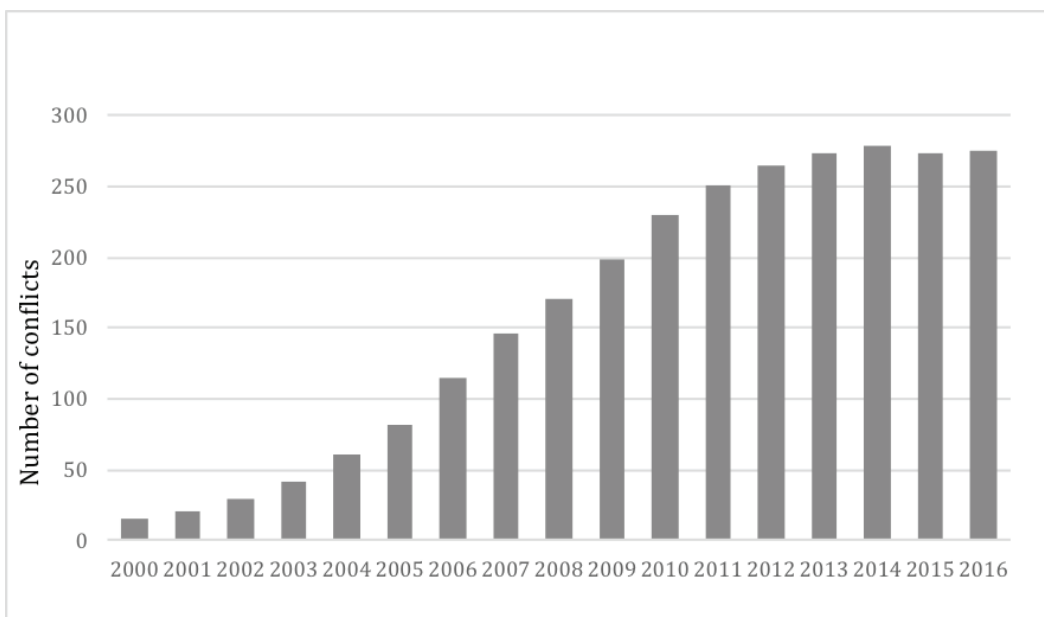


# 1. INTRODUCTION

Since the early 2000s, resource-rich developing countries have seen renewed investment in their extractive sectors, with governments often viewing the recent global commodity ‘super-cycle’ as a lucrative opportunity to fuel growth and development (Bridge, 2004; Le Billon & Good, 2016). The combination of high mineral prices, mining technology advancements, and mining sector liberalization have resulted in the near-global proliferation of industrial mining operations. The increased scope and intensity of mineral extraction in developing countries has led to a rise in the absolute number of new mining conflicts globally between 2002 and 2014 (Figure 1.0 below), as companies, local communities, transnational activists, and diverse levels of government struggled over the distribution of impacts and benefits, as well as the very meaning of development itself.

In this chapter, we review the literature specifically engaging with themes, arguments, and case studies relevant to the role that governments can have in enabling or preventing conflicts associated with mining. This review is cast within a broader literature on mining and development (Bebbington & Bury, 2013; NRG, 2014), mining and poverty reduction (Gamu et al., 2015), and factors affecting mining conflict likelihood (Andrew et al., 2016; Conde and Le Billon, 2017).

The troubling rise in conflict over the last decade and a half has compelled scholars, policy makers, and practitioners to take a closer look at the causal factors of conflicts and the best ways to prevent and manage them (see Conde et al., 2016). Here, ‘conflict’ is broadly defined as *the interaction of two or more parties with perceived incompatible goals, who engage each other through a range of practices including dialogue, persuasion, negotiation, arbitration, legal action, protest, intimidation and physical violence* (Andrews et al., 2016). The potential for conflict is intrinsic to large scale mining (LSM) given the social, economic, and environmental impacts that operations generate for adjacent communities and surrounding ecosystems. Yet, as our definition indicates, they may express themselves for different reasons, in various forms, and with diverse repercussions for the parties involved – contention may be confined to formal legal space, or escalate into open protest with a high-risk of physical violence.



**Figure 1.0. Cumulative number of new mining conflicts in the world (2000-2016), Source: EJ Atlas (<http://ejatlas.org>)**



Scholars have cautioned against drawing deterministic conclusions about the relationship between subsoil resources and socio-political and economic outcomes: whether mineral commodities represent a 'blessing' or a 'curse' depends on the contexts within which they are extracted (Humphreys et. al, 2007; Saad-Filho & Weeks, 2013). Across the global South, LSM occurs within an array of socio-environmental, institutional and historical circumstances; accordingly, investments' conflict-inducing effects are contingent upon diverse factors, such as the specific operational characteristics of projects, the interests of affected communities and their capacities for collective action, the behavior of companies, and the conditions host governments create for extraction-led development through regulatory frameworks, policy choices, and administrative capabilities, among others (Conde & Le Billon, 2017; Andrews et al., 2016). Following in this vein, we dig deeper into the domestic institutional dynamics of mining conflicts, focusing specifically on the roles of host governments in enabling and inhibiting conflict through the management of their extractive sectors. Our work builds on the preliminary findings of our previous study, *The Rise in Conflict Associated with Mining Operations: What Lies Beneath?*, which found that host governments have tended to focus on attracting foreign direct investment (FDI) in the absence of well-designed and adequately implemented mineral development strategies (Andrews et al., 2016).

## 2.FRAMEWORK FOR ANALYSIS: NEGATIVE AND POSITIVE PEACE

As illustrated in the *conflict pathway analytical framework* (Figure 0.2 on p.3), governments can play a major role in conflict likelihood and dynamics. Much of this role is defined by the capacity and conduct of the various dimensions of the state, including the model of governance, the regulatory framework in place, the means of enforcement, as well as the competence, availability, integrity and motivation of government officials. While the state's role in conflict is sometimes direct and causal, such as the tactics it employs in response to outbreaks of open protest (i.e., engagement vs. repression), many of its roles precede the open conflict stage, and are of an indirect or enabling nature. Yet, despite a wide-ranging prescriptive policy literature outlining best-practices (ICMM, 2006; NRGI, 2014; DCAF/ICRC, 2016), relatively little attention has been devoted to a robust *empirical* analysis of the roles of host governments in reducing mining conflicts. In fact, our review of the empirical literature finds no evidence of 'positive' cases – those rigorously demonstrating government interventions (direct or indirect) as having either reduced the general propensity of conflict, or peacefully resolved specific events.

This is not likely due to the absence of such cases, but because qualitative scholarship, which has dominated the literature on this subject, has generally leaned towards explanations of conflict outbreak, and has thus focused on the various failures of actors to avoid such outcomes. Yet, the 'negative' bias within the literature should not prevent meaningful analysis of the (in)efficacy of host governments in managing natural resource development in such a way as to minimize social conflicts associated with their extractive sector, given what we can infer from extant studies. Accordingly, as an exploratory analysis of empirical research, this literature review seeks to initiate a more robust, evidence-based discussion of how host governments may successfully act to manage natural resource development such that conflicts associated with LSM are avoided, including through changing their own governance approach, capacity and conduct - changes that, in turn, may necessitate significant domestic political initiative in terms of governance philosophy, internal resources or foreign technical assistance for building capacity, as well as robust institutional reforms to transform incentives shaping conduct.

Our review of studies on the roles of host governments in mining conflicts is framed around the concept of *positive peace*, which, according to Galtung (1969), refers to a situation in which the absence of overt expressions of violence is due to the actions parties take to remove the preconditions for destructive

expressions of conflict, so that political mobilizations may unfold in a more constructive, non-violent way. In this respect, we do not seek to understand how the state can simply reduce the possibility of conflict, but how it can enable incompatibilities to be constructively and peacefully avoided or resolved. This, in turn, notably requires the state to address some of its conflict-aggravating weaknesses, such as lack of governance capacity, administrative incompetence, and corruption, among others.

Pursuing a positive peace thus often proves a virtuous path through which state-society-industry relations improve. By contrast, *negative peace* refers to a situation in which the absence of overt expressions of violence is due to coercive threats, physical or legal, creating disincentives for parties to act on their grievances (i.e., deterrence). Whereas the former mostly aims to tackle conflicts' multifaceted causes and predisposing factors, therein opening the possibility for prevention, transformation, and resolution, the latter represents a reactive form of management via suppression, with no meaningful attempt to address underlying drivers, suggesting conflicts may remain dormant only to escalate later. In the 'negative peace' scenario, governance weaknesses are frequently exacerbated or simply left unaddressed, with the state passively reverting to brutal repression to quell conflict, all the while failing to address the sources of the administrative failings, corruption, and/or general lack of capacity that can predispose mineral extraction to situations of conflict in the first place (referred to as *contextual factors* in Figure 0.3, p4). Adapted to the analysis of social conflicts involving LSM, this framing of resource governance suggests host governments not only have a role to play in addressing *conflict drivers* and '*triggering*' events that spark outbreaks, while taking appropriate measures to avoid the possibility of escalation, but also in addressing conflict enabling conditions (*structural and contextual factors*) by constructing an institutional, legal, and administrative environment in which extraction-led development becomes less prone to conflict over time, if only by enabling to stop extractive projects before they become mired in costly conflicts (Condé et al., 2016).

Accordingly, the (in)activities of host governments can be understood as generally falling into three categories: (1) conflict aggravation through illegitimate and counterproductive interventions escalating resistance (e.g. brutal repression backfiring into further unrest); (2) conflict suppression through illegitimate negative peace silencing open dissent but failing to address the sources of grievances (e.g. repression or the buying off of demonstrators, which restores the peace for at least the medium term) and (3) conflict reduction through positive peace. As our phase 1 analysis suggests (Andrews et al., 2016), in the absence of well-designed mineral development strategies, the activities of host governments have generally fallen within the first two categories, which are neither legitimate nor a good practice. If host governments are to effectively perform their roles and responsibilities in support of responsible and sustainable mineral development, we deduce from our review that domestic authorities ought to prioritize the lattermost strategy of conflict reduction through positive peace, as it encourages authorities at all levels of government to enhance the state's resource governance capacity therein enabling it to address the multifaceted factors that both enable and trigger conflicts outbreaks. Moreover, rather than hastily criminalizing opposition, which the literature suggests has been a rising trend among national governments on both the right and left, this strategy should - according to the recommendations coming out of this review - help domestic authorities to promote the peaceful transformation of resource conflicts.

### 3. LOCATING SOURCES OF CONFLICT WITHIN EXTRACTIVE MODELS

Host governments have generally followed one of two extraction-led development models: neoliberal and neo-extractivist.<sup>3</sup> Most have pursued the former, which is premised on attracting FDI through minimal taxation and little to no government intervention in industry (e.g. through labor market, safety or environmental regulations). International financial institutions (IFIs), such as the World Bank and International Monetary Fund (IMF), have promoted this model as supposedly being the most efficacious for ensuring LSM fuels economic growth, development, and subsequent poverty reduction (Weber-Fahr et al., 2001), although debate exists over the precise poverty reduction benefits of this approach and IFIs are now reconsidering this model (Ross, 2001; Davis, 2009; Davis & Cordano, 2013; Saad-Filho & Weeks, 2013; Gamu et al., 2015; Hatcher, 2015; ElGindi, 2016; Ostry et al., 2016).

A few other governments have attempted to follow a neo-extractivist development model, notably left-wing and center-left administrations in Latin America (e.g., Argentina, Brazil, Bolivia, Chile, Ecuador, Uruguay, Venezuela). Using the discourse of 'resource nationalism' this model explicitly views LSM investments as a means to finance progressive social reforms, notably poverty reduction and wealth redistribution. Unlike its neoliberal counterpart, it is premised on greater state intervention in the mining sector through higher rates of corporate taxation and a more active role for central authorities and state-owned mineral companies in determining how the extractive sector is to be run, notably in terms of employment, but also more broadly in terms of how rents are invested to improve conditions for the poor.

But, despite its ostensibly progressive objectives and desire to reassert domestic sovereignty over the subsoil, this framework has also been linked to conflict (Haslam & Heidrich, 2016; North & Grinspun, 2016; Bebbington & Bury, 2013; Bebbington, 2011). Whereas the former can create fertile conditions for conflict along the corporate-community interface by reducing the state's oft-already tenuous role as mediator between the interactions of foreign capital and civil society (Gamu & Dauvergne, 2017; Szablowski, 2007), the latter may create fertile conditions for conflict between central authorities and mining affected communities as local interests are sacrificed in the name of national development (Riofrancos, 2017; Wooden, 2017; Guha & Martinez-Alier, 1997), or by enabling politically empowered domestic companies and mining cooperatives to challenge the state (Andreucci & Radhuber, 2015; Marston & Perreault, 2017). Our review suggests no *a priori* reason to assume one model is less conflict prone than the other, only that the mechanisms linking extraction-led development to conflict may differ.

#### 3.1. LOGICS OF CONFLICT GOVERNANCE PER MODEL

Implicit within both neoliberal and neo-extractivist models are logics for authorities to prevent, manage, and resolve conflict (briefly outlined in Table 1.0). Since these paradigms comprise the basis of the national policy frameworks that govern extraction-led development, the logics examined below should not be thought of as direct interventions in specific conflicts *per se*, but rather, as actions with generic consequences for the occurrence and intensity of conflict. Our focus here is therefore to present the general *approach* to governing resource development such that it enables conflict, and what can be inferred about prevention.

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<sup>3</sup> Scholars have framed these generic national policy frameworks based on the developmental logics and discourses underlying the state's role in the exploitation of the subsoil (Broad, 2014; Goodland, 2012; Bebbington, 2011). In practice, national authorities may implement policies that fall along the spectrum of these extremes, or fluctuate from one paradigm to the other with changes in leadership. While neoliberalism models mostly spread from the early 1990s onwards, the neo-extractivism model is more recent and came to prominence in governance analyses since the early 2010s.

**Table 1.0. Conflict governance rationales for the neoliberal and neo-extractive models**

Development model	Neoliberal	Neo-extractivist
Prevention	<ul style="list-style-type: none"> <li>• Attracting foreign companies with high capital and experience</li> <li>• Corporate conduct guidelines</li> <li>• Consultative processes between companies and communities</li> </ul>	<ul style="list-style-type: none"> <li>• Promoting domestic mining companies and cooperatives</li> <li>• National-level regulation and unionization</li> </ul>
Management	<ul style="list-style-type: none"> <li>• Corporate social responsibility activities</li> <li>• Decentralization</li> <li>• Criminalization and repression of opposition to mining</li> </ul>	<ul style="list-style-type: none"> <li>• Mobilization of population within national development discourse</li> <li>• Decentralization</li> <li>• Denunciation and repression of local communities 'standing in the way of progress'</li> </ul>
Resolution	<ul style="list-style-type: none"> <li>• Monetary compensation and market-based alternative livelihoods options for affected communities</li> </ul>	<ul style="list-style-type: none"> <li>• Maximization of mining-related employment in affected areas</li> </ul>

Note: this table presents 'ideal-types' to highlight contrasting dimensions and draws from the author's review of the literature.

### 3.2. CONFLICT MITIGATING EFFECTS OF FIRM TYPE

As gatekeepers for strategic investments, national governments may be able to reduce conflict risks by harnessing the power of company characteristics, as conflict risks may vary with the type of firm local communities interact with. While some important mechanisms of conflict reduction operate at the corporate-community interface, the choices national authorities make vis-à-vis extractive model can have implications for conflict given their prioritization of certain kinds of companies over others. Under the neoliberal model governments actively court high quality FDI, specifically multinational corporations with abundant financial and technical capital, and experience with the social dimensions of mining, including CSR approaches and conflict prevention/resolution track-record. Beyond this ideal, however, some government officials are keen to 'cut deals' with companies with dubious records for the purpose of private gains, while some companies find in weak regulations and enforcement capacities a way to maximize profits at the expense of the environment, local communities, or the host country's public treasury (Haglund, 2008; Kolstad and Wiig, 2013; O'Callaghan & Vivoda, 2017). The role of the home governments of these companies has often been ambivalent, with many forms of support such as insurance, credit, and diplomatic support being more rarely counterbalanced through stricter norms and forms of accountability such as extra-territorial law enforcement (Deneault and Sacher, 2012; Roth, 2017).

There seems to a sound rationale around the greater experience and capacity of very large mining companies to prevent conflicts and their escalation (see Haslam & Tanimoune, 2016); yet, there are also numerous examples of such major companies being embroiled in conflicts. Some scholars suggest FDI

may temper risks of a 'race to the bottom' as the extractive frontier transitions to developing countries with lax regulatory frameworks (Schiavi & Solomon, 2006). Accordingly, multinational corporations - especially those domiciled in developed Western countries - may be more likely than domestic or state-owned firms from developing countries to implement a conflict-sensitive business model given their acceptance of international social, environmental, and human rights standards (Haufler, 2015; Ruggie, 2013; Deitlehoff & Wolf, 2010; Haufler, 2010a; Wolf et al., 2007; Haufler, 2001), or due to standards to which they may be held accountable in their home countries. Such arguments, however, are not yet demonstrated by the quantitative literature, which so far mostly points at the greater risk of conflicts associated with foreign firms, a pattern that could in turn motivate greater conflict prevention initiatives on their part. As a result, activists may be more inclined to interact constructively with foreign firms than domestic or state-owned ones (Bebbington, 2011; McAteer & Pulver, 2009). Lastly, private (publicly-listed) foreign firms may also be more conflict-sensitive for purely instrumental reasons, as they are more vulnerable to the reputational damage of shareholder activism and international shaming campaigns (Wolf et al., 2007).

Likewise, the decision to pursue a neo-extractivist model may result in conflict reduction benefits as governments prioritize domestic or state-owned companies. With the transition of the extractive frontier into the global South investments now often occur in post-colonial settings; as a result, the presence of large numbers of foreign firms can stoke salient fears of neo-colonialism. These grievances may be conflict-inducing when LSM involves companies domiciled in former colonizing countries, and work in regions where colonial rule was active only as recently as a few decades ago (e.g., Africa). There, foreign firms may be viewed more suspiciously and scrutinized for behaviour seen as reproducing logics of colonial rule.

Accordingly, some scholars have suggested that domestic and state-owned companies are less vulnerable to conflict as they do not suffer from this 'liability of foreignness' (Coumans, 2010; Zaheer, 1995). Furthermore, Collins (2009) suggests that operations run by state-owned enterprises may be less prone to conflict because they can better signal a disposition to use coercion, as resistance to LSM is seen as tantamount to resisting the state itself.<sup>4</sup> Other dimensions than 'foreignness' that can also have an impact on conflict include the size, experience, and managerial team of companies, with mid-tier or junior companies being generally considered as having less capacity to prevent or de-escalate conflicts than majors (Dougherty, 2011; Bebbington, 2012b).

The latest empirical evidence, however, does not allow us to make a definitive conclusion with respect to which policy paradigm best harnesses the conflict mitigating effects of firm characteristics. A recent statistical evidence from Latin America finds foreign firms are more likely to be involved in conflict given the region's colonial history (Haslam & Tanimoune, 2016). Additionally, this study found mid-size companies were more prone to conflict, possibly because they 'operate mines with large-scale impacts, while retaining the *ad-hoc* community management practices of small firms' (Ibid., 412). However, these findings have yet to be replicated elsewhere in the global South. Still, several case studies provide anecdotal evidence conflicts can emerge irrespective of the ownership characteristics of firms, indicating that national governments ought to be cautious about lauding the conflict mitigating effects their national frameworks can have along the corporate-community interface (Gamu, 2016; Bebbington & Bury, 2013; Perla, 2012; Barton, 2005; Andrews et al., 2016).

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4 It is important to note, however, that this mechanism of conflict management amounts to a form of negative peace as its objective is to deter conflict through violent threats.



### 3.3. NATIONAL LEVEL REGULATION, STATE COMPANIES, AND UNIONIZATION

The neoliberal model was adopted, in part, to reduce protectionism, the dominance of national companies, and the power of mining unions. Most notably promoted by the IMF and World Bank through 'Structural Adjustment Programs', these regulatory reforms opened host countries to foreign investment, privatized state companies, allowed full profit repatriation, lowered taxation, de-unionized the labour market, and reduced the size of the state regulatory apparatus. While neoliberalism was in part born out of labour struggles and conflicts over the allocation of public rents during a period of economic and fiscal crises, these reforms have themselves generated new conflicts and often lowered the capacity of the government to adequately regulate mining activities.

A major dimension of conflicts pertains to the role of the state as custodian of mineral deposits on behalf of citizens. The decisions that the state takes, along with the logics, discourses and practices it deploys - as well as the vested interests and corrupt behaviors of some politicians and state officials (see Kolstad and Soreide, 2009; Williams and Le Billon, 2017) - can constitute a major driver of conflicts, especially when it is seen by many communities, civil society organizations, and even society at large as being overly pro-mining in terms of its policies, and biased towards the interests of already privileged groups - such as domestic urban populations accessing greater social services or a corrupt ruling elite - when taking investment decisions or enforcing regulations (Bridge, 2004; Campbell, 2009). States tend to follow a logic of resource export driven growth, privileging 'national' priorities (at times instrumented for the private gains of public officials and their cronies) over local aspirations, and to siding with companies during conflicts to protect their investment climate. As a result, confrontational relations often arise, as the state does not appear as a neutral arbitrator between diverse stakeholders and defender of rights, especially those relating to indigenous populations and the environment.

These tense relationships may also be amplified by historical precedents, including past conflicts with the state over land use, cultural assimilation, and the transformation of local governance institutions. At times articulated around highly politicized contexts and strategies, backed by frequent state intolerance for dissent and amplified by a lack of integrity, capacity and accountability across many relevant state institutions, this situation can generate protracted and violent conflicts (Martin & Pierce, 2013; Ponce & McClintock, 2014).

The laws and policies of national governments prioritizing extraction-led development are often the result of the legacies of predatory colonial political economies and of growth-driven developmental models pursued by most international donors and financial institutions (Engels & Dietz, 2017). Renewed and transformed through the neoliberalisation of many economies in the early 1990s, pressure to exploit the subsoil drastically accelerated with the rise of Asian-led demand and commodity prices at the turn of the new millennium. This, in turn, has often dispossessed local communities of their livelihoods, including at times small-scale mining, and increased the likelihood of conflict (Arsel et al., 2016). Studies in Colombia and Peru, for example, suggest a link between post-structural adjustment extractive policies, community resistance and social conflicts (Vélez-Torres, 2014; Andreucci & Kallis 2017).

These conflicts generally involved central, provincial and local authorities arguing over mandates, jurisdiction and revenue share, competing politicians instrumentalizing popular grievances, and communities internally and externally divided over resistance strategies and compensation entitlements (Arce, 2014; Arellano-Yanguas, 2010, 2011). As noted above, even left wing and indigenous-based governments seeking alternative developmental models have found it hard to achieve resource nationalism (Kohl & Farthing, 2012), let alone reduce dependencies on the subsoil, giving way to 'neo-extractivist' approaches selectively entrenching mining activities (Burchardt & Dietz, 2014; Andrews et al., 2016; Villalba-Eguiluz & Etxano, 2017).

Relations between governments and mining unions have been complex, ranging from mutual support to deadly antagonism (Campbell & Fishman, 2016; Crisp, 2017). Cast within broader logics of resource-based development strategies, these relations have influenced government support or opposition to the unionization of a sector generally resisted by the private industry (Baer, 2016; Ellem, 2015). Government attitude towards unions, and responses to labour struggles have had a demonstrable effect on broader conflict issues within the sector, and beyond – as most dramatically shown by the South African government’s responses to the Marikana mining strike in 2012 that resulted in the killing of 44 people including 41 striking miners (Alexander, 2013). Such responses do not only relate to the backing or opposition to mining unions in general, notably through the use of repression, but also to the (mis)management of competition *among* unions leading to a rapid escalation of conflicts, as well as the governance of union-firm relations resulting in ‘hard bargaining’ strategies rather consensual approaches (Harvey, 2016).

### 3.4. EFFECTIVE LOCAL GOVERNANCE AS A MEANS OF ENHANCING LOCAL ACCESS TO MATERIAL BENEFITS

While outbreaks of conflict can be triggered by the social and environmental impacts of LSM, material distributional factors tend to predispose operations to situations of contention (Franks et al., 2014). At all levels of federal systems, governments have unique roles to play to maximize locals’ access to the material benefits, such as jobs, tax revenues, and social investments. However, in many cases administrators have lacked the organizational knowledge, technical training, management systems required to ensure greater access to benefits.

In response to the general decentralization of natural resource governance (Larson 2004; Ribot, 2004; Ballard & Banks, 2003), national governments have utilized fiscal decentralization schemes to reduce the occurrence of conflict by enhancing locals’ access to, and authority over the spending of mining tax revenues, especially through royalty regimes. This strategy is premised on the simple notion that local populations, particularly those residing nearest to the point of extraction, are more familiar than distant central administrators with local conditions and needs, and thereby better equipped to spend resource rents to achieve poverty reduction and sustainable development. Moreover, fiscal decentralization is seen as a method of offsetting the tendency for LSM to generate socio-economic stress for local communities by adversely impacting subsistence livelihoods, generating inflation, and transforming traditional peasant economies into wage labour systems (Gamu et al., 2015). The devolution of revenues and decision-making to subnational governments has been advocated by prominent international development organizations such as the United Nations Development Programme and the World Bank, and implemented in countries following both neoliberal and neo-extractivist models, such as Bolivia, the Democratic Republic of Congo, Indonesia, Madagascar, Nigeria, Peru, the Philippines, and South Africa.

However, for fiscal decentralization to be an effective poverty reduction, and by extension conflict management tool,<sup>5</sup> research suggests it must be accompanied by efforts to strengthen the governance capacity of the local administrators tasked with managing revenues, including the *de facto* ceding of administrative powers by central authorities to local ones. Studies indicate subnational administrations must be equipped with the management systems and technical knowledge of development policy to ensure monies are invested into tried and tested poverty reduction, as well as subjected to citizen oversight to be held accountable for their spending decisions. Additionally, while decentralization may

<sup>5</sup> Our previous review identified poverty as a potent conflict risk multiplier with mechanisms operating at both the individual and collective levels. At the individual level, poverty can reduce the opportunity-costs for those contemplating participating in risky protest activities, while collectively it can heighten perceptions of relative deprivation both between communities, and companies and stakeholders. Haslam and Tanimoune (2016) specifically observe within their sample that it is household poverty within poor and publicly underserved communities that increases the risk of conflict.

become formal written policy, decision-making structures may nevertheless remain highly centralized in practice, as the meaning of “decentralization” can remain unclear, therein undermining local voice, access to revenue streams, and local development planning (for example on Ghana see, Ahwoi 2012; Antwi-Boasiako 2010; Bandie and May 2007).

In this regard, Peru and Nigeria have become emblematic cases of the adverse effects fiscal decentralization can have when implemented within the context of weak and unclear sub-national governing capacities. There, the influx of revenues into regional and municipal coffers has increased the occurrence of conflict by disrupting established systems of patronage and heightening dissatisfaction with administrators who often fail to realize benefits for locals as revenues earmarked for poverty reduction and sustainable development projects are lost to corruption, rent seeking, and/or invested unwisely (Bland & Chirinos, 2014; Ponce & McClintock, 2014; Idemudia, 2012; Arellano-Yanguas, 2012/2011; Hinojosa, 2011; Idemudia, 2009; Standing and Hilson, 2014; Knutsen et al., 2017). What is more, in Peru anecdotal evidence suggests the failure to consolidate a bureaucratic ethos at the sub-national levels has been a contributing factor to the occurrence of conflict.

At the municipal/district level in particular, governments are not often supported by the existence of a professional class of civil servants. Instead municipal administrators are appointed through patronage, effectively replaced in accordance with the election cycle, thereby preventing local governments from retaining technical organizational knowledge across administrations (Gamu, 2016). In this regard, national governments – with the support of intergovernmental organizations, mining companies, and donor countries – have crucial roles to play in support of administrative capacity building, and technical training for professionalized subnational civil servants and authorities, as well as democratizing the development process through measures such as participatory budgeting and regional development planning (Ponce & McClintock, 2014; Buitrago-Franco & Chatterji, 2013; McPhail, 2009).

Studies suggest transparency can also enhance governance capacity and the potential benefits of fiscal decentralization. In general, lack of transparency in the appropriation and spending of resource rents increases distrust in public authorities. While it should not be treated as a panacea, research indicates a need for greater transparency and accountability at all points along the extractive industry value chain (Vierya et al., 2014; Alley, 2013; Hayman & Crossin, 2005). To be effective transparency requires high-quality information be made available in user-friendly formats that can be disseminated to citizens and facilitate feedback. Membership in the Extractive Industries Transparency Initiative (EITI) can assist all levels of government in creating the conditions for more responsible mineral investment. As a multi-stakeholder forum, the EITI facilitates deliberative interactions and information exchange between governments, companies, and civil society. Studies have shown it to empower civil society, move beyond the *ad hoc* nature of voluntary corporate reporting, and contribute to the reduction of corruption and conflict (Rustad et al., 2017; Asgill, 2012; Smith et al., 2012; Aaronson, 2011; Haufler, 2010b).

Enhancing locals’ access to direct material benefits of LSM, such as jobs, monetary compensation, and social investments is also seen as a mechanism through which governments can reduce conflict risks. Governments can do this by ensuring companies provide affected communities with adequate monetary compensation for lands, as well as utilizing their newfound corporate social responsibility (CSR) commitments to support local entrepreneurship and alternative livelihood initiatives. Yet research suggests subnational governments often fail to monitor and enforce corporate-community contracts and integrate LSM into regional development planning.

Initial interactions communities have with mining companies have enormous implications for the trajectory of community-firm relations (Gamu, 2016; Jaskoski, 2014). The nature of early engagements over the acquisition of lands have direct implications for the perceptions affected communities have over whether an operation is considered legitimate, and whether they are willing to protest (Zavaleta, 2013; Barton, 2005). Generally, inadequate recognition of traditional land uses and unjust compensation for land and loss of resource access rights undergird conflicts (Boone, 2015; Bebbington et al., 2008; Hilson, 2002). While land acquisition negotiations typically occur directly between corporations and land holders, governments play a crucial role in structuring the terrain of these negotiations. One of the principle sources of asymmetrical bargaining power between corporations and communities is the lack of authoritative information about the monetary value of land. As a result, companies have often been accused of utilizing informational asymmetries to their advantage, misleading local holders as to their monetary true value. Here, governments have a crucial role to play in establishing the laws and procedures governing land acquisition and compensation, as well as in creating and maintaining up-to-date land value registries so that negotiations over land can occur with parties having equal access to the same information.

While many scholars view CSR as a political project that can undermine the already fragile role of many host governments in the South (Broad, 2014; Ferguson, 2005 Watts, 2004), many governments tout it as an effective means of distributing direct material benefits to affected communities. While CSR programming may confer material goods and opportunities to impacted communities, in the absence of government leadership, oversight and social development programs of their own, industry CSR initiatives may also cause or aggravate conflicts by raising expectations, and heightening distributional asymmetries between or within local groups as corporations alone exercise the power to determine who are legitimate partners/recipients (Newell, 2005). Studies of CSR programs for mining projects in Guatemala (Dougherty & Olsen, 2014), Ecuador (Warnaars, 2012), Ghana (Hilson & Yakovleva, 2007), and Kenya (Abuya, 2016) suggest that programs are often poorly designed; increase, rather than alleviate communities' hardship; and can trigger conflicts when CSR projects are delayed or not implemented.

One of the weaknesses of CSR stems from companies' emphasis on meeting global performance standards rather than aligning specific programs to the needs of each local social context (Gilberthorpe & Banks, 2012). This can be compounded by the fact that many central governments, after making promises of mining-induced development to local populations often virtually disappear once concessions are granted. This can leave CSR programs as the main vehicle to respond to heightened expectation, filling state-based voids in the provision of public services. Yet CSR programming does not operate according to the same logic as the state-based provision of public goods, and can generate unsustainable dependencies on companies, or lead to high levels of frustration when expectations go unmet, thereby increasing conflict risk.

While proponents have touted the direct employment benefits of LSM (Weber-Fahr et al., 2001), as a high-skilled, capital intensive activity, some studies suggest that it produces few opportunities for the direct employment of locals (Van Alestine & Afionis, 2013; Ackah-Baidoo, 2013; Purdue & Pavela, 2012). Yet, there are many examples of mining companies who derive most of their labor employment from local communities – both unskilled and skilled, the latter following extensive training programs provided by the companies (e.g. about 98% of the 29,000 people employed in Ghana are Ghanaians, though the proportion of workers originating from the local mining area - a frequent source of tension between local communities and companies - is unknown). The employment challenges arise from a) not enough jobs available to employ everyone in the local area; b) low levels of formal education and pre-existing skills; c) concerns that reliance on local labour could increase the risk of leverage by local populations for further demands; and d) lay-offs due to the ending of mine construction phase, economic downturns and fluctuations in production.



Nevertheless, governments can promote local employment by supporting regional development plans that invest in lateral sectors, such as small-scale agriculture, transportation, and service industries. However, for lateral employment to have sustainable conflict risk reducing effects, strategies must be in place to mitigate local and regional vulnerabilities to the boom and bust nature of the industry. As commodity prices fall, demand for resource-related goods and services may also decline, depending notably on the degree of dependence services providers have on the resource local sector. In this regard, counter-cyclical spending strategies can comprise an important element of national governments' broader conflict management portfolio. Research also suggests strong national employment policies, coupled with long-term investments in human capital can have net positive benefits on incomes in extractive regions (McPhail, 2009).

Lastly, studies suggest artisanal and small-scale mining (ASM) can have significant income earning potential for vulnerable communities that can allow them to supplement traditional livelihood activities and generally enhance resiliencies (Spiegel, 2015/2014; Hilson & McQuilken, 2014; Hilson et al., 2013; Hilson, 2012; Maconachie & Hilson, 2011; Banchirigah & Hilson, 2010; Siegel & Veiga, 2010). The interplay among mining companies, ASM and government is complex. Small-scale mining often pre-exists the arrival of the LSM sector, yet due to the weak tax handle of the ASM sector, and often low levels of production, there is a tendency for governments to issue LSM licenses and then label small-scale miners as 'illegal invaders encroaching upon private property,' rather than support ASM production or at least ensure the coexistence of ASM and LSM without conflict. In this respect, support for the ASM sector, including through the formalization of mining rights and trading channels, can have conflict-mitigating effects, not only by allowing local groups who are not directly or indirectly employed by the industrial operations to access a greater share of the mining sector's direct benefits, but also by providing individuals with formal legal and economic rights, such as the ability to apply for mining licenses (McQuilken and Hilson 2016). Key dimensions here are the ease and accessibility of formalization processes for artisanal miners, and the high risk of conflicts often resulting from a criminalization of ASM activities by the state (see for example the Ghana case study in this report (Section 3); Massé and Le Billon, 2017; Tschakert, 2009).





## 4.CONFLICT AVOIDANCE THROUGH 'NO-GO' AREAS AND NON-EXTRACTIVIST MODELS

As described in our previous review, the proliferation of LSM in environmentally sensitive areas, such as moors, highland water reservoirs, glacier fed headwaters, and the Amazon, coupled with growing global concerns over renewable resource depletion, biodiversity loss, and climate change has undergirded much of the contemporary opposition to mineral extraction. Additionally, the tendency for investments to be located in hinterland regions, often in close proximity to marginalized and resource dependent groups, has further predisposed investments to situations of conflict as they may infringe upon the rights of indigenous communities, as well as their ability to determine their own modes of life and 'developmental path.' As a result, many conflicts have been driven by deep-seeded ideational differences over the very meaning of 'development' as peasant and indigenous communities often understand their relationship to nature and assign value to natural resources in ways fundamentally different from corporations and the state (Li, 2015; Nixon, 2011; De la Cadena, 2010; Martinez-Alier, 2003).

Irrespective of extractivist model, national governments have contributed to the conditions for conflict by permitting investments in ecologically sensitive regions, wherein pre-existing concerns over renewable resources, local resource-based livelihoods and biodiversity conservation are salient. Statistical evidence from Latin America indicates that conflict risks are especially high when investments are permitted at medium-high altitudes, wherein operations are most likely to compete with subsistence communities for already scarce life and livelihood sustaining natural resources, such as freshwater and pastoral land (Haslam & Tanimoune, 2016). Additionally, many anecdotal cases indicate the conflict inducing effects of mineral processing techniques, such as the use of cyanide heap-leaching in the processing of gold (Urkidi & Walter, 2011; Urkidi, 2010; Bury, 2005; Bury 2004; Bury, 2002), though no consensus yet exists over whether mineral type (and by extension processing techniques and associated environmental risks) is a robust predictor of conflict (Bond & Kirsch, 2015; Haslam & Tanimoune, 2016). Finally, while statistical methods are not easily amenable to studying the ideational processes of conflict, case studies from diverse regional and historical contexts indicate that clashes of environmental worldviews can factor prominently in conflicts over mineral extraction (Andrews et al, 2016; Broad & Fischer-Mackey, 2016; Nixon, 2011; Martinez-Alier, 2003; Muradian & Martinez-Alier, 2003).

Governments may contribute to the socio-environmental triggers of conflict by failing to prepare local communities for the arrival of the LSM sector, or by shirking continued and constructive engagement following the granting of concessions, leading to increasing community dependency on companies and *ad hoc* government interventions which often take the form of repression. Studies suggest governments do not always provide a comprehensive (and honest) appraisal of what is likely to happen following the approval of LSM, such as how to prepare communities for resettlement, alternative livelihoods, and knowing how to avoid dangerous impacts (polluting effluents, dust from blasting, etc.) (Anguelovski, 2011; Coxshall, 2010; Arellano-Yanguas, 2011; Barton, 2005). Yet, such information could prove valuable for mitigating socio-environmental triggers, especially if followed by free, prior, and informed consent. While an informed local population may still be aggrieved by impacts as they unfold, challenges to the very legitimacy of projects are less likely as they cannot claim – as is often the case – to have been misled by authorities.

The ecological, cultural, and local livelihood risks posed by LSM, have led some governments to consider a policy of restricting investments in select areas and pursuing non-extractive modes of development as conflict prevention strategies. The rise of 'no-go' areas for mining follows on previous land-use regulations, such as protected natural areas ('ecological no-go zones') or national heritage sites ('cultural no-go zones'),

but has increasingly reflected grass-roots efforts to pursue alternative development paths ('alternative use no-go zones'). Specific categories often under consideration include indigenous peoples' reserves, war zones, fragile watersheds, high biodiversity habitats and 'wildlands', small islands, and cultural properties (Goodland, 2012). In 2003, members of the International Council on Mining and Metals (ICMM) agreed to set UNESCO World Heritage Sites as off-limits to mineral development. Several governments have specifically declared or considered specific 'no-go' zoning, including Australia, Canada, India, and the Philippines. A conflict-sensitive approach to no-go zoning would identify areas of high conflict likelihood and community resistance, and respond through pre-emptive zoning, dissuading companies from seeking to explore and operate in these areas (see Table 1; Condé & Le Billon, 2017).

For example, partial bans on mining have been implemented across Latin America, such as in Panama in order to protect certain indigenous communities; in Argentina where provincial governments (supported by national authorities)<sup>6</sup> have banned open-pit mining in glacial regions, as well as the use of cyanide in gold mining; and in Chile where, despite the country's prominent mining sector, Congress has been debating whether to declare a moratorium in glacier-fed headwater regions. Such strategies have not just been confined to developing countries; for example, New Zealand has recently sought to ban seabed mining as a means for protecting fragile marine ecosystems. Governments committing to such policies should follow-suit, as non-application and de-listing entail a high reputational and conflict risks for both government officials and companies (Chambers, 2014; IUCN, 2016).

An extension of the no-go approach is to declare a country-wide ban on mining. For example, national governments on both the left and right in El Salvador have upheld such a ban on mining since 2006, and in March 2017, took the unprecedented step to formalize this *de facto* policy into a nation-wide moratorium.<sup>7</sup> Similarly, Costa Rica's 2002 informal ban was enshrined into law by Congress in 2010 (Broad & Fischer-Mackey, 2016). Other countries have also considered mineral-specific countrywide bans, with Thailand's Prime Minister ordering a shutdown of gold exploration and mining operations in 2016.<sup>8</sup> Recently, the Philippines announced a ban on all new open-pit gold, silver, copper, and nickel mines, citing desires to protect the country's biodiversity and water, and to prevent communities from corporate harm.<sup>9</sup> According to some, these sweeping measures are indicative of a paradigmatic shift in the development priorities of host governments and populations towards models that prioritize the environment and indigenous rights (Broad & Fisher-Mackey, 2016).

Still, eschewing mining investment in pursuit of non-extractive modes of development may not be politically tenable, much less possible, especially for many low- and middle-income developing countries that, due to complex historical, economic, and geopolitical factors, have become structurally dependent on resource extraction. However, even within such countries host governments can implement preventive and management measures to reduce the incidence of conflict, primarily by enhancing the deliberative processes surrounding mineral investments, to which we turn below.

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6 It is important to note that for local and provincial bans to be effective conflict prevention tools, clear jurisdictional boundaries must exist within federal systems. For instance, in Peru municipal level bans on mining have been overturned by the national authorities who claim local authorities lack the authority, embroiling different levels of government in contentious legal disputes that have contributed to the conditions for conflict (De Echave & Diez, 2013).

7 Lakhani, Nina. "El Salvador makes history as first nation to impose blanket ban on metal mining." *The Guardian*. March 30th, 2017.

8 Blake, Chris. "Shattered Thai gold mine shows investors risks of absolute power." *Sydney Morning Herald*. December 19th, 2016.

9 Schneider, Ketih. "Philippines bans new open-pit metal mines." *Mongabay*. April 28th, 2017.

## 5. FROM HEAVY-HANDED THREATS TO INSTITUTIONALIZED ENGAGEMENT



Human rights organizations have expressed grave concern over the increasing tendency on behalf of governments to respond to mining opposition through heavy-handed legal and coercive means (Global Witness, 2014). As noted in our previous review, the probability conflicts over LSM will result in violent repression and the criminalization of protest is high within authoritarian or newly democratizing contexts wherein national authorities generally exhibit greater intolerance towards social resistance – although many governments in countries with robust democratic traditions have also responded to social movements by ‘securitizing dissent’ (Dauvergne & LeBaron, 2014). To protect economic activities deemed a matter of strategic national interests, many authorities have treated opponents as both literal and *de facto* threats to national security, paving the way for the use of questionable responses to localized protest, such as sweeping states of emergency; the use of militarized crowd control tactics; the preventive detention of activists; the refusal to hold security personnel accountable for human rights violations; and in some cases, invoking harsh anti-terrorism legislation to justify invasive surveillance measures and powers of arrest (Le Billon and Middeldorp, 2018).

While these activities may deter protestors from blockading mine entrances or destroying vital equipment, thereby protecting operations from incurring costly delays in production, they often violate host governments’ internationally enshrined responsibilities for promoting responsible mineral development (see Ruggie, 2013), and, more importantly, for protecting human rights and fundamental freedoms. The

use of repression is in part the result of governments lacking other forms of capacity to intervene early and effectively in conflict prevention and resolution, a general distrust of central governments by rural communities, and more generally a lack of effective governance institutions at the local level. As a result, far from peacefully transforming or sustainably resolving conflicts, government authorities may contribute to the risk of further escalation, stoking resentment towards authorities and delegitimizing national development strategies. Sadly, reactive and coercive responses have often overshadowed proactive and deliberative government strategies, particularly in Latin America (see OCMAL, 2014; GRUFIDES, 2013), but also in Africa (see CNRG, 2015).

Institutional engagement must thus ensure that conflict prevention is a priority, which in turn requires building trust, enabling transparency, and ensuring that local communities' interests and views are taken into account up front, in an effective and consequential manner, so that communities do not feel the need to protest at all, but rather engage, if necessary, in a constructive form of conflict that can be resolved institutionally and without violence. In case of further neglectful attention from the state, or institutional failure to consult communities, there is a need on the part of the state to respect the right for peaceful forms of protest.

### *5.1. SAFEGUARDING THE RIGHT TO PEACEFUL PROTEST*

Many governments see a legitimate rationale for creating the conditions for investments to take place and for businesses to operate; this is especially pressing within the global extractive sectors as the very nature of the extraction process, its frequent presence in indigenous territories and the value of mineral deposits, often require firms to operate in politically risky environments, and over long time periods given the asset fixity and high sunk costs (thereby preventing company withdrawal when political conditions deteriorate). However, governments' duties towards investors must also be balanced with the rationale of attracting investments in the first place (i.e. broad development for all), and governments' responsibilities to ensure that citizens can effectively exercise their political rights, such as freedom of expression, association, and assembly – especially within democratic societies. Respecting stakeholders' rights to publicly express their grievances is critical if host governments are to ensure conflicts are understood as processes that should proceed along a constructive and non-violent trajectory.

In many cases, security forces bare the overwhelming responsibility for the violence witnessed during outbreaks of social conflict, as the 2012 massacre of striking miners at the Marikana platinum mine in South Africa and the deadly protests at the Conga gold mine in Peru starkly illustrate (Chinguno 2013; Triscritti, 2013). While recent studies have highlighted states' usage of coercion to quell legitimate acts of protest (Aguilar-Stoen, 2017; Gamu & Dauvergne, 2017; Riofrancos, 2017; Wooden, 2017), the criminalization of dissent continues to appear only transversally in the academic literature and has yet to be examined in any systematic detail (Martinez-Alier et al., 2014; Bebbington, 2011; Ward, 2011; Özen & Özen, 2009).

Still, some case studies have analyzed the effects of security and policing on conflict. For example, Kamphuis (2011, 2012) argues that government policies and lack of progressive policing capacity that pave the way for the increasing usage of private security firms has had deadly implications for civil society during mining conflicts. Similarly, activists have also warned against interior ministries signing contracts with mining companies that allow police personnel to provide supplemental services at mining installations, as it increases the likelihood they will act in the interests of the company, and not the public (GRUFIDES, 2013). Others have found anecdotal evidence to suggest that violent repression is more likely when states deploy police personnel to conflict affected regions who have no social ties to the communities mounting protests, suggesting that greater investment in community policing may reduce the likelihood of violent



responses from authorities (Gamu, 2016). The effect of repression on the whereabouts of projects still need to be systematically investigated, but there is anecdotal evidence that it can result in a popular backlash and lead to project cancellation (Luthfa, 2017) or even a moratorium on resource exploration and production for the affected sector (Howe, 2014).<sup>10</sup>

## 5.2. MECHANISMS OF DELIBERATION

Conflict risks increase when communities lack opportunities to formally participate in resource governance (Angelovski, 2011; Trebeck, 2007; Ali & Grewal, 2006; Ballard & Banks, 2003; Horowitz, 2002). In this regard, host governments have an important role to play in conflict prevention and transformation by facilitating deliberation at all phases of the project lifecycle.

Like many social phenomena, mining conflicts may be subject to path dependencies, wherein contingent events early on can lock in courses of action that, as time proceeds, become more difficult to reverse (Andrews et al., 2016). These early moments of contingency can be understood as ‘critical junctures’ that shape the trajectory of socio-political outcomes (Collier & Collier, 1991; Levi, 1997; Pierson, 2000). Accordingly, governments should prioritize early interventions to avert the possibility of destructive forms of conflict, particularly with respect to community information and consent *prior* to licenses being issued by government authorities. Recent research suggests that when governments fail to construct *formal* space for communities to participate in deliberations over the desirability, risks, and benefits of mineral investments, the probability of popular mobilization and very costly forms of protest increase as projects transition to their operational phase (Jaskoski, 2014).

In this regard, free, prior, and informed consent (FPIC) has particular relevance as a conflict mitigation measure as it represents an intervention on behalf of national governments at a moment early in the mining lifecycle that can reduce an operation’s susceptibility to destructive forms of contention over time, thereby clearly signaling when a project should not go ahead (or, on the contrary, gain through a better mutual understanding and negotiated outcome between communities, companies and authorities). FPIC is enshrined in both customary and formal international law, notably the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP),<sup>11</sup> and the International Labour Organization’s Tribal and Indigenous Peoples Convention (ILO 169).<sup>12</sup> As a state-driven process, FPIC requires host governments to formally obtain the *voluntary* approval of affected populations *before* legal permission can be granted to projects. According to its principles consultation processes must allow for affected communities to know as much about their rights and the proposed project as do investors, so both parties can eventually negotiate with equal information (ELI, 2004; Goodland, 2004; Prno & Slocombe, 2012; for an implementation guide, see Hill et al., 2010).

Yet, despite states’ pledges under UNDRIP and legal obligations under ILO 169 (i.e., ratifying states) national governments have often been reluctant to implement FPIC for fear of discouraging FDI as many assume it is tantamount to providing communities with veto power over extractive projects, despite insistence

<sup>10</sup> In general, protests are more likely in areas with mining activities (Arce & Miller, 2006); governments are more likely to respond through repression to protests occurring in rural areas with mineral assets (Steinberg, 2017); and FDI in low skills and technology levels tend to have negative effects on human rights outcomes (Janz, 2017).

<sup>11</sup> UNDRIP is a non-binding aspirational document adopted by the United Nations General Assembly, with 143 states voting in favour, 4 against (Australia, Canada, New Zealand and the United States), and 11 abstentions.

<sup>12</sup> ILO 169 has been formally ratified by 22 countries, many of which maintain prominent extractive sectors.

by indigenous communities and United Nations representatives to the contrary (Slack, 2012). Moreover, this can also reflect the reluctance of governments to put the rights of communities ahead of national interests when matters of economic development are at hand, as well as enshrining, more generally, the rights of indigenous peoples in both law and effective practices. Instead, many have deferred to tempered versions of this consent mechanism known as ‘free, prior and informed consultation’ leading to ‘broad community support’ (WB, 2005; IFC, 2012), or the company-driven social license to operate (SLO), both of which represent voluntary measures on behalf of companies to obtain broad acceptance from impacted communities (Prno & Slocombe, 2012).

However, unlike FPIC, these deliberative mechanisms do not involve national governments as a direct party (much less an arbiter between the interests of foreign capital and civil society); are often characterized by vast asymmetries in power and information; and frequently involve the signing of opaque impact-benefit agreements that can undermine communities’ ability to bargain collectively. Consequently, they tend to produce only the minimum level of assent required for the operation to claim legitimate status before proceeding on to formal licensing.

Yet, constructing trust between communities, companies, and governments is necessary to creating the conditions for mining operations to develop in a peaceful manner. Research suggests conflict to be a less likely feature of community-firm interactions if deliberative mechanisms adhere to the principles of procedural fairness (Moffatt & Zhang, 2014). Procedural fairness refers to decision-making rules, regulations, and institutions that individuals or groups perceive as just, and that facilitate active participation and voice. Such principles, including in what circumstances consent needs to be obtained, can be enshrined in a number of instruments including formal law as well as agreements between companies and communities (including Impact Benefits Agreements - IBAs), tools that are becoming more common (see, Peterson Saint-Laurent and Le Billon, 2016).

While many host governments have eschewed FPIC for fear of discouraging investments, using it to reach definitive decisions about the status of a project may be less important than it being used to demonstrate that indigenous peoples’ rights, views, and opinions are being formally respected by national authorities. Ultimately, studies widely demonstrate community members desire to feel heard and have their desires considered (Moffatt & Zhang, 2014; Owen & Kemp, 2014; Zandvliet & Anderson, 2009; Horowitz, 2010; Barton, 2005), and among the consent mechanisms, FPIC is arguably the most robust in terms of its ability to safeguard the active participation and voice of stakeholder groups at a crucial stage in the mining lifecycle.

Governments can also enhance procedural fairness within the environmental impact assessment process (EIA). EIAs consist of a series of technical studies and stakeholder consultations to outline projects’ risks and benefits, as well as mitigation, adaptation, and compensation measures. Often, they are the only formal mechanism available for affected communities to participate in approving or rejecting a project proposal (Jaskoski, 2014). Yet, studies have found “serious deficiencies” in the information they provide to communities, as well as their current capacity to create fair and transparent deliberative space for resource governance (Slack, 2012; Septoff, Kuipers & Maest, 2006; Dong, Burrett & Qian, 2014). Critics worry that EIAs, in their current structure predispose conflict, as the for-profit environmental consulting firms are hired by companies have structural incentive to maintain good relations with their principals, and may be unlikely to present them with more critical assessments of impacts (Slack, 2012).

Authority for EIA approval can also fall under the jurisdiction of mining ministries, which, as institutions responsible for promoting mineral investment, cannot offer unbiased assessments of risks and benefits (Bebbington & Bury, 2013). Furthermore, companies often organize community information sessions,

thereby enabling them to determine who can attend, and what is on the agenda for debate; rather than having the government mandate and enforce broad information and consultation processes (De Echave & Diez, 2013; Zavaleta, 2013; Tanaka & Melendez, 2009). Lastly, these deliberations tend to be highly technical in nature, and without the presence of NGOs to act as interlocutors and advocates, effectively prevent a *representative* cross-section of affected communities from being *fully informed* of potential risks and benefits. To overcome these problems, Slack (2012) suggests governments ought to mandate EIAs be conducted by neutral third parties with no vested interest in the outcome. This would have the effect of enhancing the credibility of the information provided to stakeholders, making it less likely for aggrieved groups to claim to have been misinformed/misled about projected impacts and benefits once projects become operational and conflict risks increase.

### 5.3.DIALOGUE TABLES

Institutionalizing formal space for fair and transparent dialogue throughout the lifecycle of a mining operation is widely recognized as the path towards lasting agreements and more peaceful interactions between companies, communities, and the state (Banks, 2013; Caballero-Anthony, 2013; Helwege, 2015; Sawyer & Gomez, 2008; UNPFII, 2008). To be effective, deliberative mechanisms ought to create space for third party oversight, active civil society involvement (especially the participation of vulnerable and marginalized groups such as women and indigenous communities), as well as take appropriate measures to mitigate asymmetries in information and resources. Studies suggest that poor implementation of deliberative space can itself become an object of conflict, with communities utilizing confrontational protest methods and strategic escalations to demand greater representation and inclusion within (Caceres & Rojas, 2013; Anguelovski, 2011; De Echave et al., 2009; Barton, 2005). Host governments have important roles to play not only in supporting the creation of deliberative space, but also in actively participating as parties to conflict negotiations. To date, many governments have adopted a reactive approach to the creation of deliberative space, only becoming involved in the creation of dialogue tables following major outbreaks of conflict when political and reputational costs become too high to ignore. One of the first recommendations of dialogue practitioners is to start early to ensure informed consultation processes and the integration of diverse values and norms into corporate planning and operationalization (Arbeláez-Ruiz & Franks, 2014). In this respect, governments can mandate and facilitate early dialogue process, while ensuring corporate decisions reflect the perspectives and decisions resulting from them.

Second, dialogue processes should be sustained over time, and reinitiated after breakdowns until a final decision is made over the fate of a project, and thereafter in case the project goes ahead. Again, governments can help by mediating and providing safe conditions for reinitiating deliberation; this, however, requires they maintain an 'active neutrality' in conflicts and do not side with companies through repressive crack-downs on opposition. Third, dialogue should help build trust, notably with regards to the information being provided. This can be achieved through participatory monitoring to ensure communities have access to their own sources of information (Rolston, 2015). Additionally, governments can invite communities to join monitoring activities or assist them in building their own capacities, as well as help check the information provided by the parties - notably companies - and make them more readily accessible. Fourth, dialogue processes should be open to many forms of engagement, from circulating general information to providing specialized fora for the discussion of pointed issues. Finally, as mentioned above, dialogue processes should be inclusive, a challenging requirement that governments can help fulfill by recognizing marginalized voices and providing logistical assistance (Weitner, 2011).

## 5.4. ENHANCING DOMESTIC LEGAL SYSTEMS

According to the *protect, respect, and remedy* framework of the United Nations Guiding Principles for Business and Human Rights, private capital has the responsibility to respect human rights, while states have the duty to ensure individuals are protected against possible abuse and able to access judicial remedy (OHCHR, 2011; Ruggie, 2013). In this regard, domestic judicial systems have a crucial role to play in conflict reduction. Robust courts send credible signals to both stakeholders and private capital that can have conflict mitigating effects: when local communities do not confront persistent barriers to accessing legal remedy, they are less likely to adopt extra-legal means to articulate grievances; additionally, neutral courts enhance the deterrent effects of legal sanction, thereby increasing the likelihood mining companies and their contractors will adhere to responsible and sustainable operating practices.

However, in many resource-rich developing countries, there exists a frequent sense among local communities that authorities, private capital, subsidiaries, and security forces can operate with impunity. This is especially problematic within authoritarian and newly democratizing contexts wherein the independence of judicial systems may be compromised by powerful interest groups and/or corruption. As a result, the application of justice for abuses committed by mining companies, their subsidiaries/contractors, and/or security forces can be *ad hoc*, if applied at all, effectively ensuring that conflicts remain in a protracted, unresolved state. While some high-profile cases of socio-environmental abuse have been brought before domestic courts resulting in historic fines (e.g., BHP Billiton/Vale in Brazil, Barrick Gold in Chile), many barriers continue to prevent communities from accessing legal remedy, such as high burdens of scientific proof for environmental abuse, collective action problems, and political interference.

Barring the ability to access legal remedy through domestic courts, communities adversely affected by mining operations have sometimes sought justice and compensation through extraterritorial mechanisms. For example, Canadian courts have recently been utilized to sanction companies for their actions abroad, such as the cases of HudBay's Fenix mine and GoldCorp's Marlin mine in Guatemala, and Vancouver-based Copper Mesa's operation in Junin Ecuador (Keenan, 2010; Maheandiran et al., 2010). While extraterritorial jurisdiction can fill conflict governance gaps, it is important to note that the circumvention of domestic judicial systems can result in little impetus for host governments to strengthen domestic judicial systems. While systematic empirical research on the conflict mitigating effects of robust domestic courts remains scant, broad agreement nevertheless exists on the need to enhance the institutional capacity of judicial systems by reducing the legal barriers confronting communities; ensuring courts remain free of economic and political pressure; stamping out corruption; and third-party oversight through the creation of mining Ombudspersons (Rochlin, 2015; IFC, 2012; Coumans, 2010; ICMM, 2009a/b).

## 6. CONCLUSIONS

Our review of the empirical literature finds a 'negative' bias with respect to case outcomes. However, as we suggest, this is not likely because 'positive' instances of governments mitigating conflict do not exist, but rather, because qualitative scholarship (which has dominated the research) has generally leaned towards explaining instances of conflict occurrence - and especially those escalating into protests and repression - therein leading to a focus on the factors responsible for such outcomes. To address this problem, we recommend that future research endeavor to more systematically and rigorously explain instances of conflict prevention, demonstrating empirically (and if possible, causally) how specific government actions - such as policy interventions, institutions, regulatory frameworks, enhancements of governance capacities - create conditions for more peaceful and productive relations over mineral extraction. Such analyses could provide more definitive evidence to support the inferences and recommendations drawn from



'negative' cases. Moreover, rigorous analyses of positive cases would provide much needed empirical (dis) confirmation for the largely aspirational literature on conflict mitigation best practices.

This is all the more important as the absolute rise in the number of new mining conflicts emerged as a troubling consequence of the recent commodity 'super-cycle', and another could be starting within a few years. While individual conflicts result from a convergence of many factors, in general, host governments have created fertile conditions for contention by focusing on attracting FDI in the absence of well-designed and adequately implemented mineral development strategies (Andrews et al., 2016). As a result, many have reacted hastily through poorly designed policies and programs which have either come too little too late, or through repression and the criminalization of dissent. Both responses in turn exacerbate violence, social tensions, and stoke resentment, rather than transforming conflicts into more productive and resolvable disputes.

Despite this presumed 'negative' bias within the extant literature, our analysis does allow us to draw some preliminary findings about the (in)efficacy of host governments in social conflict management. Framing conflict governance around the concept of positive peace, we have found that host governments tend not to prioritize a proactive mitigation strategy that seeks to address the determinants that escalate tensions towards specific conflict outbreaks.

1) First, and most notably, the literature suggests host governments often lack the *governance capacity* in terms of regulatory clarity, enforcement, mineral development planning, and administrative resources, and tend to shirk on their responsibility to act as neutral arbiters in engagements between private capital and 'stakeholders' (including rights-holding indigenous communities). As a result, governments have created fertile conditions for conflict as rules remain unclear with respect to such issues as licensing, land use, property rights, and management of the mining sector - in particular, Artisanal and Small-scale Mining. Rectifying the perception that states (especially national governments) are beholden to FDI will be a challenging and long-running process in which actions speak loud, however governments must clarify the mandates and respect the division of powers between relevant ministries, in particular, mining and environment ministries. Additionally, for those that have ratified ILO Convention 169, the implementation of 'free, prior, and informed consent' sends a credible signal to investors and stakeholders alike of the state's neutrality in mineral development.

2) Such forms of governance have also hampered governments' appropriation and usage of resource rents, as monies are lost to corruption and wasteful spending at various levels of the state apparatus. This not only prevents many local residents from accessing the (in)direct material benefits of mining, but increases disillusionment with administrators and the state itself, as well as exacerbates competition within the state through rent-seeking, making conflict more likely. While transparency initiatives, such as the EITI, ought not be viewed as a panacea, there is a need for greater transparency at all points along the extractive industry value chain. To be effective, moreover, this will require that high-quality information on resource rents be made available in user-friendly formats that can be disseminated to citizens and facilitate democratic oversight.

3) The tendency for mining investments to be located in hinterland regions characterized by historically tenuous state presence has led local stakeholders to turn to mining companies to fill resource governance and service provision voids. Excessive reliance on companies to perform *de facto* state-like functions, however, ultimately undermines incentives for states to develop the administrative capacities and institutions necessary to ensure more peaceful and productive governance of their extractive sector. Enhancing the state's administrative, governance, service provision functions, and legitimacy in hinterland regions will be a long-term process requiring that authorities at all levels of the state to work in conjunction

with intergovernmental organizations, mining companies, and donor countries to improve its functioning and basic service provision. Meanwhile, it will be crucial to democratize the development process through various measures, including participatory budgeting and regional development planning, if only to increase the frequency and quality of interactions between local stakeholders and state agencies.

4) While states have generally followed one of two resource governance models (neoliberal and neo-extractivist), our review suggests no *a priori* reason to assume one model is less conflict-prone than the other, only that the mechanisms linking mining to conflict may differ (though further research is still required to parse them out). Nevertheless, one preliminary finding stands out as particularly relevant and worth further investigation: the effects of government decisions to license concessions to mid-level foreign firms. While recent quantitative data suggest that firms with mid-level market capitalization (US\$0.75-5 billion) and foreign majority ownership tend to be more frequently associated with conflict than larger or domestic firms (Haslam & Tanimoune, 2016), a common situation whereby governments rely on LSM to develop socio-economic programs that counteract conflict but that mid-size firms have neither the expertise nor perhaps the interest to carry out; replication of this finding beyond the Latin American context could prove highly useful to reshape public policies for the purpose of conflict mitigation.

5) Access to the material benefits of mineral extraction continues to be a major factor predisposing conflict (Franks et al., 2014). In this regard, our review suggests states with generally weak governance capacity have played a highly salient role in preventing affected communities from accessing material benefits, such as sustainable development and poverty reduction projects, and potential indirect employment opportunities. Within the context of fiscal decentralization, administrative weaknesses and corruption among sub-national governments - in particular, local governments - have stoked feelings of relative deprivation between groups, and a general sense of disillusionment with extraction-led development. At the same time, regional and local administrators have not always capitalized on the indirect employment opportunities mining investments may provide. While there is no single avenue for governments to enhance locals' access to material benefits, local and regional governments can help to initiate this process by clarifying regional long-term development planning and outlining how mining fits into this broader vision.

6) Our review suggests host governments have yet to robustly employ formal democratic deliberation to prevent conflict, supporting dialogue mechanisms only after significant outbreaks of conflict occur, or when it becomes too politically costly to ignore. Furthermore, this absence of proactive and preventive deliberative space increases the likelihood governments will utilize physical repression and criminalize protest - responses which have invariably served to exacerbate violence and social tensions, while ensuring the continued simmering of hostilities as opposed to conflict transformation. Accordingly, the state must actively support *and participate* in deliberative multi-stakeholder space at the national, regional, local - and even operational - levels. The creation of such space can be relatively low cost and without major capacity building. The value of this approach also goes beyond just the immediate dialogue by also demonstrating the values a government brings to mining governance, including openness, willingness to deliberate and discuss, which in turn, can have broader positive impacts in terms of governance and political legitimacy. Furthermore, while state support for democratic deliberation is key, to be effective research suggests dialogue institutions must be procedurally fair, and promote the active participation and voice of historically marginalized groups (e.g., indigenous peoples, women).

7) Finally, in general, a conflict-sensitive approach to resource governance would require that host governments first clearly identify areas of high conflict likelihood and community resistance, and respond through pre-emptive 'no-go' zoning, dissuading companies from seeking to explore and operate in these

areas. There may be some valuable lessons to learn in this regard from experiences with 'conflict minerals', although such approach should be cautious to not promote 'counter-insurgency' approaches to mining conflicts. For areas where mining investments are permitted, national authorities ought to ensure projected investments are subject to robust consent mechanisms and EIAs. Once projects receive the 'green light' by local communities, investors and relevant authorities must remain engaged in dialogue processes to ensure potential disputes do not escalate into destructive forms of conflict. This requires dialogue processes that help to circulate information, exchange perspectives, and sustain communication, but also foster pro-active monitoring and enforcement so that trust in government institutions is maintained or improved.

Constructing administrative and governance capacity to better manage resources and avoid conflict is challenging for many governments. Beyond the financial, logistical and staffing issues that are particularly salient in lower-income countries, challenges may also lie in the political relations and institutional behaviors embedded in government practices, as well as the personal ethics and beliefs of individual officials. In this respect, changing government practices - notably with respect to its relationship with historically marginalized populations and oppositional civil society groups - will require the proactive participation of industry and international donors. In this respect, it is important for companies and donor agencies to clearly spell out the responsibilities of host governments, a task that is made easier when international norms are in place and support can be provided. Beyond normative statements and mainstream foreign assistance, this task requires a paradigm shift in relations between companies, donors, civil society and host governments.

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## PART 2. A QUANTITATIVE ANALYSIS



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# 1. INTRODUCTION

In this project, we extended the global, quantitative dataset used in Andrews et al. (2016) and analyzed the roles of host country governments in conflicts associated with mining activities. The new data consists of information about conflict incidents associated with mining from 2002 to 2013. Constructing a longitudinal, global, quantitative dataset enabled us to systematically analyze the information collected by using rigorous statistical techniques. Thus, the statistical results can provide useful insights for policy-makers, practitioners, and researchers.

The objective of this specific analysis was to discover the roles of host country governments in either enabling or inhibiting conflicts associated with mining activities, based on their approach to governing mineral development in their jurisdictions. Recently, a few studies (e.g., Arce, 2014; Arellano-Yanguas, 2012; Haslam and Tanimoune, 2016; Ponce and McClintock, 2014) have used a quantitative approach to understand mining conflicts. All of these studies focused on Latin American countries as their samples, while our sample is global in coverage. None of the aforementioned studies analyzed the role of host country governments in conflict as a specific objective.

## 2. METHODOLOGY

### 2.1. DATA AND SAMPLE

In order to analyze the role of a country's government in conflicts associated with mining, we built our data by combining hand-collected conflict information with the SNL Metals & Mining database for property-level information and other publicly-available datasets for country-level information. We gathered information for 453 conflicts associated with mining activities between 2002 and 2013 from news sources and webpages of various international organizations. We used the definition of 'conflict incidents' employed by the International Council on Mining & Metals, (ICMM), (2015), which defines them as "disputes between companies and communities, which involved protests and/or [the] use of force as well as legal proceedings against companies related to environmental or social issues." For detailed information related to our data gathering process, we draw attention to Andrews et al. (2016).

In the data, between 2002 and 2013, there was an almost exponential rise in the number of recorded conflict incidents (from 10 in 2002 to 91 in 2013). Regarding the location of the conflicts, Latin American countries recorded about 48% of the conflict incidents followed by Africa (21%); Asia, excluding the Pacific Island countries, and Middle East countries (17%); and North America (6%). For the host countries, Peru had the highest number of conflicts (14.6%), followed by South Africa (6.6%), Guatemala (5.9%), Argentina (5.4%), Chile (5.2%) and the Philippines (5.2%). The figures for Mexico Canada and the U.S. were 4.5%, 3.8% and 2.5% respectively.

We were able to match the information for 334 conflicts with the SNL Metal & Mining database. Thus, 334 conflicts were included in the country-level analysis. The SNL Metals & Mining data offers detailed operation-level information, including mineral reserves and ownership information of each property. For the country-level analysis, we aggregated the property-level information by country and year. Among these 334 conflict incidents, we were able to find the exact ownership information of the mining properties for 227 conflicts. Therefore, in the property-level analysis we accumulated property-level information, including property characteristics and ownership for 227 conflicts. The SNL Metals & Mining data defines a mining property as a quantum of land leased by host governments or individual owners to explore for minerals.

For country governance and general country information, we employed the World Bank *Worldwide Governance Indicators* (<http://info.worldbank.org/governance/wgi/#home>) and *World Development Indicators* (<http://data.worldbank.org/products/wdi>) and the World Economic Forum *Global Competitiveness Index* (<http://reports.weforum.org/global-competitiveness-index/>).

After matching all of the datasets, the number of complete country-year observations for the country-level analysis was 932 for 98 countries (i.e. 204 observations for 21 developed countries and 728 observations for 77 developing countries) from 2002 to 2013.<sup>13</sup> The list of 98 countries and the country-level information about our key variables (i.e., *the number of mining companies operating in the country, the ratio of foreign mining companies to total mining companies operating in the country, total reserves of natural resources, and composite measure of country governance quality*) are shown in Table 1 (see Appendix). Regarding the property-level analysis, the number of observations was 92,165 (i.e. 50,218 in developed countries and 41,947 in developing countries) from 18,735 mine properties in 49 countries, covering the period 2002 to 2013. The number of countries is smaller in the property-level analysis because we excluded countries without any conflict incidents.

## 2.2. MODELS

For the country-level analysis, we used an unconditional, negative, binomial, regression model because the dependent variable was a count variable (i.e., the *number* of conflicts in a country), which ranged from zero to a positive number. As 28 countries had multiple conflicts in a given year, we counted the number of conflicts in order to measure the incidents of conflicts in a host country. For the property-level analysis, our dependent variable was the *occurrence* of conflicts, which represented the likelihood of conflicts. Since no properties had multiple conflicts in a given year, we used the occurrence, not the number of conflicts, as the dependent variable for the property-level analysis; that is, if a property had one or more conflicts in a given year, it was assigned a value of one, otherwise, it was assigned a value of zero. Due to the low probability of conflict occurrence (i.e., 0.2%; 227 conflicts out of 92,165 observations),<sup>14</sup> we used an unconditional, rare events, logistic regression (King and Zen, 2001a; King and Zen, 2001b).

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13 Due to missing information for the country-level control variable of poverty-rate in the data sources for Australia and New Zealand, they were not included in our analysis. However, when we removed the poverty-rate variable and included Australia and New Zealand, we found consistent results. As earlier studies (Gamu, Le Billon, and Spiegel, 2015; UNCTAD, 2007) found that mining conflicts are often associated with poverty, we kept this variable in our model and excluded Australia and New Zealand.

14 We collected the list of conflict incidents from 11 governmental and non-governmental organizations as describe in detail in Andrews et al. (2016). The conflicts recorded in our data were likely those that received significant attention from the media, involved physical violence, and/or caused social problems. Thus, our data do not likely reflect minor disagreements among stakeholders or mining conflicts that did not make significant environmental, social and/or economic impacts on society.

Mathematically, for the country-level analysis, we employed the following negative binomial regression model;

(1)

$$P(z_{i,j,t} > 0; X) = \ln[1 - \exp(-\exp(X_{i,j,t}\beta))] + y_{i,j,t} \left\{ \ln[\exp(X_{i,j,t}\beta)/(1 + \exp(x_{i,j,t}\beta))] \right\} \\ - \ln\{[1 + \exp(X_{i,j,t}\beta)]/\alpha + \ln\Gamma(y_{i,j,t} + 1/\alpha) - \ln\Gamma(y_{i,j,t} + 1) - \ln\Gamma(1/\alpha) - \ln\{1 - (1 + \exp(X_{i,j,t}\beta))^{-1/\alpha}\}\}$$

where  $z_{i,j,t}$  is the number of conflict incidents,  $\Gamma$  is a gamma function, and  $\alpha$  is an overdispersion parameter. A Poisson model could also be used for estimating the country-level model; however, the data revealed that the variance (1.20) of the number of conflict incidents was greater than the mean value (0.37). Thus, employing a negative binomial regression, which accounts for greater than the Poisson variation, was a better approach since it corrected for problems related to unobserved heterogeneity (e.g., Almeida and Phene, 2004; Oh and Oetzel, 2011).

For the property-level analysis, the following logistic regression model was used;

(2)

$$P_{i,j,t}(y_{i,j,t} = 1; X) = f(1) = \exp(X_{i,j,t}\beta) / \{1 + \exp(X_{i,j,t}\beta)\}$$

where  $y_{i,j,t}$  is the occurrence of conflict (0/1) of property  $i$  in country  $j$  at year  $t$ .  $X_{i,j,t}$  is a vector of the independent and control variables and  $\beta$  is the vector of coefficients to be estimated by the modeling. The rare event, logistic estimation computed unbiased estimates for the logit model (Equation 2) with rare events.

The rare event, logistic regression provided corrected estimators with lower mean square errors than the conventional logistic regression model. Such correction is important for small sample sizes and also improves estimators for large sample sizes (King and Zeng, 2001a). We estimated Equation (1) with year and region fixed effects and Equation (2) with year and country fixed effects.

## 2.3. VARIABLES

### Dependent Variables

For the country-level analysis, we used the *number of conflict incidents* by country per year as the dependent variable. For the property-level analysis, we used the binary variable of conflict occurrence, which is a measure of the *likelihood of conflicts*. We posited 1 if there was a conflict associated with the mining operations for a property in a year and 0 otherwise.

### Independent Variables

In order to test the country-level model, we used *the number of mining companies*, *ratio of foreign mining companies to total mining companies*, and *total reserves of natural resources* as the independent variables. The *number of mining companies* was measured by counting the number of all mining companies operating in a country for a given year. The *ratio of foreign mining companies* was the percentage of the foreign mining companies to the total number of mining companies in a country per given year. The source of *the number of mining companies* and *ratio of foreign mining companies* was the SNL Metals & Mining database. For the *total reserves of natural resources*, we took the log transformation of the value of the total reserve of minerals (as measured in USD) in a country in a given year, which was gathered from the World Development Indicators. In order to reduce the potential for an endogeneity problem at the country-level, we used one-year lagged variables.



For the property-level analysis, we used the *total number of owners*, *ratio of foreign mining owners*, and *amount of mineral reserves* for a property as the independent variables. The *total number of owners*<sup>15</sup> consisted of those individuals who had ownership of more than 3% of the property for a given year. The *ratio of foreign owners* was measured as the percentage of the total number of owners in a property for a given year. The *amount of mineral (ore) reserves* was measured as the aggregated amount of mineral reserves (tons) for a property as recorded in the SNL Metals & Mining database.<sup>16</sup>

### Moderating Variables

For both the country- and property-levels, we used *country governance quality* as a moderating variable. We used the country governance scores from the Worldwide Governance Indicators provided by the World Bank, which included six dimensions: *control of corruption*, *government effectiveness*, *absence of political instability and violence*, *regulatory quality*, *rule of law*, and *voice and accountability*. In order to measure the overall score of country governance quality, we averaged these six dimensions to create the *composite index of country governance quality*. This measure has been widely used in academic research for cross-country comparisons of country governance quality (Globerman and Shapiro, 2002; Kaufmann, Kraay, and Mastruzzi, 2009; Sovacool and Andrews et al 2016). For the robustness check, we also tested each of the six dimensions separately.

### Control Variables

We included several country-level control variables to examine the occurrence of conflicts associated with mining operations. In the country-level model, we controlled several macroeconomic factors. To control for the economic development of the country, we used the *GDP per capita*, *annual growth of gross domestic product (GDP)*, *foreign direct investment (FDI) inflows as a percentage of GDP*, *unemployment rate (%)*, and *exports of ores and metals as a percentage of merchandise exports*. In order to control for socio-demographic factors, we included *population density*, *poverty rate (%)*, *permanent cropland as a percentage of entire land area*, *logarithm of land size (km<sup>2</sup>)*, and *infrastructure quality (i.e., the average of the quality of transportation, including ports, airports, and railroads)*. Finally, we included the *regions* (i.e., North America, Eastern Europe, Asia, Africa, Latin America, Western Europe, and Pacific Island countries) and *year* fixed effects to control unobserved heterogeneity across supra regions and over time.

In the property-level analysis, we controlled the *log of the GDP*, *annual GDP growth*, *population density*, *log of inflows of FDI*, *unemployment rate*, *ores and metals exports as a percentage of merchandise exports*, *market capitalization (i.e., sum of the market values of listed domestic firms)*, *total reserves of the natural resources in a country*, *ratio of foreign mining companies in a country*, *poverty rate*, and *permanent cropland as a percentage of land area*. We also included *country* and *year* fixed effects. Table 2.1 (Appendix) provides information about the variables and their definitions.<sup>17</sup>

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15 Total number of owners of a property at a given time in a given year

16 The definition of the *amount of mineral (ore) reserves* in the SNL Metals & Mining database is the “volume of ore used to calculate total reserves.”

17 The control variables for the country- and property-level analyses were slightly different due to the high collinearity among the variables.

## 3.RESULTS

### 3.1.COUNTRY-LEVEL ANALYSIS

Table 2.3 shows the summary statistics and correlation matrix for the country-level analysis and Table 2.3 presents the results of the country-level analysis (see Appendix). In Column 1 of Table 2.3, we included three independent variables (i.e., number of mining companies, ratio of foreign mining companies, and total reserves of natural resources), the composite measure of country governance quality, and all of the control variables. The results showed that the association between the number of conflict incidents and number of mining companies operating in a host country was positive and statistically significant ( $\beta=1.2394, p<0.001$ ), while the association between the number of conflicts and the ratio of foreign mining companies ( $\beta=0.3148, p=n.s.$ ) and total reserves of natural resources ( $\beta=0.0677, p=n.s.$ ) were statistically insignificant. The result explain that the number of conflicts incidents increase within countries with the number of mining companies operating in those countries. The results also may be indicative of the capacity limits of host governments regarding their ability to effectively monitor and regulate mining activities when the number of mining companies increases.

The association between number of conflict incidents and country governance quality was positive, but insignificant ( $\beta=0.0411, p=n.s.$ ), indicating that the governance quality of a host country does not in and of itself lower or increase the number of conflict incidents associated with mining activities. This result was counter-intuitive and required further analyses, as described below. The control variables, poverty rate ( $\beta=0.0254, p<0.01$ ) and mineral (ores and metals) exports ( $\beta=0.0166, p<0.01$ ) revealed positive associations with the number of conflict incidents, while GDP per capita ( $\beta=-0.7244, p<0.01$ ) and land size ( $\beta=-0.3857, p<0.05$ ) were negatively associated with the number of conflict incidents.

In Column 2 of Table 2.3, we included the interactions between the country governance quality and the three independent variables. The results showed that the interactions between the ratio of foreign mining companies and country governance quality ( $\beta=-0.6971, p<0.05$ ) and between total reserves of natural resources and country governance quality ( $\beta=-0.2751, p<0.01$ ) were negative and significant, while the interaction between the total number of mining companies and country governance quality ( $\beta=0.1979, p=n.s.$ ) was insignificant. These results indicate that the high ratio of foreign mining companies and large amount of total reserves of natural resources correlate with increasing conflicts incidents when a host country had weak country governance, such as Ecuador, Indonesia, and Russia (See Figure 1.0).<sup>18</sup>

Figure 1.0 shows two predicted lines: one for a low-level of country governance (i.e. mean minus one standard deviation;  $-0.81$ ) and one for a high-level of country governance (i.e., mean plus one standard deviation;  $+0.65$ ). This figure shows that the number of conflict incidents increase at a faster rate for countries with low-levels of country governance quality than for countries with high-levels of country governance quality, with increasing total reserves of natural resources and with an increasing ratio of foreign mining companies. As already noted, the direct effect of the number of mining companies was positive and significant and, therefore, the number of conflict incidents increase with the number of mining companies, regardless of the country governance quality.

<sup>18</sup> As the interaction between the number of mining companies and country governance quality was statistically insignificant, this relationship was not illustrated.

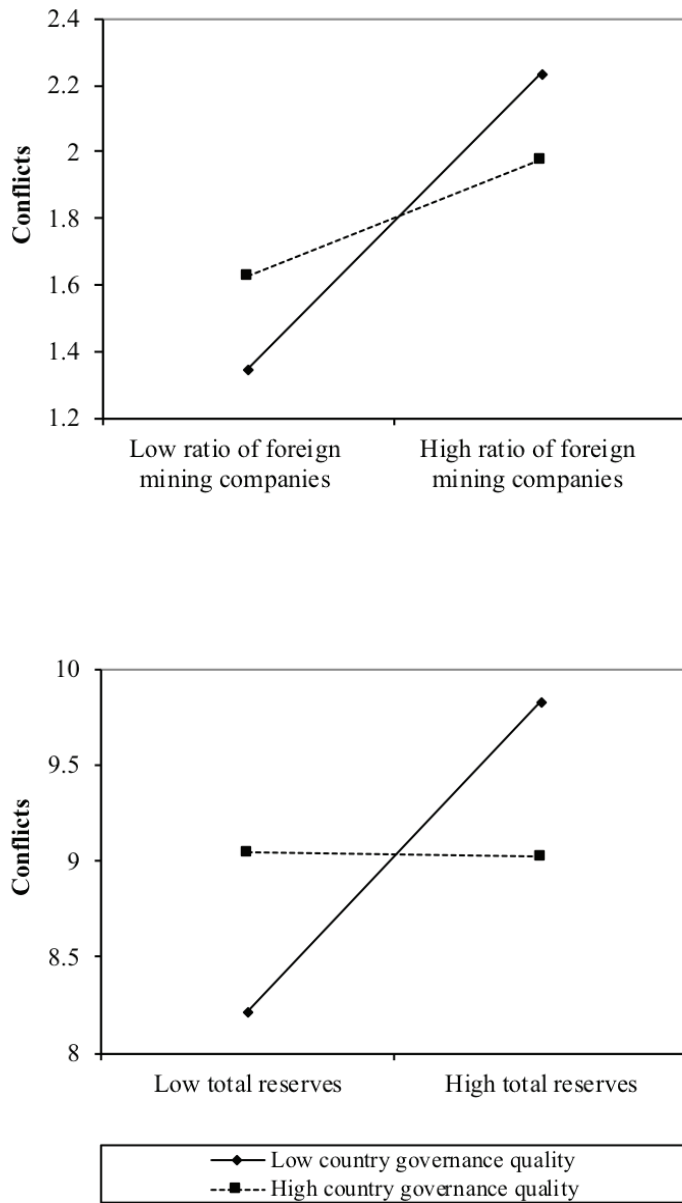


Figure 2.0. The moderating effect of country governance quality on the association between the ratio of foreign mining companies, total number of mining companies and number of mining conflicts (country level analysis).

### Data Interpretation

When countries have a high ratio of foreign mining companies, the risk of conflict is lowered by increasing quality of governance. Countries such as Sweden and the Czech Republic have a high ratio of foreign mining companies, high-levels of country governance, and low-levels of conflict incidents. When a host country's governance quality is high, foreign companies are required to follow strong and well-designed properly monitored and enforced, regulations, which reduce the possibility of conflicts with various stakeholders. Assuming that high-levels of governance quality tend to attract mining corporations that have better

conflict-sensitive business models, the combination of high levels of country governance matched with advanced business models of companies will be powerful mechanism for lowering conflict risk.

Likewise, for countries with high levels of natural resource endowment, the risk of conflict is lowered by increasing quality of governance. We take this to be a reflection of high levels of competence in resource management that would accompany indications of strength in those factors which comprise the composite governance quality index. Resource management would relate to conflict sensitive factors such as the fair distribution of benefits from natural resources (jobs, tax revenues, and social investments) and effective solutions to complex challenges such as resettlement of communities, transformation of labor systems, environmental and safety issues, and inflation, that could otherwise increase the risk of conflict.

In summary, country governance quality does not lower the risk of mining related conflicts alone. Rather, it becomes an increasingly important deterrent of conflict the greater the resource endowment is of host countries and the more successful countries are in attracting foreign direct investment (FDI), such that the ratio of foreign mining companies to total mining companies is high. A number of studies have shown that mining companies are more likely to invest in countries with high governance quality because the risk to their capital-intensive projects is significantly lowered (Busse and Hefeker, 2007; Jensen, 2008). Therefore, resource rich countries should establish a high-level of governance quality prior to attracting FDI. Higher levels of governance quality will also enable them to attract high-standard foreign multinationals and investors, who will possess the ability to establish successful relationships with local and international stakeholders.

We tested the model using the individual dimensions of country governance found in Columns 3-14 of Table 2.3, including control of corruption (Columns 3 and 4), government effectiveness (Columns 5 and 6), political stability and absence of violence (Columns 7 and 8), regulatory quality (Columns 9 and 10), rule of law (Columns 11 and 12), and voice and accountability (Columns 13 and 14). The results using the individual dimensions of country governance quality were consistent with the model employing the composite index (i.e. Columns 1 and 2).

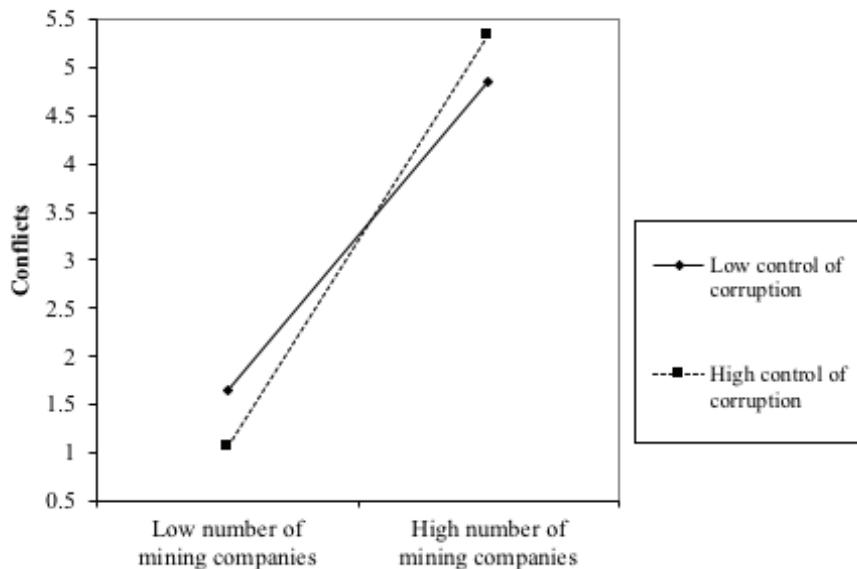
The role of high governance quality in lowering conflicts associated with a high ratio of foreign mining companies (i.e. the negative interaction between the ratio of foreign firms and governance quality) holds for all individual governance quality indicators except for *voice and accountability*<sup>19</sup>. Higher scores for *voice and accountability* did not have a moderating effect on the number of conflicts in countries exhibiting a high ratio of foreign firms. Furthermore, while the strength of the correlation between increasing natural resource endowment (i.e., amount of natural resources) and increasing number of conflict incidents was diminished with higher country governance scores of *control of corruption*, *government effectiveness*, and *rule of law*, the effect was weaker for the measures of *political stability and absence of violence* and *voice and accountability*. The apparent insensitivity of *voice and accountability* to the number of conflict incidents when the ratio of foreign mining companies is high, and similar insensitivity of *political stability and absence of violence* and *voice and accountability* when resource endowment is high, maybe reflective of the fact that foreign mining companies will invest in countries with high mineral potential regardless of whether they are established democracies or governed by authoritarian rule, as long as there is an acceptable level of stability and predictability.

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<sup>19</sup> The *voice and accountability* index measures attributes such as freedom of expression, freedom of press, human rights, government accountability and transparency and electoral process.



One surprising finding was a slight enhancing effect of increasing *control of corruption* on the association between increasing number of conflicts with the increasing number of companies (Figure 2). Probably more significant however, is the fact that increasing *control of corruption* did not lower the positive correlation between number of conflict incidents and number of companies.



**Figure 2.1. The moderating effect of control of corruption on the association between the number of mining companies and number of mining conflicts: country level analysis.**

This suggests that the level of corruption does not have a direct association with increased risk of conflicts associated with mining, a relationship that is likely due to a broad and long-standing acceptance of corruption in such countries. This also implies that efforts to lower corruption within host governments should not necessarily be singled out as a public policy priority to address conflictive environments, since improving other factors such as governance effectiveness, regulatory quality and rule of law would appear to have a stronger conflict-mitigating impact.

### 3.2.PROPERTY-LEVEL ANALYSIS

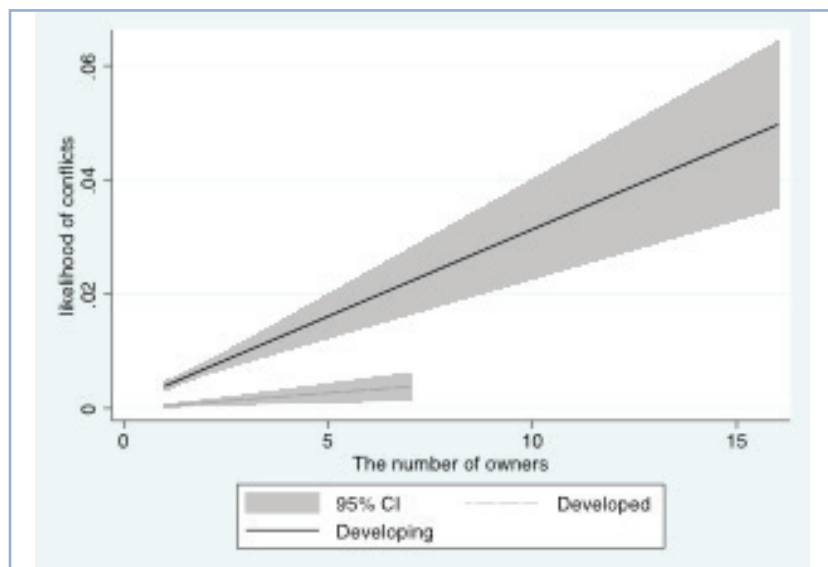
Table 2.4 (Appendix) shows the summary statistics and correlation matrix for the property-level analysis and Table 2.5 (Appendix) presents the results of the property-level analysis. In Column 1 of Table 6, we included three independent variables (the number of owners of a property, the ratio of foreign owners to total owners of a property, and the amount of mineral reserves for a property)<sup>20</sup>, the composite measure of country governance quality, and all of the control variables for the total sample (i.e. the developed and developing countries). The results show that the total number of owners ( $\beta=0.3431, p<0.001$ ), ratio of foreign owners ( $\beta=0.7011, p<0.001$ ), and amount of mineral reserves ( $\beta=0.1000, p<0.001$ ) were positively and significantly associated with the likelihood of conflicts. Unlike the country-level analysis, the number

<sup>20</sup> All three independent variables are measures taken of a given property at a given time. For example, the number of property owners are the numbers owners counted at a given time. It does not indicate the number of times a property has changed ownership over a period of time.

of owners, ratio of foreign owners and amount of mineral reserves directly determined the *likelihood* of conflicts associated with mining activities at the property level.<sup>21</sup> These associations, however, somewhat differed based on the host country's socioeconomic status. In Columns 2 and 3 of Table 6, we tested the same model for the developed and developing country samples, respectively.

The results showed that all three independent variables (i.e., the number of owners, ratio of foreign owners, and amount of mineral reserves) were positively associated with the likelihood of conflicts (see Figure 3). However, the effects of all of the independent variables were much stronger for the developing country sample (solid lines in Figure 3) than the developed country sample (dotted lines in the graphs of Figure 3), which means that the likelihood of the conflicts was higher in developing countries.<sup>22</sup>

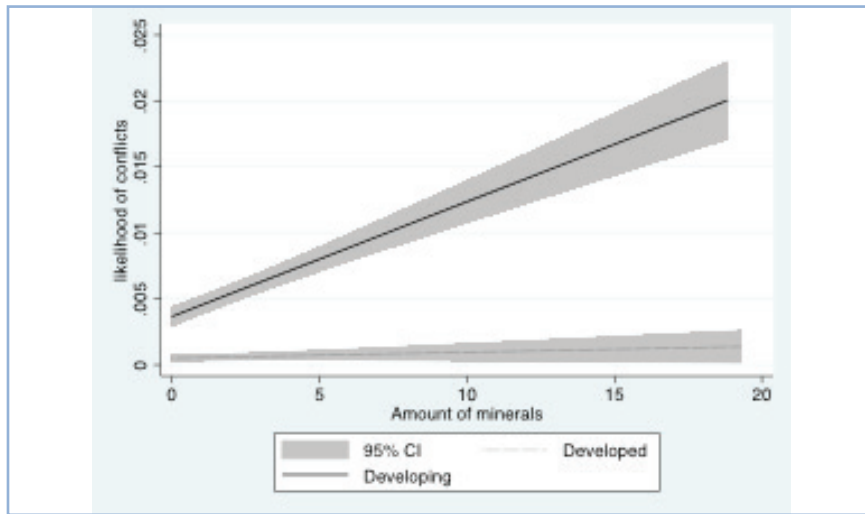
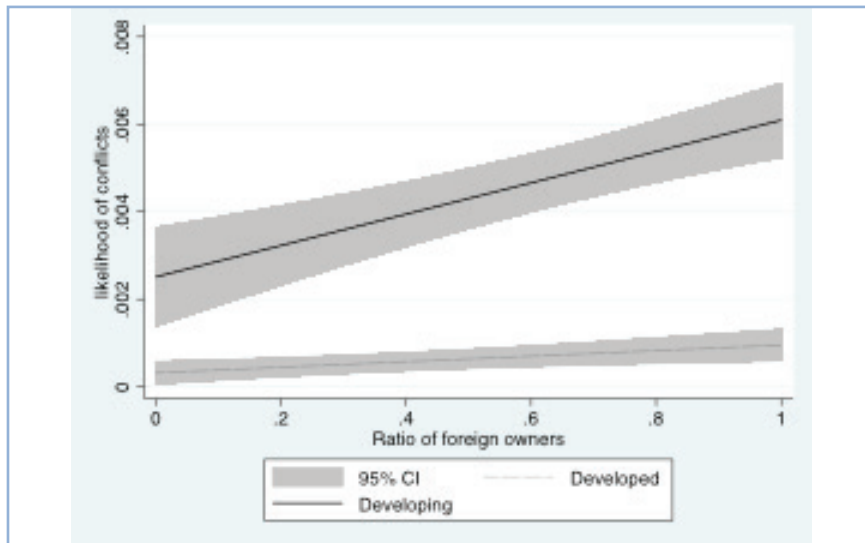
In parallel with what we found in the country-level analysis, country governance quality was not significantly associated with the likelihood of conflicts (i.e., statistically insignificant at the 0.1 level) at the property-level, for all three samples (i.e. total, developed country, and developing country). We can infer from this that even if a country has a relatively high score on the quality of governance, conflict can arise at the property (local) level<sup>23</sup>, due to a lack of presence and therefore influence at the local level by an otherwise strong central government, a lack of preparation of local communities by the host government for the arrival of large-scale mining operations, and poorly designed and resourced approaches to social development by mining companies. A mining company may successfully complete the relatively high standards of the legal procedures and approvals from the host country government, but still needs to achieve legitimacy and/or receive social license to operate from various stakeholders and communities near the mining property (Gunningham, Kagan, and Thornton, 2004; Owen and Kemp, 2013).



21 In contrast to the country-level analysis, which compared the independent variables with the *number* of conflicts, in the property-level analysis, the values associated with the independent variables determined the *likelihood* of conflicts associated on the property; that is, the higher their values, the higher the likelihood of a conflict.

22 The gray-coloured, shaded areas in the figures show 95% confidence intervals and explain that the likelihood of conflict occurrence is statistically different between the developed and developing countries.

23 Discussed in this context, property level can be understood as implying a mining concession and surrounding communities



**Figure 2.2. The association between ratio of foreign mining companies, amount of mineral, and the number of owners and likelihood of conflicts: property level**

In Columns 4, 5, and 6 of Table 2.5, we examined the interaction effects between country governance quality and the three independent variables. The results showed that, for the total sample, increasing country governance quality lowered the positive effect of the amount of mineral reserves on the likelihood of conflict ( $\beta=-0.0390, p<0.05$ ). For the developed country sample, the moderating effect of country governance quality was statistically insignificant. For the developing country sample, country governance quality lowered the positive effect of the ratio of foreign owners ( $\beta=-0.7515, p<0.05$ ) and the amount of mineral reserves ( $\beta=-0.0401, p<0.05$ ) on the likelihood of conflict (See Figure 2.3). The moderating effect of country governance quality was statistically insignificant for the number of owners.

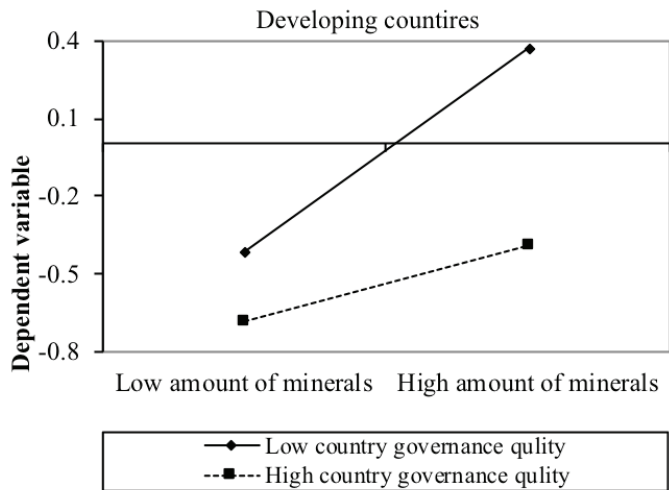
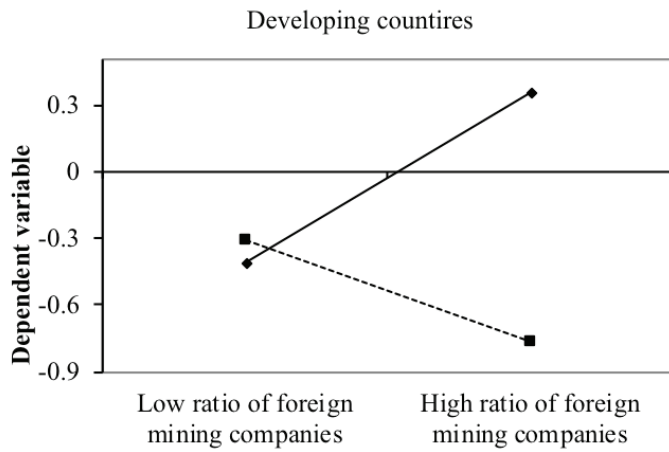
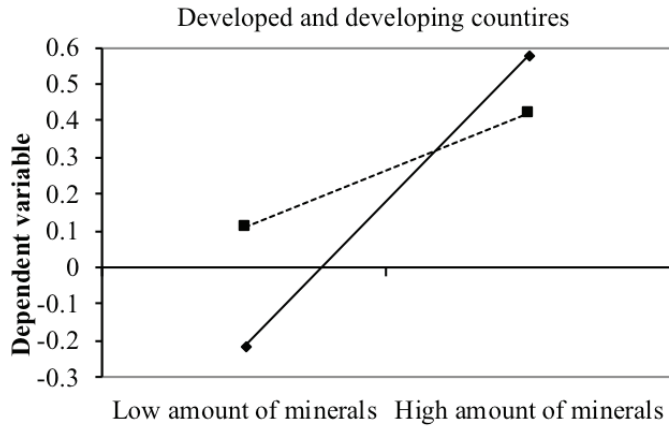


Figure 2.3. The moderating effect of country governance quality: property level analysis.



## Data Interpretation

These results imply that, in developed countries, a higher quality of governance effectively lowers the likelihood of conflicts and thus the direct effects of the total number of owners, the ratio of foreign owners, and the amount of mineral reserves on the likelihood of conflicts was weak. Additional increases in country governance quality within developed countries did not help much in lowering the occurrence of conflicts associated with mining activities and, thus, no moderating effects were found. Thus to reduce conflict risk in developed countries, it would be more effective to rely on mining company initiatives to strengthen social practices and improve relationships with stakeholders, rather than state driven processes focused on policy or regulatory measures.

In developing countries, however, good country governance significantly lowered the likelihood of conflicts when the mining properties displayed a high ratio of foreign owners and/or the amounts of reserves were large. The implication is that resource rich countries contemplating opening their doors to FDI should first make sure that they improve their quality of country governance, otherwise they are likely to experience high-levels of conflict upon the acquisition of properties and mines by foreign mining enterprises and particularly so if those properties contain large reserves.

Improving the governance of a country across the whole regulatory spectrum, requires considerable time and effort, involving realignment of legal instruments and policies over multiple government departments. Our results suggest that while this process is ongoing, host governments of developing countries should focus on property-level (local) governance, including limiting the number of property owners, limiting the number of foreign owners, focusing on the development of the domestic mining industry and managing the distribution of revenues and benefits derived from mineral resources, until they have built the capacity to effectively regulate and monitor a mining sector populated by a significant number of both domestic and foreign companies. This strategy would require the host government to not only limit the influx of foreign mining companies, but to also be selective about the ones they do allow, choosing those with proven capabilities for successful community development and maintaining constructive relations with local communities and stakeholders.

In Columns 7-42 of Table 2.5, we tested the same models with the individual dimensions of country governance: *control of corruption* (Columns 7-12), *government effectiveness* (Columns 13-18), *political stability and absence of violence* (Columns 19-24), *regulatory quality* (Columns 25-30), *rule of law* (Columns 31-36), and *voice and accountability* (Columns 37-42). The results were consistent with those derived from the composite index of country governance (columns 1-6 in the same table), with a few exceptions. The moderating effect of *political stability and absence of violence* on the positive relationship between increasing conflict with the amount of mineral reserves was insignificant for both the total and developing country samples. For the developing country sample, the moderating effect of country governance quality with the ratio of foreign owners was statistically insignificant for the *control of corruption*, *regulatory quality*, and *voice and accountability*.

In short, conflicts are more likely to occur when a property has several owners, a high ratio of foreign owners, and large amounts of mineral reserves. This tendency is much more pronounced in developing countries than in developed countries. However, in developing countries, high quality of country governance can effectively lower the probability of conflict incidents in situations where properties are characterized by high ratios of foreign owners and large mineral reserves.

## 4. LIMITATIONS

The limitations to the analysis are summarized as follows. First, the definition of conflicts associated with mining activities could vary across the data sources. It is likely that a selection of conflict events can be biased toward the interests and geographic coverage of the reporting parties, including the news media and governmental and non-governmental organizations. Thus, these reporting parties likely care more about conflict events in large-scale mines as well as conflicts involving physical violence due to substantial social concerns about the violence rather than conflicts involving small-scale miners in remote communities.

Second, in the property-level analysis, the information about the number of owners of individual properties and ratio of foreign owners of individual properties was collected from the SNL Metals & Mining database, which does not provide information on changes in ownership within any given year. In some instances, it is likely that changes in ownership (in both the number and nationality of owners) led to conflicts or vice versa, thus, there could be endogeneity issues between mining conflicts and ownership characteristics. In this analysis, we were not able to lower the concerns of endogeneity due to the nature of the limited (i.e. not continuous) dependent variables.

Third, the data do not provide detailed information about ownership characteristics other than foreign ownership. Thus, the importance of the number of owners in determining conflicts propensity may vary based on other ownership characteristics such as state-owned, community-owned, publicly traded owners, and private owners. In this analysis, we were not able to accommodate these characteristics, and future research should consider such details.

Fourth, we identified the starting years of the conflict events; however, some conflicts might continue beyond the calendar year. Unfortunately, it was impossible to find information about the duration or end dates of conflict events. In addition, some conflicts might be related to structural and contextual determinants that contribute to conflicts over considerable periods of time. In this analysis, we were not able to account for changes in structural and contextual factors.

## 5. SUMMARY OF KEY FINDINGS

### *5.1. STATISCAL RESULTS*

The following is a summary of the significant statistical findings resulting from our analysis. The relationships examined, their results and what they indicate are summarized on Table 2.6:

1. There is no significant, direct correlation between quality of country governance (as measured by World Bank governance indicators) and frequency of conflict incidents. A higher quality of country-level governance, in and of itself, does not directly lower the propensity for mining conflicts at either the country- or property-levels.
2. At the country-level, the conflict incidents tend to increase when the total number of mining companies increase and the ratio of foreign mining companies to total mining companies increase. However, the number of conflicts does not seem to have a direct association with increasing resource endowment, as measured by total reserves of natural resources in a country.
3. These country-level effects change in response to differing levels of country governance

quality; that is, increasing ratios of foreign mining companies and increasing amounts of total reserves of natural resources each correlate with increasing numbers of conflict incidents when a country has weak country governance scores.

4. At the country-level, low economic development (i.e. as measured by low per capita GDP and high poverty rate), high importance of the mining sector (i.e. as measured by high ore and metal exports), and small land size of a host country, correlate with an increase in the number of conflict incidents.
5. At the property-level, the occurrence of conflicts tends to increase with an increase in the number of property owners, the ratio of foreign property owners to total property owners, and the amount of on-property mineral reserves, in both developed and developing countries.
6. At the property level, a host country's economic and social characteristics, such as GDP, GDP growth, governance quality, market capitalization and poverty rate are not associated with the likelihood of mining conflicts.
7. Thus, at the property-level, property ownership and resource size characteristics are more important determinants of mining conflicts, compared to the overall country-level economic and social characteristics. Conflict likelihood related to high ratios of foreign owners and large amounts of mineral reserves tend to decrease when country governance quality is high, particularly for developing countries.

## 5.2.POLICY IMPLICATIONS ON THE ROLE OF GOVERNMENT IN MINING CONFLICTS

The following suggested policy implications are linked to the analytical results summarized in Table 2.6 (Appendix).

1. Considering the findings from both the country- and property-level analyses, economic and social development lowers the propensity for conflicts associated with mining activities. Thus, in developing countries, it is important to establish high standards of country-governance quality, in particular, resource governance, before initiating the process of mineral development.
2. In all countries, regardless of whether they are developed or developing countries, host governments have capacity limits with respect to the number of companies they can regulate effectively at any given time (Table 2.6, item 1). Thus host governments should limit the number of companies granted concessions, to match their capacity to govern them.
3. While the quality of country governance is a modifier of mining conflicts in both developed and developing countries, it is more important for developing countries. Thus, developing countries will depend on both government-driven regulatory controls at the country level as well industry-driven social development initiatives at the local level. On the other hand, in developed countries, where regulatory monitoring and enforcement is high, the mitigation of conflict risk is more effectively addressed through the introduction of company initiatives at the property level (Table 2.6, items 7 and 14)
4. Examining the effects of individual dimensions of country governance quality revealed an apparent insensitivity of *voice and accountability* to the number of conflict incidents when the ratio of foreign mining companies is high, and similar insensitivity of *political stability and absence of violence* and *voice and accountability* when resource endowment is high. This may be a reflection of the willingness of many foreign mining companies to

invest in countries with high mineral potential, regardless of whether they are established democracies or governed by authoritarian rule, as long as there is an acceptable level of governance stability and predictability (Table 2.6, items 8 and 9).

5. An increase in the country governance dimension of *control of corruption* had a slight enhancing effect on the association between increasing number of conflicts with increasing number of companies. Probably more significant however is the fact that increasing *control of corruption* did not lower the positive association between number of conflict incidents and number of companies. This might imply that the level of corruption does not have a direct association with increased risk of conflicts associated with mining, a relationship that would be likely due to a broad and long-standing acceptance of corruption in such countries. This also implies that efforts to lower corruption within host governments should not necessarily be singled out as an effective means to address conflictive environments in and of itself, but better to include it as one element of an overall strategy focused on improving governance effectiveness, regulatory quality and rule of law (Table 2.6, item 10).
6. While developing countries need to achieve better governance quality in order to lower the risk of conflicts associated with mining activities, this is a complex process which will take considerable time and effort. This study suggests a strategy that countries in this situation can adopt, which will allow them to manage the development of their mineral resources to minimize conflict risk and at the same time build the country-level governance capacity they would like to acquire over time. This strategy would involve a) limiting the total number of operating companies to match their governance capacity, b) maintaining a low ratio of foreign companies, both for the mining industry sector as a whole and at the level of individual mining properties, c) empowering and resourcing local government institutions, d) ensuring that mining companies implement high quality social development programs and e) being extra vigilant about how they manage properties with large reserves.<sup>24</sup> Regarding the latter point, development of large deposits will normally require the operational experience and access to capital of a large foreign mining company or consortium. However, the conflict-risk associated with properties with large reserves can be mitigated by a combination of transparency about the value of the resource and attention being paid to the fair distribution of benefits from the property, in particular to the local region and nearby communities (Table 2.6, items 11,12 and 15).

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<sup>24</sup> In general, the elements in this strategy are supported by the findings of the literature review (see for example, discussion on pp 12-1).



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## APPENDIX

Table 2.0. Statistical summary of key variables at country-level (average over the time period)

Country	The number of mining companies	Ratio of foreign mining companies (%)	Total reserve of natural resources (Million USD)	Country governance quality	Country	The number of mining companies	Ratio of foreign mining companies (%)	Total reserve of natural resources (Million USD)	Country governance quality
<b>Developed countries</b>					<b>Developing countries</b>				
Austria	3.9	0.49	17400	1.61	Guatemala	8.1	0.99	4960	-0.61
Bulgaria	11.6	0.96	14200	0.20	Guinea	22.0	1.00	164	-1.10
Canada	551.3	0.25	48200	1.61	Guyana	7.0	1.00	280	-0.45
Czech Republic	5.8	0.82	36500	0.87	Honduras	7.4	1.00	2260	-0.58
France	4.8	0.59	116000	1.22	India	58.4	0.38	220000	-0.27
Germany	9.3	0.62	154000	1.47	Indonesia	85.1	0.68	64600	-0.59
Greece	8.0	0.47	5150	0.56	Jamaica	3.4	0.69	1960	-0.03
Hungary	9.0	0.90	25600	0.87	Jordan	1.3	0.13	8730	-0.03
Ireland	22.0	0.77	1640	1.42	Kazakhstan	39.3	0.79	17900	-0.60
Italy	3.7	1.00	109000	0.60	Kenya	3.3	0.98	2930	-0.70
Japan	9.3	0.10	976000	1.19	Korea, Rep.	11.0	0.91	346000	0.76
Netherlands	1.0	1.00	46300	1.69	Kyrgyz Reput	21.2	0.84	1210	-0.87
Poland	15.9	0.49	67100	0.66	Lesotho	3.8	0.69	817	-0.16
Portugal	12.0	0.75	22700	0.94	Macedonia, f	3.4	1.00	1920	-0.24
Romania	7.5	0.74	33400	0.07	Madagascar	7.8	1.00	762	-0.42
Slovak Republic	5.8	0.99	9500	0.74	Malawi	4.5	0.88	216	-0.37
Slovenia	1.0	1.00	3910	0.95	Malaysia	15.1	0.58	91900	0.36
Spain	24.8	0.88	30500	0.95	Mali	15.6	0.92	1040	-0.32
Sweden	27.0	1.00	50200	1.82	Mauritania	7.5	0.86	262	-0.61
United Kingdom	14.7	0.64	64900	1.43	Mexico	144.0	0.87	102000	-0.10
United States	686.6	0.52	331000	1.27	Mongolia	26.7	0.73	712	-0.05
<b>Developing countries</b>					<b>Developing countries</b>				
Albania	3.6	0.67	1990	-0.32	Morocco	8.0	0.38	24700	-0.37
Algeria	6.8	0.67	119000	-0.81	Mozambique	10.1	1.00	1820	-0.34
Angola	13.0	0.92	13700	-1.03	Namibia	31.3	0.96	1060	0.30
Armenia	8.5	0.75	1350	-0.27	Nepal	1.0	0.00	5430	-0.81
Azerbaijan	4.1	0.33	5460	-0.83	Nicaragua	6.2	1.00	1220	-0.53
Bangladesh	1.9	0.50	5600	-0.94	Nigeria	4.3	0.96	37500	-1.15
Belize	1.0	1.00	214	-0.10	Pakistan	4.9	0.45	12500	-1.04
Benin	1.3	1.00	892	-0.27	Panama	7.9	0.97	1920	0.08
Bolivia	19.8	0.86	7100	-0.54	Paraguay	2.1	1.00	2920	-0.76
Bosnia and Herze	2.1	1.00	4080	-0.34	Peru	108.6	0.76	31600	-0.31
Botswana	24.0	0.94	7480	0.71	Philippines	54.8	0.60	42600	-0.46
Brazil	95.9	0.78	189000	0.01	Russian Fede	219.1	0.63	342000	-0.71
Burkina Faso	23.3	0.93	826	-0.35	Rwanda	1.5	0.49	608	-0.54
Burundi	1.1	1.00	233	-1.17	Senegal	6.3	0.93	1610	-0.23
Cambodia	5.3	0.98	3700	-0.80	Sierra Leone	6.0	0.67	84700000	-1.06
Cameroon	6.1	0.99	2350	-0.89	South Africa	150.0	0.57	31400	0.32
Chile	86.9	0.81	25100	1.18	Sri Lanka	6.0	0.91	7300	-0.33
Colombia	30.8	0.81	23000	-0.45	Tanzania	32.0	1.00	3730	-0.40
Costa Rica	5.5	1.00	5890	0.61	Thailand	8.9	0.65	107000	-0.17
Cote d'Ivoire	10.4	0.99	2680	-1.20	Tunisia	3.9	0.85	6920	-0.11
Dominican Republ	8.1	1.00	2610	-0.35	Turkey	26.7	0.74	72200	-0.08
Ecuador	19.9	0.92	2670	-0.76	Uganda	3.9	0.30	2180	-0.61
Egypt, Arab Rep.	4.7	0.69	23400	-0.58	Ukraine	102.0	0.92	22100	-0.55
El Salvador	4.3	1.00	2400	-0.16	Uruguay	3.0	0.99	6490	0.73
Ethiopia	2.8	0.50	1160	-0.98	Venezuela, R	12.4	0.78	28000	-1.15
Gabon	6.0	1.00	675	-0.44	Vietnam	12.0	0.73	19400	-0.53
Georgia	4.1	0.70	1490	-0.26	Zambia	21.0	1.00	2090	-0.36
Ghana	37.7	0.87	3610	0.05	Zimbabwe	28.0	1.00	660	-1.48

Table 2.1. Summary and definitions for variables

Variables	Country-level model	Definition	Property-level model	Definition
Dependent variable	Incidents of conflicts	The number of conflicts in a country from 2002 to 2013	Likelihood of conflicts	Dummy; 1 for a conflict, 0 otherwise.
Independent variables	The number of mining companies	Total number of firms in the country	Total number of owners (property)	Total number of owners in the property
	Ratio of foreign mining companies	Percentage rate of foreign firms over total number of firms in the country	Ratio of foreign owners (property)	Percentage rate of foreign firms over total number of firms at property
	Total reserves of natural resources	Logarithm of total reserve of natural resource in a country	Amount of minerals reserves (property)	Total amount of minerals in the property
Moderating variable	Country governance quality	Average score of the six dimensions of the World Governance Index	Country governance quality	Average score of the six dimensions of the World Governance Index
Economic development factors				
Control variables	GDP per capita (log)	GDP per capita	GDP (log)	Log of GDP
	Annual GDP growth (%)	Percentage of increased GDP	Annual GDP growth (%)	Percentage of increased GDP
	Inflows of FDI	Percentage rate of inward FDI over entire FDI	Inflows of FDI	Percentage rate of inward FDI over entire FDI
	Unemployment rate (% of labor force)	Percentage rate of unemployment	Unemployment rate (% of labor force)	Percentage rate of unemployment
	Ores and metals export (% of merchandise exports)	Percentage rate of ores and metals export over entire merchandize export	Ores and metals export (% of merchandise exports)	Percentage rate of ores and metals export over entire merchandize export
			Market capitalization (% of GDP)	Logarithm of market capitalization for listed domestic companies in the country
			Total reserves of natural resources (log)	Logarithm of total reserve of natural resource in a country
		Ratio of foreign mining companies	Percentage rate of foreign firms over total number of firms in the country	
Socio-demographic factors				
	Population density	People per square km of land area	Population density	People per square km of land area
	Poverty rate (% of populations)	Percentage rate of people which is below the poverty line	Poverty rate (% of populations)	Percentage rate of people which is below the poverty line
	Permanent cropland (% of land area)	Percentage rate of cropland size over entire land size	Permanent cropland (% of land area)	Percentage rate of cropland size over entire land size
	Land size (square km)	Logarithm of land size (square km)		
	Infrastructure quality	Average score of the infrastructure measures provided by the World Development Index		

*Table 2.2. Summary of statistics and correlation matrix: country-level analysis*

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Incidents of conflicts	0.3691	1.2037	1.0000													
2 The number of mining companies	2.2983	1.4647	0.3873*	1.0000												
3 Ratio of foreign mining companies	0.7682	0.2645	0.0049	-0.1018*	1.0000											
4 Total reserves of natural resources	22.7712	2.0203	0.1756*	-0.3142*	0.5042*	1.0000										
5 Country governance quality	-0.0818	0.7339	0.0191	-0.1756*	0.1984*	0.4212*	1.0000									
6 GDP per capita (log)	8.1152	1.4346	0.0709*	-0.1334*	0.3162*	0.6771*	0.7681*	1.0000								
7 Annual GDP growth (%)	4.2447	3.9901	0.0260	-0.0619	-0.0261	-0.1903*	-0.2672*	-0.3310*	1.0000							
8 Population density	113.0485	141.5596	-0.0371	-0.2339*	-0.2431*	0.0904*	-0.0402	-0.0927*	-0.0011	1.0000						
9 Unemployment rate (% of labor force)	9.5205	7.1079	-0.0667*	0.0941*	-0.0461	-0.1923*	0.0560	0.0389	-0.0465	-0.2115*	1.0000					
10 Infrastructure quality	4.1095	1.0528	0.0110	-0.3069*	0.1645*	0.4353*	0.6753*	0.6335*	-0.1323*	0.0522	-0.0838*	1.0000				
11 Poverty rate (% of populations)	30.3232	16.8386	0.0810*	0.2817*	-0.1138*	-0.5382*	-0.4996*	-0.6463*	0.1170*	-0.0089	0.0276	-0.4346*	1.0000			
12 Inflows of FDI (log)	1.3590	0.7596	0.0033	0.0588	0.0533	-0.1041*	0.0642*	0.0326	0.2701*	-0.2314*	0.1781*	0.0243	-0.1541*	1.0000		
13 Ores and metals Export (%)	9.1199	14.4680	0.2494*	0.0379	0.1855*	-0.2046*	-0.0069	-0.1359*	0.1338*	-0.1657*	0.2243*	-0.1174*	0.1944*	0.2467*	1.0000	
14 Land size (log)	12.5929	1.5467	0.1758*	-0.1744*	0.6960*	0.5110*	-0.0058	0.1074*	0.0134	-0.2850*	-0.1323*	0.0204	-0.0259	-0.0998*	0.0996*	1.0000
15 Permanent cropland (% of land area)	3.6550	4.6109	0.0371	-0.0078	-0.1216*	-0.0162	-0.1708*	-0.1215*	-0.0065	0.3446*	-0.2071*	0.0799*	-0.0208	-0.1579*	-0.1870*	-0.2793*

N=932, \* indicates that the correlation coefficient is statistically significant at the 5% level.



Table 2.3. Conflict and country governance quality: country-level analysis

Dependent variable=Incidents of conflicts	(1)	(2)	(3)	(4)	(5)	(6)
Country governance quality	The composite index of country governance quality		Control of corruption		Government effectiveness	
The number of mining companies	1.2393*** (0.1500)	1.2746*** (0.1471)	1.2415*** (0.1468)	1.2775*** (0.1433)	1.2392*** (0.1495)	1.2648*** (0.1477)
Ratio of foreign mining companies	0.3148 (0.7128)	1.1707+ (0.6592)	0.3227 (0.7046)	1.1467+ (0.6321)	0.3216 (0.7092)	1.3193* (0.6694)
Total reserves of natural resources	0.0677 (0.1557)	0.1983 (0.1415)	0.0706 (0.1522)	0.2101 (0.1433)	0.0666 (0.1569)	0.2225 (0.1464)
Country governance quality	0.0411 (0.3566)	0.0059 (0.4116)	0.0674 (0.2701)	-0.0349 (0.3415)	0.0505 (0.3524)	0.0547 (0.4372)
The number of mining companies		0.1979 (0.1276)		0.2384* (0.1117)		0.2412+ (0.1234)
X Country governance quality		-0.6971* (0.3359)		-0.5525* (0.2568)		-0.6431* (0.3049)
Ratio of foreign mining companies		-0.2751** (0.0926)		-0.2657** (0.0851)		-0.2880** (0.0965)
Total reserves of natural resources						
X Country governance quality						
GDP per capita (log)	-0.7244** (0.2598)	-0.7765** (0.2618)	-0.7310** (0.2551)	-0.7937** (0.2673)	-0.7287** (0.2720)	-0.7971** (0.2838)
Annual GDP growth (%)	-0.0174 (0.0324)	-0.0110 (0.0326)	-0.0176 (0.0330)	-0.0095 (0.0328)	-0.0173 (0.0324)	-0.0094 (0.0323)
Population density	0.0015 (0.0014)	0.0013 (0.0013)	0.0015 (0.0014)	0.0011 (0.0014)	0.0015 (0.0014)	0.0011 (0.0013)
Unemployment rate (% of labor force)	0.0173 (0.0236)	0.0132 (0.0252)	0.0179 (0.0234)	0.0135 (0.0256)	0.0173 (0.0235)	0.0110 (0.0266)
Infrastructure quality	-0.0419 (0.2054)	0.0023 (0.1926)	-0.0558 (0.2080)	-0.0048 (0.1976)	-0.0452 (0.2033)	-0.0331 (0.1789)
Poverty rate (% of populations)	0.0254** (0.0094)	0.0255** (0.0084)	0.0257** (0.0093)	0.0259** (0.0083)	0.0255** (0.0092)	0.0267** (0.0084)
Inflows of FDI (log)	-0.1773 (0.1836)	-0.2280 (0.1793)	-0.1793 (0.1771)	-0.2353 (0.1767)	-0.1756 (0.1805)	-0.2453 (0.1785)
Ores and metals Export (% of merchandise exports)	0.0166** (0.0058)	0.0188** (0.0059)	0.0163** (0.0062)	0.0183** (0.0065)	0.0166** (0.0058)	0.0185** (0.0065)
Land size (log)	-0.3857* (0.1950)	-0.5252** (0.1915)	-0.3914* (0.1866)	-0.5377** (0.1857)	-0.3845+ (0.1983)	-0.5424** (0.2080)
Permanent cropland (% of land area)	0.0359 (0.0308)	0.0162 (0.0280)	0.0356 (0.0305)	0.0182 (0.0279)	0.0358 (0.0305)	0.0142 (0.0287)
Country type dummy	Included	Included	Included	Included	Included	Included
Year dummy	Included	Included	Included	Included	Included	Included
Region dummy	Included	Included	Included	Included	Included	Included
N	932	932	932	932	932	932
Log-likelihood	-400.7810	-395.5401	-400.7458	-394.5623	-400.7717	-394.5534
AIC	869.5620	865.0802	869.4916	863.1247	869.5434	863.1067

Note: Standard errors are in parentheses. All models are estimated negative binomial regression with clustering at country level. Constant, country type-, region-, and year-fixed effects are estimated but not reported here.

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05, † p<0.1

Table 2.3.1. Conflict and country governance quality: country-level analysis (continued)

Dependent variable=Incidents of conflicts	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Country governance quality	Absence of political instability and violence		Regulatory quality		Rule of law		Voice and accountability	
The number of mining companies	1.2618*** (0.1466)	1.2973*** (0.1538)	1.1865*** (0.1521)	1.1773*** (0.1533)	1.2423*** (0.1455)	1.2889*** (0.1440)	1.2160*** (0.1576)	1.2271*** (0.1574)
Ratio of foreign mining companies	0.3888 (0.7547)	0.5976 (0.6123)	0.3512 (0.6889)	1.1588+ (0.6562)	0.3146 (0.7152)	1.3160+ (0.6986)	0.3131 (0.7074)	1.2857 (0.7824)
Total reserves of natural resources	0.0433 (0.1598)	0.0914 (0.1414)	-0.0016 (0.1547)	0.1164 (0.1507)	0.0685 (0.1553)	0.1926 (0.1465)	0.0618 (0.1556)	0.2006 (0.1441)
Country governance quality	-0.2843 (0.1902)	-0.2042 (0.2209)	0.4771 (0.3012)	0.4606 (0.3770)	0.0016 (0.2509)	0.1341 (0.3300)	0.1896 (0.3042)	0.2704 (0.3241)
The number of mining companies X Country governance quality		0.0973 (0.1157)		0.1200 (0.1218)		0.1814 (0.1224)		0.1163 (0.1286)
Ratio of foreign mining companies X Country governance quality		-0.6371+ (0.3541)		-0.7507* (0.3647)		-0.7760* (0.3261)		-0.8022 (0.5019)
Total reserves of natural resources X Country governance quality		-0.1628+ (0.0958)		-0.1289 (0.0823)		-0.2683*** (0.0768)		-0.2309* (0.0999)
GDP per capita (log)	-0.6735** (0.2474)	-0.7200** (0.2477)	-0.7954** (0.2699)	-0.8357** (0.2779)	-0.7186** (0.2536)	-0.8070** (0.2650)	-0.7255** (0.2615)	-0.8045** (0.2506)
Annual GDP growth (%)	-0.0172 (0.0332)	-0.0162 (0.0332)	-0.0117 (0.0350)	-0.0068 (0.0353)	-0.0176 (0.0324)	-0.0083 (0.0336)	-0.0174 (0.0334)	-0.0122 (0.0340)
Population density	0.0015 (0.0013)	0.0013 (0.0015)	0.0016 (0.0014)	0.0014 (0.0014)	0.0015 (0.0014)	0.0014 (0.0013)	0.0013 (0.0016)	0.0015 (0.0013)
Unemployment rate (% of labor force)	0.0185 (0.0238)	0.0172 (0.0242)	0.0189 (0.0237)	0.0175 (0.0259)	0.0173 (0.0236)	0.0136 (0.0258)	0.0150 (0.0238)	0.0144 (0.0244)
Infrastructure quality	0.0432 (0.1679)	0.0460 (0.1678)	-0.1357 (0.1615)	-0.1350 (0.1608)	-0.0310 (0.2091)	-0.0078 (0.1830)	-0.0610 (0.1644)	-0.0308 (0.1641)
Poverty rate (% of populations)	0.0219* (0.0090)	0.0224** (0.0087)	0.0282** (0.0088)	0.0280** (0.0085)	0.0251** (0.0089)	0.0269*** (0.0080)	0.0269** (0.0095)	0.0266** (0.0089)
Inflows of FDI (log)	-0.1268 (0.1751)	-0.1684 (0.1679)	-0.2614 (0.1877)	-0.2909 (0.1837)	-0.1718 (0.1884)	-0.2410 (0.1842)	-0.1895 (0.1811)	-0.2384 (0.1750)
Ores and metals Export (% of merchandise exports)	0.0174*** (0.0048)	0.0190*** (0.0046)	0.0130* (0.0055)	0.0143* (0.0062)	0.0169** (0.0057)	0.0178** (0.0061)	0.0164** (0.0056)	0.0179*** (0.0054)
Land size (log)	-0.4365* (0.1858)	-0.5263** (0.1846)	-0.2780 (0.1916)	-0.3729+ (0.1967)	-0.3897* (0.1878)	-0.5119** (0.1832)	-0.3728+ (0.1959)	-0.4408* (0.1841)
Permanent cropland (% of land area)	0.0225 (0.0326)	0.0178 (0.0303)	0.0395 (0.0309)	0.0265 (0.0301)	0.0350 (0.0295)	0.0135 (0.0265)	0.0401 (0.0314)	0.0225 (0.0290)
Country type dummy	Included	Included	Included	Included	Included	Included	Included	Included
Year dummy	Included	Included	Included	Included	Included	Included	Included	Included
Region dummy	Included	Included	Included	Included	Included	Included	Included	Included
N	932	932	932	932	932	932	932	932
Log-likelihood	-399.1921	-396.2655	-398.7142	-396.3815	-400.7920	-393.5434	-400.4762	-397.3975
AIC	866.3842	866.5310	865.4285	866.7631	869.5840	861.0868	868.9525	868.7950

Note: Standard errors are in parentheses. All models are estimated negative binomial regression with clustering at country level. Constant, country type-, region-, and year-fixed effects are estimated but not reported here.

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05, † p<0.1

Table 2.4. Summary of statistics and correlation matrix: property-level analysis

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Likelihood of conflicts	0.0025	0.0496	1.0000														
2 Total number of owners (property)	1.2441	0.5903	0.0269*	1.0000													
3 Ratio of foreign owners (property)	0.4764	0.4768	0.0300*	0.0958*	1.0000												
4 Amount of minerals (property)	1.0017	3.6324	0.0407*	0.0086*	-0.0213*	1.0000											
5 Country governance quality	0.7118	0.8464	-0.0419*	-0.299*	-0.0461*	-0.0086*	1.0000										
6 GDP (log)	27.8760	2.0434	-0.0493*	-0.2549*	-0.0169*	-0.1034*	0.6497*	1.0000									
7 Annual GDP Growth (log)	3.0457	2.8331	0.0245*	0.0621*	0.0326*	0.0186*	-0.3905*	-0.3802*	1.0000								
8 Population density	59.0617	95.2579	0.0150*	-0.0653*	0.0357*	-0.0630*	-0.4975*	-0.1338*	0.3922*	1.0000							
9 Ratio of foreign mining companies (country)	0.5634	0.2627	0.0389*	0.3888*	0.0183*	0.0177*	-0.6400*	-0.3752*	0.1708*	0.0418*	1.0000						
10 Inflows of FDI (log)	1.2295	0.4750	0.0153*	0.1415*	-0.0442*	0.0650*	-0.0334*	-0.3945*	0.1661*	-0.1942*	0.1171*	1.0000					
11 Market capitalization	97.0098	57.6299	-0.0305*	-0.2274*	0.0279*	0.0475*	0.5685*	0.4730*	-0.2181*	-0.2304*	-0.4524*	-0.2605*	1.0000				
12 Poverty ratio (% of population)	22.8601	17.1519	0.0325*	0.2144*	0.1001*	0.0299*	-0.6137*	-0.5287*	0.2882*	0.1881*	0.4161*	-0.0349*	-0.0613*	1.0000			
13 Unemployment rate (% of GDP)	7.9467	5.0590	0.0028	0.0259*	0.0422*	0.0968*	-0.0857*	-0.2160*	-0.0709*	-0.1475*	0.0388*	-0.0996*	0.4862*	0.4571*	1.0000		
14 Ores and metals export (% of merchandise exports)	11.1773	14.8858	0.0303*	0.1604*	0.0501*	0.1177*	-0.2108*	-0.5059*	0.2045*	-0.1479*	0.2662*	0.4160*	0.0108*	0.2923*	0.2331*	1.0000	
15 Total reserves of natural resources (log)	25.0591	1.5119	-0.0407*	-0.1955*	-0.0106*	-0.0957*	0.4161*	0.9140*	-0.2705*	0.0700*	-0.2216*	-0.3336*	0.5769*	-0.4362*	-0.2189*	-0.4083*	1.0000
16 Permanent cropland (% of land area)	1.5503	3.0279	0.0431*	0.0696*	0.0005	0.0506*	-0.4485*	-0.2823*	0.3047*	0.5723*	0.1695*	-0.0759*	-0.3388*	0.0441*	-0.1026*	-0.1078*	-0.1484*

N=92165, \* indicates that the correlation coefficient is statistically significant at the 5% level.

Table 2.5. Likelihood of conflicts and country governance quality: property level analysis

Dependent variable=Likelihood of conflicts	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Country governance quality	The composite index of country governance quality						Control of Corruption					
Sub-sample	Total	Developed	Developing	Total	Developed	Developing	Total	Developed	Developing	Total	Developed	Developing
Total number of owners (property)	0.3431*** (0.0745)	0.5805* (0.2645)	0.3211*** (0.0767)	0.3584*** (0.0949)	1.0712+ (0.5741)	0.3395** (0.1173)	0.3430*** (0.0744)	0.5836* (0.2623)	0.3210*** (0.0765)	0.3632*** (0.0928)	1.0717* (0.4392)	0.3497** (0.1117)
Ratio of foreign owners (property)	0.7011*** (0.1920)	0.8813+ (0.4618)	0.6916*** (0.2092)	0.6377* (0.2523)	0.4402 (0.4418)	0.1567 (0.3323)	0.7005*** (0.1920)	0.8746+ (0.4638)	0.6876** (0.2090)	0.6986** (0.2543)	0.5503 (0.4189)	0.2887 (0.3424)
Amount of minerals (property)	0.1000*** (0.0116)	0.0792+ (0.0418)	0.1024*** (0.0121)	0.0764*** (0.0163)	0.1095 (0.0686)	0.0746*** (0.0190)	0.1000*** (0.0115)	0.0793+ (0.0416)	0.1026*** (0.0122)	0.0696*** (0.0182)	0.1005+ (0.0598)	0.0622** (0.0213)
Country governance quality	-0.0889 (0.9408)	3.2614 (9.2958)	-0.7506 (1.1676)	0.0494 (0.9287)	2.8902 (9.0191)	-0.3019 (1.1691)	-0.0913 (0.6467)	-5.7729 (9.4228)	-0.9439 (0.7071)	-0.0247 (0.6490)	-9.3685 (8.6521)	-0.7123 (0.7240)
Country governance quality X The Number of owners (property)				0.0164 (0.1134)	-0.5454 (0.7090)	-0.0052 (0.1356)			0.0233 (0.0882)	-0.4450 (0.3922)	0.0117 (0.1056)	
Country governance quality X Ratio of foreign owners (property)				-0.1652 (0.2586)	0.7486 (0.5891)	-0.7515* (0.3581)			-0.0488 (0.2166)	0.5180 (0.3845)	-0.4678 (0.3006)	
Country governance quality X Amount of minerals (property)				-0.0390* (0.0174)	-0.0433 (0.0888)	-0.0401* (0.0200)			-0.0395* (0.0165)	-0.0221 (0.0584)	-0.0463* (0.0188)	
GDP (log)	-0.0940 (0.4872)	0.1998 (5.6282)	-0.6432 (1.0506)	-0.0881 (0.4892)	0.4799 (5.5536)	-0.6397 (1.0399)	-0.1001 (0.4552)	-6.5900 (13.8452)	-0.5837 (1.0350)	-0.0616 (0.4557)	-10.2240 (12.9938)	-0.5537 (1.0207)
Annual GDP Growth (%)	-0.0499 (0.0356)	0.0276 (0.3059)	-0.0353 (0.0443)	-0.0488 (0.0356)	0.0129 (0.3040)	-0.0348 (0.0443)	-0.0494 (0.0356)	0.4969 (0.5772)	-0.0300 (0.0440)	-0.0490 (0.0355)	0.5442 (0.5640)	-0.0284 (0.0442)
Population density	0.0100*** (0.0024)	0.1539 (0.2928)	0.0396** (0.0122)	0.0100*** (0.0024)	0.1666 (0.2930)	0.0429*** (0.0083)	0.0099*** (0.0023)	0.1246 (0.2670)	0.0326*** (0.0049)	0.0092*** (0.0022)	0.1864 (0.2592)	0.0252*** (0.0038)
Ratio of foreign mining companies (country)	-0.3871 (1.0122)	0.7860 (1.7906)	-1.4190 (1.0046)	-0.3586 (1.0194)	0.7868 (1.7956)	-1.4480 (1.0078)	-0.3991 (1.0267)	0.8211 (1.7650)	-1.5897 (1.0271)	-0.3637 (1.0341)	0.5696 (1.7882)	-1.5077 (1.0330)
Inflows of FDI (log)	-0.3787+ (0.2108)	-0.3214 (1.8790)	-0.2478 (0.2562)	-0.3792+ (0.2110)	-0.3445 (1.8855)	-0.2594 (0.2568)	-0.3776+ (0.2093)	-0.0001 (2.2078)	-0.2223 (0.2510)	-0.3712+ (0.2082)	-0.6230 (2.2414)	-0.2256 (0.2496)
Market capitalization (% of GDP)	-0.0026 (0.0049)	-0.0104 (0.0392)	-0.0027 (0.0051)	-0.0030 (0.0049)	-0.0081 (0.0392)	-0.0032 (0.0051)	-0.0028 (0.0049)	0.0275 (0.0512)	-0.0034 (0.0052)	-0.0030 (0.0049)	0.0350 (0.0495)	-0.0038 (0.0052)
Poverty rate (% of population)	0.0153 (0.0148)	0.2881 (0.8410)	-0.0002 (0.0157)	0.0145 (0.0148)	0.3489 (0.8313)	-0.0011 (0.0158)	0.0157 (0.0145)	0.2380 (0.7423)	0.0056 (0.0155)	0.0156 (0.0145)	0.4389 (0.7343)	0.0078 (0.0155)
Unemployment rate (% of labor force)	0.0704 (0.0517)	-0.0361 (0.3010)	0.0014 (0.0744)	0.0700 (0.0519)	-0.0292 (0.2983)	0.0042 (0.0744)	0.0694 (0.0519)	-0.6787 (0.8278)	-0.0044 (0.0744)	0.0685 (0.0521)	-0.8444 (0.8041)	0.0010 (0.0747)
Ores and metals export (% of merchandise exports)	-0.0086 (0.0130)	0.1640 (0.4803)	-0.0048 (0.0148)	-0.0096 (0.0131)	0.1324 (0.4677)	-0.0056 (0.0148)	-0.0087 (0.0129)	0.2899 (0.7986)	-0.0048 (0.0149)	-0.0102 (0.0132)	0.6229 (0.7427)	-0.0069 (0.0151)
Total reserves of natural resources (log)	-0.0553 (0.4165)	-2.3427 (4.2371)	-0.0473 (0.4138)	-0.0698 (0.4164)	-2.2127 (4.3017)	-0.0460 (0.4140)	-0.0581 (0.4060)	2.0108 (4.2236)	-0.0924 (0.4008)	-0.0743 (0.4053)	2.7718 (4.1416)	-0.1078 (0.3973)
Permanent cropland (% of land area)	-0.2280 (0.2237)	5.7366 (5.0927)	-0.2965 (0.2380)	-0.2147 (0.2210)	5.4252 (5.3996)	-0.3122 (0.2326)	-0.2205 (0.2243)	-1.8683 (11.1568)	-0.2216 (0.2280)	-0.1971 (0.2213)	-5.1937 (10.7775)	-0.1711 (0.2253)
Country dummy	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year dummy	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Number of Observations	92165	50218	41947	92165	50218	41947	92165	50218	41947	92165	50218	41947

Note: Standard errors are in parentheses. All models are estimated relogit regression with clustering at mining property level. Constant, country-, year-fixed effects are estimated but not reported here. \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ , †  $p < 0.1$

Table 2.5.1. Likelihood of conflicts and country governance quality: property level analysis (continued)

Dependent variable=Likelihood of conflicts	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
Country governance quality	Government Effectiveness						Absence of Political Instability and Violence					
Sub-sample	Total	Developed	Developing	Total	Developed	Developing	Total	Developed	Developing	Total	Developed	Developing
Total number of owners (property)	0.3430*** (0.0744)	0.5834* (0.2655)	0.3214*** (0.0767)	0.3623*** (0.1006)	1.0223* (0.4598)	0.3432** (0.1235)	0.3426*** (0.0745)	0.5824* (0.2660)	0.3214*** (0.0769)	0.3222** (0.1037)	0.9028 (0.6606)	0.2735* (0.1273)
Ratio of foreign owners (property)	0.7015*** (0.1920)	0.8670+ (0.4637)	0.6919*** (0.2091)	0.6481* (0.2579)	0.5419 (0.4027)	0.1159 (0.3513)	0.7027*** (0.1922)	0.8646+ (0.4650)	0.6936*** (0.2094)	0.4487+ (0.2616)	0.6286 (0.6495)	-0.0708 (0.3053)
Amount of minerals (property)	0.1000*** (0.0115)	0.0791+ (0.0424)	0.1024*** (0.0121)	0.0727*** (0.0173)	0.1090+ (0.0658)	0.0679*** (0.0200)	0.1000*** (0.0115)	0.0823* (0.0415)	0.1025*** (0.0121)	0.1010*** (0.0141)	0.1220+ (0.0679)	0.1105*** (0.0170)
Country governance quality	-0.1123 (0.6659)	2.2922 (6.3199)	0.0120 (0.7624)	0.0363 (0.6539)	2.1665 (6.4601)	0.4402 (0.7548)	-0.3116 (0.4354)	2.4225 (5.8913)	-0.5221 (0.5101)	-0.1289 (0.4414)	2.4051 (5.8131)	-0.1852 (0.5061)
Country governance quality X The Number of owners (property)				0.0246 (0.1114)	-0.5279 (0.5644)	0.0001 (0.1322)				-0.0663 (0.1164)	-0.3646 (0.9161)	-0.1132 (0.1285)
Country governance quality X Ratio of foreign owners (property)				-0.1238 (0.2441)	0.6181 (0.4676)	-0.7489* (0.3576)				-0.4665+ (0.2408)	0.4835 (0.9983)	-0.9972*** (0.2869)
Country governance quality X Amount of minerals (property)				-0.0388* (0.0172)	-0.0450 (0.0842)	-0.0434* (0.0196)				-0.0005 (0.0144)	-0.0667 (0.1172)	0.0100 (0.0175)
GDP (log)	-0.0908 (0.4525)	1.4299 (6.6703)	-0.7252 (1.0544)	-0.0915 (0.4556)	1.5333 (6.5963)	-0.7221 (1.0393)	-0.0561 (0.4479)	3.8026 (6.4344)	-0.7081 (1.0471)	-0.0672 (0.4476)	3.7648 (6.2891)	-0.6917 (1.0333)
Annual GDP Growth (%)	-0.0504 (0.0358)	0.2640 (0.2682)	-0.0369 (0.0437)	-0.0499 (0.0358)	0.2598 (0.2648)	-0.0364 (0.0439)	-0.0499 (0.0360)	0.2250 (0.2567)	-0.0354 (0.0438)	-0.0488 (0.0361)	0.2314 (0.2498)	-0.0323 (0.0442)
Population density	0.0097*** (0.0022)	-0.0191 (0.3645)	0.0435*** (0.0102)	0.0099*** (0.0022)	-0.0147 (0.3539)	0.0411*** (0.0067)	0.0086*** (0.0022)	-0.0348 (0.1715)	-0.0422*** (0.0083)	0.0090*** (0.0022)	-0.0377 (0.1723)	0.0336* (0.0159)
Ratio of foreign mining companies (country)	-0.3915 (1.0141)	0.7009 (2.1803)	-1.4054 (1.0161)	-0.3773 (1.0223)	0.7072 (2.1901)	-1.3670 (1.0152)	-0.3565 (1.0041)	0.6580 (1.9285)	-1.3439 (1.0068)	-0.4071 (1.0043)	0.7529 (1.9372)	-1.4355 (1.0020)
Inflows of FDI (log)	-0.3792+ (0.2094)	0.6960 (1.8260)	-0.2625 (0.2547)	-0.3803+ (0.2095)	0.7564 (1.8544)	-0.2783 (0.2556)	-0.3743+ (0.2050)	0.1557 (2.0065)	-0.2715 (0.2487)	-0.3712+ (0.2045)	0.1783 (1.9679)	-0.2702 (0.2486)
Market capitalization (% of GDP)	-0.0027 (0.0049)	0.0083 (0.0352)	-0.0029 (0.0052)	-0.0030 (0.0049)	0.0089 (0.0359)	-0.0033 (0.0052)	-0.0023 (0.0049)	-0.0025 (0.0329)	-0.0016 (0.0053)	-0.0024 (0.0049)	-0.0011 (0.0335)	-0.0019 (0.0053)
Poverty rate (% of population)	0.0148 (0.0149)	0.0336 (0.9803)	0.0013 (0.0159)	0.0138 (0.0150)	0.0977 (0.9709)	0.0020 (0.0160)	0.0144 (0.0145)	-0.0234 (0.8615)	-0.0008 (0.0154)	0.0143 (0.0145)	0.0081 (0.8529)	0.0022 (0.0153)
Unemployment rate (% of labor force)	0.0096 (0.0522)	-0.0832 (0.2541)	0.0038 (0.0741)	-0.0981 (0.0523)	0.0081 (0.2519)	-0.0981 (0.0740)	0.0081 (0.0517)	0.0058 (0.3803)	-0.0032 (0.0736)	0.0070 (0.0517)	-0.0071 (0.3776)	0.0042 (0.0723)
Ores and metals export (% of merchandise exports)	-0.0091 (0.0129)	-0.0203 (0.5047)	-0.0033 (0.0149)	-0.0103 (0.0133)	-0.0300 (0.5003)	-0.0049 (0.0151)	-0.0072 (0.0132)	-0.1866 (0.4090)	-0.0038 (0.0143)	-0.0076 (0.0132)	-0.2322 (0.4092)	-0.0057 (0.0142)
Total reserves of natural resources (log)	-0.0560 (0.4060)	-2.1881 (3.8719)	-0.0982 (0.4129)	-0.0682 (0.4098)	-2.2567 (4.0079)	-0.1014 (0.4131)	0.0052 (0.4006)	-3.3501 (3.8087)	0.0049 (0.4005)	0.0017 (0.3979)	-3.2773 (3.8358)	-0.0203 (0.3981)
Permanent cropland (% of land area)	-0.2300 (0.2183)	2.0894 (3.4955)	-0.3774+ (0.2169)	-0.2191 (0.2150)	1.4522 (3.9040)	-0.3676+ (0.2109)	-0.1705 (0.2325)	2.0453 (3.5600)	-0.2537 (0.2469)	-0.1774 (0.2331)	1.8281 (3.6307)	-0.2265 (0.2553)
Country dummy	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year dummy	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Number of Observations	92165	50218	41947	92165	50218	41947	92165	50218	41947	92165	50218	41947

Note: Standard errors are in parentheses. All models are estimated relogit regression with clustering at mining property level. Constant, country-, year-fixed effects are estimated but not reported here. \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ , †  $p < 0.1$ .



Table 2.5.2. Likelihood of conflicts and country governance quality: property level analysis (continued)

Dependent variable=Likelihood of conflicts	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)
Country governance quality	Regulatory Quality						Rule of Law					
Sub-sample	Total	Developed	Developing	Total	Developed	Developing	Total	Developed	Developing	Total	Developed	Developing
Total number of owners (property)	0.3435*** (0.0745)	0.5914* (0.2690)	0.3215*** (0.0767)	0.3620*** (0.0806)	0.8421 (0.7844)	0.3441*** (0.0902)	0.3434*** (0.0744)	0.5775* (0.2631)	0.3215*** (0.0767)	0.3660*** (0.0996)	1.1368* (0.5379)	0.3517** (0.1234)
Ratio of foreign owners (property)	0.7003*** (0.1920)	0.8766+ (0.4628)	0.6918*** (0.2092)	0.7364** (0.2297)	0.0999 (0.4605)	0.5834+ (0.3237)	0.7009*** (0.1921)	0.8783+ (0.4630)	0.6917*** (0.2090)	0.6212* (0.2610)	0.4144 (0.3841)	0.0675 (0.3472)
Amount of minerals (property)	0.0999*** (0.0115)	0.0777+ (0.0417)	0.1024*** (0.0121)	0.0814*** (0.0139)	0.1047 (0.0829)	0.0790*** (0.0153)	0.1000*** (0.0115)	0.0801+ (0.0420)	0.1024*** (0.0121)	0.0711*** (0.0174)	0.1162+ (0.0648)	0.0690*** (0.0205)
Country governance quality	0.1879 (0.5351)	2.9395 (4.4463)	0.0249 (0.6208)	0.3189 (0.5323)	2.4454 (4.4710)	0.2416 (0.6237)	0.1700 (0.6715)	-0.1449 (7.4755)	0.0979 (0.8309)	0.2447 (0.6727)	0.7589 (7.4845)	0.4115 (0.8314)
Country governance quality X				0.0583 (0.1034)	-0.2962 (1.0294)	0.0324 (0.1140)				0.0218 (0.0912)	-0.5807 (0.5528)	0.0083 (0.1095)
The Number of owners (property)												
Country governance quality X				0.0838 (0.2664)	1.2485+ (0.6971)	-0.1634 (0.3967)					-0.1493 (0.2153)	0.6982 (0.4860)
Ratio of foreign owners (property)												
Country governance quality X				-0.0403* (0.0162)	-0.0378 (0.1142)	-0.0424* (0.0176)					-0.0343* (0.0143)	-0.0517 (0.0698)
Amount of minerals (property)												
GDP (log)	-0.1698 (0.4539)	0.8988 (5.3920)	-0.7109 (1.0518)	-0.1598 (0.4532)	0.8574 (5.3861)	-0.7170 (1.0435)	-0.1898 (0.5060)	1.3578 (5.5077)	-0.7265 (1.0642)	-0.1842 (0.5043)	1.2709 (5.3711)	-0.7084 (1.0489)
Annual GDP Growth (%)	-0.0491 (0.0355)	0.2095 (0.2791)	-0.0374 (0.0433)	-0.0469 (0.0355)	0.2251 (0.2784)	-0.0333 (0.0435)	-0.0481 (0.0358)	0.2215 (0.1961)	-0.0372 (0.0435)	-0.0481 (0.0357)	0.1672 (0.2047)	-0.0372 (0.0434)
Population density	0.0108*** (0.0025)	0.1277 (0.2589)	0.0432*** (0.0083)	0.0101*** (0.0023)	0.1208 (0.2547)	0.0313*** (0.0043)	0.0111*** (0.0024)	0.1049 (0.3278)	0.0436*** (0.0111)	0.0114*** (0.0025)	0.0902 (0.3153)	0.0439*** (0.0079)
Ratio of foreign mining companies (country)	-0.3612 (1.0107)	0.8320 (1.9522)	-1.4014 (1.0226)	-0.2893 (1.0164)	0.8298 (1.9424)	-1.2224 (1.0311)	-0.3745 (1.0125)	1.0386 (2.0572)	-1.4113 (1.0180)	-0.3597 (1.0222)	1.0020 (2.0793)	-1.4117 (1.0248)
Inflows of FDI (log)	-0.3940+ (0.2189)	-0.2401 (1.9662)	-0.2659 (0.2672)	-0.3963+ (0.2195)	-0.2140 (1.9891)	-0.2767 (0.2679)	-0.3852+ (0.2096)	0.6865 (1.9922)	-0.2667 (0.2559)	-0.3834+ (0.2094)	0.6896 (1.9869)	-0.2709 (0.2559)
Market capitalization (% of GDP)	-0.0023 (0.0050)	0.0125 (0.0401)	-0.0027 (0.0053)	-0.0025 (0.0049)	0.0127 (0.0408)	-0.0029 (0.0052)	-0.0027 (0.0049)	0.0053 (0.0351)	-0.0028 (0.0051)	-0.0029 (0.0049)	0.0042 (0.0351)	-0.0032 (0.0051)
Poverty rate (% of population)	0.0169 (0.0150)	0.2335 (0.8423)	0.0018 (0.0161)	0.0163 (0.0150)	0.2266 (0.8386)	0.0049 (0.0163)	0.0159 (0.0146)	0.2809 (0.8472)	0.0015 (0.0156)	0.0150 (0.0146)	0.3496 (0.8312)	0.0013 (0.0157)
Unemployment rate (% of labor force)	0.0684 (0.0519)	-0.0414 (0.2745)	0.0042 (0.0728)	0.0662 (0.0521)	-0.0564 (0.2805)	0.0096 (0.0729)	0.0674 (0.0521)	-0.0392 (0.2401)	0.0037 (0.0732)	0.0673 (0.0523)	-0.0341 (0.2452)	0.0073 (0.0731)
Ores and metals export (% of merchandise exports)	-0.0082 (0.0130)	0.0647 (0.5171)	-0.0035 (0.0149)	-0.0092 (0.0133)	0.0173 (0.5255)	-0.0057 (0.0152)	-0.0087 (0.0129)	0.1940 (0.5785)	-0.0033 (0.0148)	-0.0094 (0.0131)	0.2310 (0.5658)	-0.0044 (0.0149)
Total reserves of natural resources (log)	-0.0928 (0.4061)	-1.0989 (4.2223)	-0.1093 (0.4096)	-0.1310 (0.4097)	-1.2113 (4.2686)	-0.1518 (0.4115)	-0.0810 (0.4059)	-2.2091 (4.4272)	-0.1036 (0.4071)	-0.0844 (0.4056)	-2.6543 (4.6168)	-0.0954 (0.4059)
Permanent cropland (% of land area)	-0.2451 (0.2255)	4.9466 (3.6075)	-0.3801+ (0.2189)	-0.2284 (0.2233)	4.6775 (3.8516)	-0.3213 (0.2151)	-0.2426 (0.2131)	1.0234 (3.6734)	-0.3827+ (0.2227)	-0.2300 (0.2108)	0.1957 (4.2088)	-0.3745+ (0.2174)
Country dummy	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year dummy	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Number of Observations	92165	50218	41947	92165	50218	41947	92165	50218	41947	92165	50218	41947

Note: Standard errors are in parentheses. All models are estimated relogit regression with clustering at mining property level. Constant, country-, year-fixed effects are estimated but not reported here. \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ , †  $p < 0.1$

Table 2.5.3. Likelihood of conflicts and country governance quality: property level analysis (continued)

Dependent variable=Likelihood of conflicts	(37)	(38)	(39)	(40)	(41)	(42)
Country governance quality	Voice and Accountability					
Sub-sample	Total	Developed	Developing	Total	Developed	Developing
Total number of owners (property)	0.3432*** (0.0745)	0.5858* (0.2669)	0.3221*** (0.0767)	0.3556*** (0.0821)	0.8945 (0.8549)	0.3335*** (0.0974)
Ratio of foreign owners (property)	0.6982*** (0.1919)	0.8558+ (0.4649)	0.6909*** (0.2091)	0.6663** (0.2163)	0.2022 (0.5010)	0.3865 (0.2709)
Amount of minerals (property)	0.0999*** (0.0116)	0.0832* (0.0413)	0.1023*** (0.0121)	0.0799*** (0.0145)	0.1149 (0.0888)	0.0753*** (0.0160)
Country governance quality	0.4956 (0.8072)	-19.3907+ (11.1130)	0.5922 (0.9806)	0.6771 (0.8209)	-20.5759+ (10.9810)	1.1413 (1.0246)
Country governance quality X						
The Number of owners (property)				-0.0063 (0.1599)	-0.3804 (1.1902)	-0.0642 (0.1809)
Country governance quality X						
Ratio of foreign owners (property)				-0.2282 (0.3390)	1.0678 (0.7978)	-0.8211 (0.5291)
Country governance quality X						
Amount of minerals (property)				-0.0619** (0.0211)	-0.0422 (0.1315)	-0.0690** (0.0231)
GDP (log)	-0.3058 (0.4860)	7.3333 (6.6027)	-0.8126 (1.0363)	-0.3193 (0.4857)	7.4825 (6.6051)	-0.7818 (1.0200)
Annual GDP Growth (%)	-0.0496 (0.0353)	0.5020 (0.4248)	-0.0397 (0.0432)	-0.0438 (0.0351)	0.5099 (0.4205)	-0.0344 (0.0432)
Population density	0.0124*** (0.0027)	0.3767 (0.3398)	0.0397*** (0.0066)	0.0140*** (0.0031)	0.3913 (0.3384)	0.0429*** (0.0077)
Ratio of foreign mining companies (country)	-0.3925 (1.0234)	0.6766 (2.0255)	-1.4223 (1.0326)	-0.3572 (1.0356)	0.6495 (2.0153)	-1.4240 (1.0356)
Inflows of FDI (log)	-0.3885+ (0.2081)	2.3698 (2.4767)	-0.2782 (0.2503)	-0.4001+ (0.2097)	2.4965 (2.4775)	-0.2989 (0.2532)
Market capitalization (% of GDP)	-0.0024 (0.0050)	-0.0014 (0.0398)	-0.0026 (0.0053)	-0.0031 (0.0050)	-0.0005 (0.0404)	-0.0034 (0.0053)
Poverty rate (% of population)	0.0166 (0.0147)	-0.5650 (1.0551)	0.0038 (0.0159)	0.0155 (0.0147)	-0.5528 (1.0554)	0.0032 (0.0158)
Unemployment rate (% of labor force)	0.0640 (0.0517)	-0.1798 (0.5375)	0.0022 (0.0717)	0.0614 (0.0530)	-0.1986 (0.5377)	0.0021 (0.0727)
Ores and metals export (% of merchandise exports)	-0.0085 (0.0132)	-2.3448*** (0.5484)	-0.0034 (0.0152)	-0.0099 (0.0134)	-2.4198*** (0.5676)	-0.0055 (0.0154)
Total reserves of natural resources (log)	-0.1180 (0.4303)	-1.0844 (4.0329)	-0.1347 (0.4202)	-0.1327 (0.4336)	-0.9310 (4.0341)	-0.1291 (0.4274)
Permanent cropland (% of land area)	-0.2648 (0.2263)	20.8357** (7.0286)	-0.3897+ (0.2246)	-0.2576 (0.2217)	21.0409** (7.5065)	-0.4046+ (0.2229)
Country dummy	Included	Included	Included	Included	Included	Included
Year dummy	Included	Included	Included	Included	Included	Included
Number of Observations	92165	50218	41947	92165	50218	41947

Note: Standard errors are in parentheses. All models are estimated relogit regression with clustering at mining property level. Constant, country-, year-fixed effects are estimated but not reported here. \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ , †  $p < 0.1$

Table 2.6. Summary of Analytical Results

	Variables Analyzed	Association, Interaction	Indication	Interpretation
1	<b>Country Level Analysis</b> Number of conflict incidents w/ number of mining companies	(+) Signif.	The more mining companies working in a country the higher the conflict risk	All countries have capacity limits on the number of companies they can regulate effectively
2	Number of conflicts w/ number of mining companies & country governance quality (CI)	Insignif	Conflict risk increases with number of mining companies regardless of country governance quality	
3	Number of conflict incidents w/ ratio of foreign mining companies & total country reserves	Insignif.	Conflict risk not directly related to the ratio of foreign companies or total reserves	Conflict is a complex process that is the result not of single, isolated factor but of the interplay of multiple factors.
4	Number of conflict incidents w/ country governance quality (CI)	Insignif.	Country governance quality does not by itself have significant impact on conflict risk	
5	Number of conflict incidents w/ <ul style="list-style-type: none"> <li>▪ poverty rate</li> <li>▪ mineral exports</li> <li>▪ land size</li> </ul>	(+) Signif. (+) Signif. (-) Signif.	Low economic development, high importance of mining sector & small land size correlate with increasing conflict risk	Conflict risk increases with overall economic dependence of a country on natural resource development, exacerbated in some cases by the consequences of the resource curse.
6	Number of conflict incidents w/ <ul style="list-style-type: none"> <li>▪ GDP per capita</li> <li>▪ land size</li> </ul>	(-) Signif. (-) Signif.		
7	Number of conflict incidents w/ ratio of foreign companies & country governance quality (CI)	(-) Signif.	The weaker the country governance the higher the conflict risk, with increasing ratio of foreign mining companies & increasing country reserves	For countries w/ high levels of resource endowment and high ratio of foreign companies, risk of conflict is lowered by increasing quality of governance
8	Number of conflicts w/ ratio of foreign firms & individual governance quality indicators	(-) Signif except for <i>voice &amp; accountability</i> which had no moderating affect	Higher scores for <i>voice &amp; accountability</i> had no moderating effect on conflict risk, when ratio of foreign firms was high	Foreign companies invest in countries w/ high mineral potential regardless of whether they are democracies or governed by authoritarian rule. Conflict risk rises with number of foreign mining companies regardless of whether the host country is a democracy or anocracy.
9	Number of conflicts w/ mineral reserves and individual governance quality indicators	(-) Signif	Conflict risk decreased w/ higher scores for <i>control of corruption, government effectiveness</i> and <i>rule of law</i> but less so for <i>political stability &amp; absence of violence &amp; voice &amp; accountability</i>	

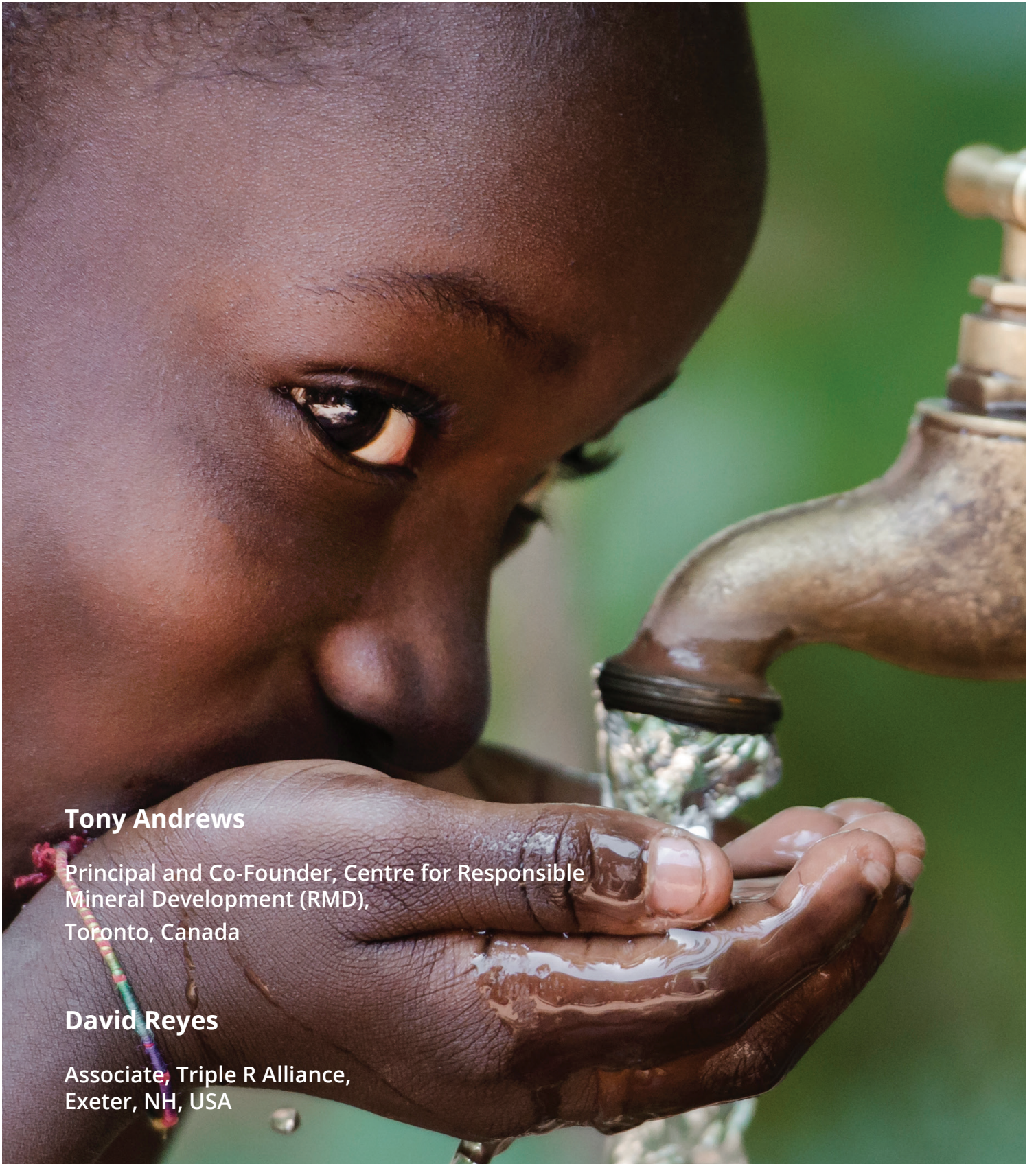
10	Number of conflicts w/ number of companies & <i>control of corruption</i>	(+) Small enhancing effect	Slight enhancing effect of increasing <i>control of corruption</i> on increasing number of conflict with increasing number of companies	Increasing <i>control of corruption</i> does not lower the positive correlation between number of conflicts and number of companies
11	<b>Property Level Analysis</b> Likelihood of conflicts w/ number of owners, ratio of foreign owners & amount of mineral reserves	(+) Signif.	Number of owners, ratio of foreign owners & amount of mineral reserves directly determined the <i>likelihood</i> of conflicts associated w/ mining activities at the property level.	The likelihood of conflict due to number of owners, ratio of foreign owners & amount of reserves is much higher in developing countries than for developed countries
12	Number of conflicts w/ quality of governance (CI)	Insignif.	Country governance quality does not by itself have significant impact on conflict risk	Even if a country has a high score on quality of governance this does not necessarily translate to low conflict risk at property level
13	Number of owners, ratio of foreign owners and amount of reserves w/ country governance quality (CI)	For total sample: lowered the (+) effect	Increasing country governance quality lowered the positive effect of the amount of mineral reserves on the likelihood of conflict.	
14	ditto	For developed countries: Insignif.	For developed countries the moderating effect of country governance quality on likelihood of conflict resulting from all 3 factors was insignificant	For developed countries increasing governance quality will have little effect on conflict risk at the property level. Company initiatives to strengthen social practices would have better results
15	ditto	For developing countries: lowered the (+) effect	For developing countries, increasing country governance quality lowered the positive effect of ratio of foreign owners and amount of mineral reserves on likelihood of conflict	In developing governments should focus on increasing governance quality prior to inviting FDI and foreign mining companies
16	GDP, GDP growth, governance quality, market cap., poverty rate w/ number of conflict incidents	Insignif.	At the property level, a host country's economic and social attributes are not associated with likelihood of conflict	

\* CI: Governance composite index

\*\* Individual governance indicators include: control of corruption, government effectiveness, rule of law, political stability & absence of violence, and voice & accountability



## PART 3. GHANA CASE STUDY



### **Tony Andrews**

Principal and Co-Founder, Centre for Responsible Mineral Development (RMD), Toronto, Canada

### **David Reyes**

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*The government does not own the land – the people do. People are the custodians of the land for future generations – but land has been taken away from them for large mining operations.” (Civil Society Organization)*

*“Government doesn’t help the community at all. Government takes the money to work in other areas. They know the mine is here so leave it up to the mine to help local people. Government expects the mine to look after the community.” (Community Leader)*

*“The modern version (of artisanal and small-scale mining) is causing all the problems with rivers, including water siltation and use of mercury. The mining used to be in old pits, far from the rivers. Then, government sent people to China to learn better ways of small-scale mining. The Chinese followed them back and taught people how to mine the riverbanks and dredge the bottoms. They influenced the chiefs with money, even if they had a cocoa farm they could convince people to shift to galamsey (illegal mining).” (Local Authority).*

*“Growth of ASM from traditional to mechanization has overwhelmed the government and now they are trying to control and play catch-up. It was a question of monitoring. The government should have been monitoring what was going on across the country and then they wouldn’t have been surprised but would have been able to keep ahead of it and control it.” (Ghana Chamber of Mines).*

## 1. INTRODUCTION

There were a number of reasons for choosing Ghana as a case study for examining the role of government in directing the development of its mineral resources on a path towards either sustainable development or conflict:

- a) It is an emerging democracy in a continent still dominated by authoritarian rule;
- b) It is rich in mineral resources characterized by a centuries long history of mining, commerce and trade in gold;
- c) The governance and management of resource extraction has been molded by a history of slavery, colonialism and a prolonged period of post-colonial rule dominated by military governments;
- d) In spite of its turbulent political and socio-economic history, for the most part it appears to have avoided sustained expressions of civil unrest including uprisings and protests, and of particular interest to this study, conflict specifically related to mining activities.
- e) There have been recent creative approaches to the governance of mineral resources. The one that caught our attention initially was a set of CSR Guidelines introduced by the government in 2012, developed specifically for the large-scale mining industry and designed as a hybrid of voluntary and mandatory components, together with sanctions.

Our initial impression therefore was that Ghana is a country that in spite of a significant history of political struggles, governance challenges and a rich endowment of mineral resources, appears to have been successful in avoiding conflict associated with mining. It seemed likely to be a case on the positive side of the equation; that is, an example of a government that had found a way to successfully manage resource development without conflict and stay the course towards sustainable development. We discovered of course that actual realities are always more complex than initial impressions. The elucidation of the role of government in the enabling or prevention of conflict in Ghana, as in any country, cannot be approached in isolation of the broad historical and contextual factors that have affected the country and examination of the roles, responsibilities and interrelationships among the other key players.

## 2.METHODOLOGY

The field study was carried out by David Reyes and Tony Andrews, accompanied and assisted by Steven Korski Agbo, Senior Social Scientist with the Minerals Commission of Ghana.

The design and implementation of this field project was in compliance with the ethics standards of the University of British Columbia and Simon Fraser University as measured against their policies on Research Involving Human Participants. Our field approach was developed to ensure that:

- a) Participant identities were protected during field studies and will continue to be protected following the completion of the study.
- b) Participants were asked for their consent and fully informed of the purpose and expected output of the study.
- c) Participants were free to not answer questions or leave if they were not comfortable anymore.

Given the objective of the study the choice was made to cover as broad a spectrum as possible of mines, companies, geographic areas and communities that the project budget and timelines would allow. Achieving breadth meant compromising depth to some extent, however, this approach was key to obtaining a wide spectrum of perspectives and achieving objectivity with the study conclusions. A total of 25 person-days were spent in the field accumulating observations and data.

Before commencing field programs, contact was established with all parties involved and permission to conduct the study was acquired from the Minerals Commission of Ghana. Our field team applied well-tested methodologies to acquire information, based on initial desk-top research, followed by on-site interviews with relevant parties including, as summarized below, community leaders and members, local authorities, representatives of central government agencies, institutions, non-governmental organizations (NGOs), mining companies and small-scale mining operators, both owners and workers. In all, 120 individuals were interviewed, including 19 women and 101 men. More gender balance was not possible given that it was predetermined by the number of women working in relevant positions in companies, government and district assemblies and holding positions of status in local communities. For example, several *queen mothers* figured prominently in community-led discussions but that was not the norm.

<p>CENTRAL GOVERNMENT</p> <ul style="list-style-type: none"> <li>▪ Ministry of Lands and Resources</li> <li>▪ Minerals Commission</li> <li>▪ Environmental Protection Agency</li> <li>▪ Water Resources Commission</li> </ul>
<p>NOT-GOVERNMENTAL ORGANIZATIONS</p> <ul style="list-style-type: none"> <li>▪ Wassa Association of Communities Affected By Mining (WACAM)</li> <li>▪ Artisanal and Small-Scale Mining Association (NASMA)</li> <li>▪ Ghana Chamber of Mines</li> </ul>
<p>LOCAL AUTHORITIES (DISTRICT ASSEMBLIES)</p> <ul style="list-style-type: none"> <li>▪ Asutifi North District, Sunyani, Brong Ahafo</li> <li>▪ Amenfi East District Assembly, Central Region</li> <li>▪ Prestea Huni-Valley District Assembly, Western Region</li> <li>▪ Tarkwa-Nsuaem Municipal Assembly, Western Region</li> </ul>
<p>COMMUNITIES AND TRADITIONAL LEADERS (Chiefs, Attendants and Associates)</p> <ul style="list-style-type: none"> <li>▪ Ntotroso Community, Kumasi Area</li> <li>▪ Ayanfuri Community, Central Region</li> <li>▪ Nkonya Community, Central Region</li> <li>▪ Tarkwa Bansa Community, Western Region</li> <li>▪ Akyem Community, Western Region</li> <li>▪ Kyekyewere Community, Western Region</li> <li>▪ Damang Community, Western Region</li> <li>▪ Dumasi Community, Western Region</li> <li>▪ Benso Community, Western Region</li> <li>▪ Mile 11 Community, Western Region</li> <li>▪ Atuabo Community, Western Region</li> </ul>
<p>MINING COMPANIES</p> <ul style="list-style-type: none"> <li>▪ Newmont Gold Ghana Ltd, Brong Ahafo Region</li> <li>▪ Perseus Mining Ghana Ltd, Central Region</li> <li>▪ Ghana Manganese Company Ltd, Western Region</li> <li>▪ Goldfields Ghana Ltd, Western Region</li> <li>▪ Golden Star Resources Ltd, Western Region</li> <li>▪ Anglo Gold Ashanti Ltd, Western Region</li> </ul>
<p>ARTISANAL AND SMALL-SCALE MINERS</p> <ul style="list-style-type: none"> <li>▪ Visit with 1 operation, Central Region</li> <li>▪ Visit with 3 operations, Western Region</li> </ul>
<p>OTHER</p> <ul style="list-style-type: none"> <li>▪ Canadian Embassy</li> </ul>

All of the interviews with agencies of the central government and NGOs were carried out in their head offices located in the capital city, Accra. Interviews with community leaders, local authorities (district assemblies), company personnel and artisanal and small-scale miners were conducted on location in the field in the Brong Ahafo, Central and Western Regions where most of the large scale mining operations are located, along with a significant concentration of artisanal and small-scale mining operations.

Interviews relied mainly on inductive questioning. The rationale for this approach is that, in a study meant to gather and compare various perspectives about a general topic, it is desirable to encourage and explore any observations stakeholders consider relevant. So, rather than conduct interviews to test hypotheses, these interviews intentionally put aside any preconceived ideas to provide a 'blank slate' for the interviewees to identify issues and practices relevant to the study objectives.

### 3.GHANA: COUNTRY PROFILE

Ghana is a tropical country located in West Africa, bordering the Gulf of Guinea, between Cote d'Ivoire and Togo. It shares its northern border with Burkina Faso.

With a population just shy of 27 million, spanning a variety of ethnic, religious and linguistic groups, Ghana is characterized by a young age structure, with approximately 57% of the population under the age of 25. The religion is dominantly Christian (71.2%) and to a lesser extent Muslim (17.6%). Ghana's proportion of persons aged 60+ is among the highest in sub-Saharan Africa (The World Factbook, Central Intelligence Agency).

Of the 55 countries that make up the continent of Africa, only 9 are classified as democracies and the rest remain as open or closed anocracies (The Peace Research Institute of Oslo, 2015). Ghana is one of the democracies. In fact, Ghana, formed from the merger of the British colony on the Gold Coast and the Togoland trust territory, was the first sub-Saharan country in colonial Africa to gain its independence in 1957. Ghana is well-endowed with natural resources producing and exporting gold, diamonds, bauxite, manganese, industrial minerals, oil and gas. Agriculture remains one of the predominant economic activities with about 54% of the labour force directly or indirectly engaged in farming, livestock rearing, fishing, logging and forestry. Ghana is one of the worlds largest producers of cocoa. Agriculture not only provides the main source of livelihood and food for the majority of people, but supplies much of the raw materials for Ghana's industry (Dzorgbo, 2014; The World Factbook, Central Intelligence Agency).

Ghana has a market-based economy that has been strengthened by 25 years of relatively sound management, a competitive business environment and a sustained reduction in poverty levels since moving to a multi-party democracy in 1992. It has relatively few policy barriers to trade and investment in comparison with other countries in the region (CIA, World Factbook, 2017). However, in recent years it has suffered from loose fiscal policy, high budget and current account deficits and a depreciating currency, exacerbated by the fall in gold and oil and gas in 2015. Key economic concerns include an unreliable electricity supply and a high debt burden. Ghana signed an extended \$920 million extended credit facility with IMF in December, 2015 to help address its growing economic crisis (The World Bank in Ghana, Overview, 2017).

### *3.1. COLONIALISM*

Ghana, along with much of West Africa was impacted by two major, historical events that had significant consequences with respect to its later developmental history. Africa's early contact with Europe resulted in nearly 400 years (16<sup>th</sup> -19<sup>th</sup> centuries) of trans-Atlantic slave trade during which Africans were forcefully taken to the New World as plantation workers. The slave trade depopulated the African continent and deprived it of its most youthful, most innovative and creative members of society. The abolition of slavery in 1807 was soon followed by the imposition of colonial rule in the Gold Coast towards the end of the 19<sup>th</sup> century.

While colonialism certainly brought improvements to subject nations, it can be shown that in most cases the gains of the colonists far outstripped those of the colonized. In the case of Ghana, British colonialism, in order to feed its own industrial transformation, dismantled a vibrant, indigenous, pre-colonial economy of trade, commerce and industries based on gold, iron ore, metal works, ceramics, food processing, construction, crafts and textiles, and at the same time undermined the country's ability to recover and define its own path of economic development and technical innovation in the post-colonial era of independence (Kay, 1972, Agbodeka, 1992; 134-137, Davidson, 2000).

Dzorgbo (2014) has noted that Ghana and Korea were more or less at the same level of development in the early 1960's; however, Korea has managed to become an industrial nation today, while Ghana is struggling to attain middle-income status. He has argued that, in large measure, this different pattern of development is due to the differences in colonialism they experienced. In the case of Ghana, British colonialism was largely negative for Ghana's post-colonial socioeconomic launch, whereas Japan's colonialism provided the infrastructure foundation for Korea's post-colonial economic development success.

Clearly, British rule not only extracted natural resources from colonial Ghana but also systematically designed and implemented policies to eradicate Gold Coast indigenous industries and appropriate the country's economy and wealth (Davidson, 2000). Colonial policies also gave European trading firms and merchants near absolute control over the organization and trade of the colony. The effect was to deny and eventually eliminate the country's pre-colonial history and time-tested trade, commerce and institutions (Kay, 1972). Local prevailing socioeconomic systems were reconfigured into the emerging global capitalistic economy dominated by core countries and industries of the western world (Britain, France, Spain, Germany, USA). African economies were inherently disconnected from this global economy and market place.

### *3.2. POST-COLONIALISM*

Ghana's post-colonial period has been documented in detail by Anamzoya (2014) and Dzorgbo (2001, 2014b). Following a brief period of nation-building and modest socioeconomic transformation after independence in 1957, Ghana's political environment deteriorated. From 1966 to 1992 it experienced short periods of civilian rule interrupted by long periods of military rule, becoming one of the most unstable countries in Africa. During this period many of its economic policies and development strategies were short-lived and scattered, resulting in a chaotic development experience, accompanied by declines in food agriculture, cocoa production and industrial output, all resulting in social and rural decay, massive migration and urbanization.



With many authoritarian rulers, the country suffered from chronic political instability, corruption, inter-elite rivalry and failure on the part of the governing elites to develop a nationally coherent, long-term development plan. During the last military regime (1981-91), the government accepted the assistance and policies of the IMF stabilization policies and the World Bank structural adjustment programs (SAPs), whereby private sector activity was re-established as the engine of economic growth.<sup>25</sup>

In 1991, under pressure from Western powers and international institutions, constitutional rule and multi-party democracy was restored in Ghana. A new constitution was written and approved in 1992 and a multi-party election was held. Since that time 6 uninterrupted and relatively peaceful multi-party elections have been held (CIA, World Factbook, 2017).

However, as described in more detail below, the 'disarticulated' economic structure that Ghana inherited from colonialism has not changed in any significant way to place the country on a self-sustaining developmental path (Anamzoya, 2014). In the opinion of Dzorgbo (2014a), it has regressed from a focus on re-establishing a national self-identity in the early years of independence and succumbed to the dictates of the global economic development management institutions, including the IMF, World Bank and World Trade Organization and thus development continues to be directed by agents of donor countries.

### *3.3. TRADITIONAL LEADERSHIP AND CHIEFTAINCY*

The depopulation of the African continent and its subsequent subjugation by colonialists deprived Africa of the internal social dynamics that have historically triggered socioeconomic transformation in other contexts. So African societies were transformed not from within but from without. One area of society where this subjugation and domination had significant repercussions was in the traditional political institutions – the chieftaincy institutions (Dzorgbo, 2001, 2006, 2014).

In many pre-colonial Africa societies, including those of West Africa, chieftaincy was the primary institution of governance. Chiefs were the head or leader of a tribe or clan in a town or village, in charge of and answerable to the people in the town or village. Chiefs were members of a particular family or lineage through which traditional authority was handed down from generation to generation. The traditional authority included judicial, legislative and executive powers (Odetai and Awedoba, 2006, Anamzoya, 2014).

Given the size of the countries they were colonizing it became evident to the British that they did not have the capacity to maintain law and order in all parts of the occupied territories. Therefore it became convenient for them to retain the existing governance system of the chieftaincy. As described by Vaughan (2003) this was a form of 'mixed government' which maintained traditional, local authority as a political resource without diminishing the authority of the sovereign state (colonial rulers). Most traditional authority holders were thus incorporated into the British colonial political administration through the system that became known as Indirect Rule<sup>26</sup>.

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25 The SAP approach was to concentrate on transforming the economies of developing countries to become more free-market orientated, concentrating on trade and production to boost the economy. This involved deregulation, privatization and reduction of trade barriers.

26 Governance as far as possible by the use of traditional rulers and legal systems

Thus the main concern of the British rulers was to control the chiefs but not to eliminate them. The chiefs were accountable to the Governor, who had the power to validate their elections and also to depose them. Thus during colonial rule, the role of the chiefs was fundamentally transformed from traditional authorities with judicial, legislative and executive powers to civil administrators under the control of the British colonial government. While the chieftaincy has survived to the present day, Ghana's independence in 1957 and subsequent governments have done little to change the political structures established during colonialism.

While the chieftaincy retains some customary influence within their communities and judicial powers within the National Assembly of Chiefs (i.e. dealing with their own procedures), they have for the most part lost their traditional authority and are controlled by and accountable to the central government (Anamzoya, 2014).

Today, the chiefs occupy a peculiar position defined by a combination of factors.

On the one hand:

1. They are political appointees of the President and the party in power, so in order to retain their position they must tow the party-government line and not make problems, otherwise they risk being destooled<sup>27</sup>.
2. They no longer have any formal power to grant lands as they used to in pre-colonial times, including for the purposes of mining – that is now the role of the central government.

On the other hand:

3. Chiefs retain significant influence over communities and on the whole retain the respect of community members. Chiefs refer to themselves as 'opinion leaders'. A growing problem with this relationship centers on the youth in communities, who are losing respect for chiefs because they do not see them as solving their problems, particularly those related to employment and livelihood.
4. By law, the large-scale mining (LSM) sector can only approach communities through the chiefs and district assemblies. This is the case when holding public meetings prior to the granting of mining concessions and during the normal course of mining operations. Companies complain that important information does not reach individual community members. Community members complain that their concerns are often not represented and they don't really feel like a stakeholder. Problems arise from the fact that community members have their own opinions and won't necessarily agree with the chiefs, but won't contradict them in public either.
5. There is a lack of transparency and accountability with the district assemblies and the chiefs. This becomes an issue in the management and allocation of land and resources within their communities as discussed in more detail below.
6. There is a widespread perception that many chiefs are working hand-in-hand with the galamsey (illegal small-scale mining) and benefiting financially from this activity. Some see evidence that the emergence of galamsey has resulted in the chieftaincy regaining some of its former power and influence in local communities although in an informal way (McQuilken and Hilson, (2016).

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27 To remove or depose a chief from office.

### 3.4. CURRENT POLITICAL AND GOVERNANCE SYSTEMS

The Republic of Ghana of today is a unitary democracy<sup>28</sup> based on a parliamentary, multi-party system. The president is both head of state and head of the government. The political scene is dominated by two parties, the New Patriotic Party (NPP) and the National Democratic Congress (NDC). In December 2016, Nana Dankwa Akufo-Addo of the NPP was elected President, marking the third time that Ghana's presidency has changed parties since the return to democracy.

Ghana consistently ranks in the top three for freedom of the press and freedom of speech in Africa, with broadcast media strongest and radio the most far-reaching medium of communication.

The country has achieved an average GDP growth rate of 5-6% per annum over the last 3 decades (World Bank in Ghana, 2017).

Based on development of a stable political environment, macroeconomic stability and recent discovery and production of oil, Ghana's economic growth rate reached 14.4% in 2011, making it the fastest growing economy in the sub-Saharan Africa in recent times. In 2015, Ghana ranked 139 out of 188 countries on the Human Development Index and compares well in terms of its governance scores with other South Africa democracies such as South Africa.

*Table 3.0. Human Development and Governance Indices of Ghana & Selected Countries*

Country	Poverty	Human Development	Governance Effectiveness	Political Stability	Rule of Law	Corruption Control
Canada	n/a	10	95.2	93.8	95.2	93.8
Ghana	25.2	139	44.7	50.0	50.6	53.4
Burkina Faso	43.7	185	31.7	23.3	34.1	47.1
South Africa	16.6	119	64.9	38.6	59.1	58.2
Tanzania	46.60	151	26.92	27.18	39.42	22.60

Poverty: UNDP: % population living below income poverty line; PPP=\$1.90/day, 2004-14

Human Development: Ranking out of 188 countries, UNDP, 2014

Governance Effectiveness, Political Stability, Rule of Law, Corruption Control: Percentile Score out of 100, World Bank, 2014

<sup>28</sup> A unitary democracy is a system of government in which constitutional authority lies in the hands of a single central government. Administrative divisions (subnational units) created by the central government are responsible for the everyday administration of government, but exercise only powers the central government chooses to delegate (Wikipedia).

However, in spite of all these positive gains since the re-establishment of multi-party democracy in 1992, Ghana continues to suffer many problems of underdevelopment including persistent poverty, high rates of maternal and infant mortality, overcrowding of urban centers, rural decay, youth unemployment, social exclusion, child labor and exploitation, ethnic conflict and gender inequality (Dzorgbo, 2014a). The evidence indicates that Ghana is still far from attaining the goals that are expected from sustained economic growth and stability and the development process itself is fraught with the many problems that still reach out from its colonial past (Dzorgbo, 2014b).

### *3.5.DECENTRALIZATION*

The concept of decentralization finds its way back to British colonial rule in Africa, and the Gold Coast was no exception. As mentioned previously decentralization was a political tool for the British who used the traditional, local authority of the chieftaincy and the elders to maintain control of the interior of the country and reinforce the wishes of the British government (Antwi-Boasiako, 2009).

Since gaining independence in 1957 successive governments have investigated various approaches to decentralization and the establishment of a system of local government in Ghana. The current approach to decentralisation and the architecture established for local governance was established in 1988 during the last military government, through the Local Government Legislative (LGL) reforms. This approach was later enshrined in the 1992 Constitution and while it has been the subject of a number of amendments by successive governments since that time, the basic approach and structure established in 1988 remain to the present day (Bandie, 2007).

Ghana is divided into ten administrative regions, each of which is headed by a Regional Minister appointed by the President, who presides over Regional Coordinating Councils. The administrative regions are in turn subdivided into Districts, 138 in all, each of which has a governing body referred to as a District Assembly. The Regional Coordinating Councils consist of representatives from each of the District Assemblies in the region and from the regional House of Chiefs. The role of the Councils is to coordinate policy implementation amongst the District Assemblies (Kuusi, 2009).

The District Assemblies are the principal units of local government. The Constitution of Ghana provides that a District Assembly is the highest political authority in the district, and that the District Assembly has deliberative, legislative and executive powers. However, District Assemblies do not own land and have no authority over land-owners. The significance of this will become evident later on in the discussion regarding the challenges associated with illegal, small-scale miners.

The members of District Assemblies comprise 70% elected representatives and 30% appointees of the President. The District Chief Executive, who is also appointed by the President, heads the executive committee of the Assembly and is the chief representative of the central government in the district.

Whereas the decentralization system in Ghana was originally designed with good intentions, (i.e. decentralization promotes better governance and development as local officials are more aware of, responsive to and accountable to local people), successive central governments have been criticized regarding its implementation. Antwi-Boasiako (2010) points out that while the Local Government Law of 1998 (LGL 207) and the 1992 Constitution provided a transition from military rule to multi-party democracy at the national level, essential democratic elements remained compromised with respect to the system of local governance. For example, while the Constitution provides the structure of decentralization, it does

not provide any mechanism to allow citizens at the grassroots to elect their political leaders. This has led to substantial divergence between Government intentions for decentralization – including the intentions as stated in the Constitution - and the actual practices in the country.

As documented by Bandie (2007), Antwi-Boasiako (2010) and Ahwoi (2010), the challenges caused by over-centralization of government and the lack of effective implementation of local governance include:

- a) The appointment of the District Chief Executive and 30% of the representatives to the District Assemblies by the President avails the central government too much opportunity of control over District Assemblies, undermining its intended autonomy and local authority.
- b) Members of the District Assemblies are supposed to be elected on the basis of a non-partisan ballot. However, the process has been undermined by open, undisguised promotion of candidates by various political parties, most notably the governing parties.
- c) There are difficulties maintaining a functioning system of sub-structures (community committees) of the District Assemblies due to a general lack of candidates willing to participate.
- d) Many District Assemblies, especially in rural areas, are not fully staffed and have inadequate financial resources. They have never been allowed to develop capacities for administration and planning.
- e) The legislative instruments establishing the District Assemblies provide overlapping responsibilities with the central government, resulting in confusion. Local services are delivered with varying degrees of authority and responsibility.
- f) There is a high degree of dependency by District Assemblies on transfers from the central government for their financial resources. This together with the requirement of having to submit their annual budgets to the central government for approval means that their finances are controlled by the central government.

Bandie (2007) describes governance in Ghana as over-centralized, the consequence of this being the distortion of the national development process leading to serious disparities in regional governance and regional development. This over-centralization of government and the resulting dysfunctional regional and local governments has had fundamentally important consequences with respect to the regulation and management of the mining industry, both large-scale and artisanal and small-scale sectors, as discussed in more detail below.



## 4. THE MINING INDUSTRY IN GHANA



Mining has been ongoing in West Africa since the fifteenth century. Long before the region was coined 'The Gold Coast' by Europeans and British Colonialists, there was a dynamic, indigenous, pre-colonial economy of production, industry and trade based on gold, iron ore and metal works (Dzorgbo, 2014b). For example, Ghana accounted for 36% of total world gold output (over 8 million ounces) between 1493 and 1600 when there were more than thirty gold mines in operation (Minerals and Mining Policy of Ghana, 2017). The industry was vibrant during the pre-independence period when mining policy was largely geared towards assisting and promoting the maximization of mineral production in the interests of the British colonial rulers.

Despite its long history in Ghana, following independence in 1957, mining played a relatively small part in the economy until recent times. Not long after independence, the country went into a three decade-long downward spiral of political instability, alternating public and military rule, and economic decline. The mining industry suffered along with other industrial sectors. Indeed, from 1957 to the early 1990s not a single new gold mine was put into production (ICMM, 2007).

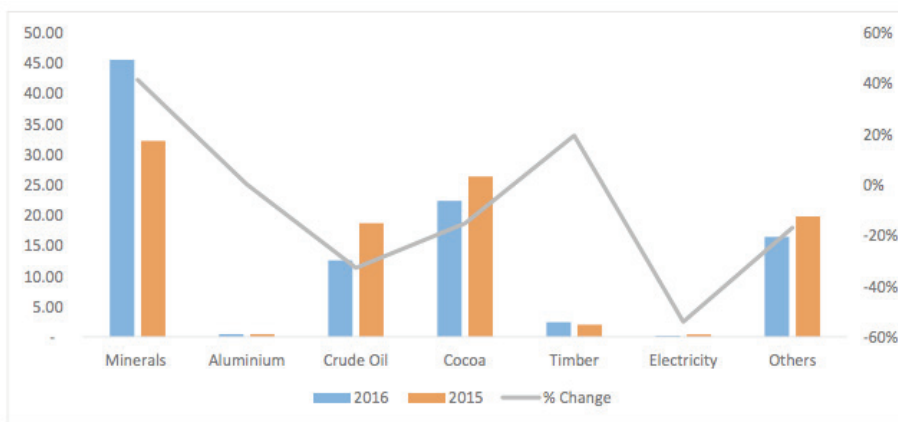
Economic reforms introduced in the 1980s and 1990s as part of the World Bank Structural Adjustment Program (SAP), contributed to a return of economic growth accompanied by a resurgence in mining, assisted by a new, investor friendly mining code. Since 1986, over US\$5 billion has been invested in new mining projects and mining has now passed cocoa as the leading export earner. Mining has also become one of the largest sources of foreign direct investment (ICMM, 2007).

The mining industry in Ghana is best described in terms of 2 distinct sectors, the large-scale mining industry (LSM) comprising 16 large-scale underground and open-pit operations (Ghana Chamber of Mines, 2017) and the artisanal and small-scale mining industry (ASM), comprising thousands of small-scale operations, many of which have now gone beyond the artisanal stage (employing hand tools), to mechanization

involving a variety of excavators and high pressure pumping equipment. The large-scale mining sector employs over 29,000 people, about 98% of which are Ghanaians (Mineral and Metals Policy of Ghana, 2017). The ASM sector is mainly concerned with gold mining and is estimated to account for about 35% of Ghana’s total gold output resulting in export revenues of some US\$5.6 billion in 2012. The ASM sector employs an estimated one million people and supports approximately 4.5 million more (McQuilken and Hilson, 2016). The majority of these miners operate informally, without a license. These ‘illegal’ miners are known in Ghana as “galamsey”.

Ghana is now among the world’s top 10 producers of gold and top 15 producers of rough diamonds. Other commodities produced by the LSM sector include aluminum, bauxite, cement, lead, manganese, salt, silver and construction materials (USGS, 2016). The country also has significant oil production.

In 2016, mining contributed about 15.8% of government revenues and 45.5% of total merchandise exports (Figure 3.0). Gold accounted for 96% of non-fuel mineral revenues, with exports of gold reaching 3.6 million ounces. In 2016 mining companies repatriated about 71% of foreign exchange into the economy (Amewu, 2017). Expenditure on local purchases increased from 21.4 per cent of mineral revenue in 2013 to 31 per cent in 2016. This was the result of a program introduced by the central government, identifying a list of items that required the LSM sector to purchase locally.



Source: Bank of Ghana

Figure 3.0. Total Merchandise Exports

## 4.1. LEGISLATIVE FRAMEWORK

### 4.1.1. THE LARGE SCALE MINING (LSM) SECTOR

While the mineral rights of Ghana are owned by the national government, the surface rights are owned by Ghanaian citizens, who are predominantly farmers in rural areas. As summarized in Ghana’s Mining Portal (2017), the legislative framework for the mineral sector in Ghana is the Minerals and Mining Act 703, which came into force in 2006.

The Ministry of Lands and Natural Resources (MLNR), through the Geological Survey Department (GSD), the Minerals Commission, and Precious Minerals Marketing Co. Ltd (PMMC), oversees all aspects of Ghana’s mineral sector and is responsible for granting mining and exploration licenses. The Minerals Commission has responsibility for administering the Mining Act, ensuring compliance with laws and regulations, recommending mineral policy, promoting mineral development, advising government on

mineral matters and serving as a liaison between industry and government. The Minerals and Mining Act requires a license issued through the MLNR to conduct reconnaissance, prospecting, exploration, or mining in Ghana. This applies regardless of whether or not an individual holds the rights to the surface land.<sup>29</sup> Prior to the granting of a concession, companies are encouraged to begin engaging the local communities and hold public meetings. It is the companies not the Minerals Commission that engage the Chiefs in this process. It is the protocol that Chiefs are approached first in order to obtain permission to engage community members.

## **EXPLORATION LICENSES AND MINING CONCESSIONS**

### **Exploration**

An applicant can apply for a reconnaissance license (12 months, renewable year by year) and a prospector's license (up to 3 years renewable for 2 terms).

### **Mining**

For mining purposes an applicant requires a mining lease (up to 30 years, renewable for an additional 30 years) or a restricted mining lease (up to 15 years, renewable for an additional 15 years).

The lease may be granted to the holder of a prospecting license or any person who establishes to the satisfaction of the Minister that a mineral to which the lease relates exists in commercial quantities within the proposed lease area and can be mined at a profit. The size of the concession area in which a lease may be granted is limited to 300 continuous blocks, 63 km<sup>2</sup> for a single grant.

Upon the submission of an application by a company for a mining concession, the Minerals Commission advises the relevant district assembly and chief by letter of the intent to grant a concession. The district assembly has 21 days to consider the implications and lodge concerns. If there are none, then the license is granted.

**Source: Ghana Mining Portal, (2017)**

### 4.1.2. THE ARTISANAL AND SMALL-SCALE MINING (ASM) SECTOR

The Small-scale Gold Mining Law legalizing artisanal and small-scale mining was brought into effect in 1989. This law regulates registration activity, granting of gold-mining licenses to individuals, groups and registered cooperatives, licensing of buyers, and the establishment of district centers to support applicants.

This law was later repealed and replaced by the Minerals and Mining Act of 2006 and modified under the Minerals and Mining Act Amendment Bill of 2014. The Precious Minerals Marketing Corporation Law of 1989 changed the Diamond Marketing Corporation into the Precious Minerals Marketing Corporation and authorized it to buy and sell gold in addition to diamonds.

Legalization of ASM in Ghana coincided with a rapid increase of ASM activities across the whole of sub-Saharan Africa in the late 1980s, fueled by economic reforms accompanying the introduction of IFC and World Bank sponsored structural adjustment reforms. As summarized by McQuilken and Hilson (2016),

<sup>29</sup> Prior to independence in 1957, land owning communities owned mineral rights beneath their lands and grants to those mineral rights were made by their chiefs and local leaders.

tens of thousands of people made redundant under the structural adjustment programs, including farmers struggling to cope in liberalized markets, drove a rapid increase in ASM activities at this time and over the following two decades.

The introduction of the Small-scale Gold Mining Law in 1989 was one of the mechanisms employed by the central government at that time to actively encourage ASM activity, recognizing that it could play an important role in stimulating the rural economy and alleviating poverty across Ghana's interior. Unlike the LSM sector, a license for ASM is available only to Ghanaian nationals. Under the current law, a concession for a small-scale gold mining operation can vary in size from 1-25 acres. A concession of 1-5 acres is subject to government review and approval every three years and concessions of 5-25 acres must be reviewed every five years.

The application for a license is a relatively complex, multi-level process, which is outlined in the accompanying box. It begins at the district level, but significantly the district assembly has no authority to grant a license or influence the granting of that license. By law, the license is supposed to be issued within a period of 90 days but in reality it normally takes much longer, often requiring applicants to chase the process to Accra. As detailed in a later section, the complexity, time and cost of acquiring and renewing a license to conduct ASM activities has contributed significantly to the rapid growth of illegal mining (galamsey).

#### ASM LICENCE APPROVAL PROCESS

1. Application submitted at district center.
2. District Assembly publishes notices and plans for a period of 21 days, providing time for the registration of objections or concerns.
3. If no objections are registered within that time, the application is then compiled by a district officer.
4. An environmental impact assessment statement is prepared by the municipal EPA (a new law has recently removed this requirement)
5. The completed application is submitted by the District Assembly to the Minerals Commission in Accra.
6. Once the Minerals Commission is satisfied that the documents meet all the requirements and has received all the fees, it advises the Minister of Lands and Natural Resources on whether or not to issue a license.
7. With the approval and signature of the minister a license is issued.

Source: Ghana Mining Portal, (2017)

## 4.2. THE CSR GUIDELINES

A little over 5 years ago there had been debate at the national political level in Ghana on the need for corporate social responsibility (CSR) standards, broadly applied across all sectors. Some argued that such standards should be mandatory and enshrined in law. The government of the day opted not to introduce such a law at that time, however, the Minerals Commission took the initiative to develop principle-based legislation on corporate social responsibility as applied specifically to the large-scale mining industry, accompanied by a comprehensive set of guidelines (the CSR Guidelines). These Guidelines do not apply to exploration activities or the ASM sector.



The CSR Guidelines, launched in 2012, are a set of broad directions in a context of shared values rather than prescribing specific practices. They are designed to provide a framework and benchmarks for development and implementation of CSR programs for mining companies at the sites of their operations. They also provide a framework and benchmarks for local communities and stakeholders, governments, intergovernmental and non-governmental organizations to assess proposed and actual applications of best CSR practices at mining sites. The Guidelines include monitoring by government and means of sanctioning companies if necessary, transparency through required, periodic reporting by companies and intervention by government CSR specialists when company-community relations appear to be deteriorating.

The CSR Guidelines represent an interesting hybrid between voluntary and mandatory approaches. One of the main arguments for avoiding a purely legal, prescriptive approach to CSR was a desire to maintain flexibility and innovation in the design of programs tailored to the needs of local communities and to avoid the potential of a restricted approach that could arise from companies focusing only on fulfilling a set of legal requirements. Prior to their introduction, mining companies had been left to design their own individual CSR programs, so an important function of the Guidelines has been to create a standardized set of CSR priorities for the industry as a whole, reflecting what the government considered to be important needs of the Ghanaian communities.





## 5. FIELD STUDY OBSERVATIONS

People of Ghana generally accept the mining industry, both the large scale and the artisanal and small-scale mining sectors and appreciate that they make important contributions to the national and local economies.

Compared to other countries with comparable histories of mining activity, violent and destructive conflict associated with mining in Ghana has been relatively uncommon. When asked about this, interviewees expressed pride in this fact and pointed out that it is the nature of Ghanaians to dialogue – not to fight. They indicated that this can be traced back to pre-colonial times when daily life was based on the tribal system, in which prevention and resolution of conflict was accomplished through dialogue and negotiation, a practice that continues in family units and communities today. As one interviewee described it *“It is the custom to have regular meetings within the family to resolve conflicts and not allow them to fester and intensify. People do not want Ghana to be broken by conflict.”*

A related factor is that commencing with the first government following independence there has been a focus on nation-building and encouragement of individuals to identify with country rather than only with tribe. This together with a significant movement of people throughout the country and intermarrying across regions of Ghana helped people to shift their thinking from identifying primarily with birth region to being Ghanaian (Dzorgbo, 2014b).

While appreciating the benefits of mining and apparently resolute in their efforts to avoid conflict, interviewees were quick to acknowledge that there are serious issues and challenges arising from the mining industry today that could lead to conflict if not managed appropriately.

When asked what they would consider to be the most significant challenges arising from mining activity in Ghana today, interviewees identified a variety of issues, but by far the most commonly mentioned ones fall under the following broad categories<sup>30</sup>:

1. Lack of capacity, ability and willingness of the central government to monitor and enforce regulations and provide services and infrastructure down to the local level.
2. Inherent weaknesses in the institutions of local governance.
3. Inadequate compensation to local farmers for loss of land and loss of livelihood due to the granting of concessions for large scale mining operations;
4. Rapid growth of illegal (unlicensed), small-scale mining (galamsey), its rapid transformation to medium-scale mining through mechanization and the use of heavy equipment, accompanied by rapid environmental degradation and deterioration of river systems.

These and additional related challenges are discussed in more detail below.

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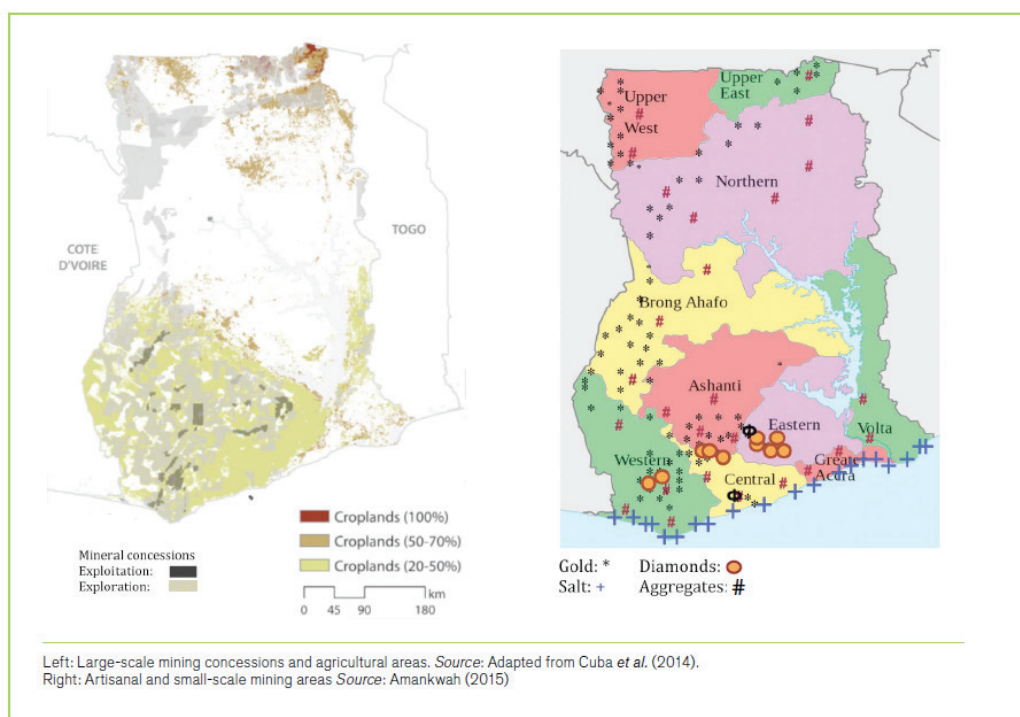
<sup>30</sup> Not presented in any particular order or ranking.

## 5.1. THE LARGE SCALE MINING SECTOR: CURRENT REALITIES, KEY ISSUES AND CHALLENGES

There are 14 large-scale mining companies and 16 large-scale mining operations in Ghana today producing gold, diamond, bauxite and manganese (Ghana Chamber of Mines, website, 2017). They are located in the southwestern part of the country where most of the road, power and rail infrastructure exists, including in the Ashanti (Central), Western and Brong-Ahafo Regions (Figure 2). Outside of the major urban areas, the majority of surface land is owned and occupied by local people, primarily farmers. Thus all mining operations exist in close proximity to communities, small farms and plantations.

### 5.1.1. COMPENSATION FOR LAND ACQUIRED FOR LARGE SCALE MINING OPERATIONS

While community leaders and local authorities sometimes expressed concerns about environmental impacts of the LSM sector, by far their most significant preoccupation revolved around land compensation and employment issues.



**Figure 3.1. Mining and Agricultural Regions of Ghana. Source: McQuilken and Hilson, 2016**

In many countries with significant resource endowments, the legal rights to surface lands and sub-surface resources are severed, following the principles of common law (Barton, 2014) and Ghana is no exception to this. As mentioned previously, the vast majority of lands in rural Ghana where all the mines are located are owned and occupied by individuals, primarily farmers, whereas the state is the owner of all sub-surface mineral resources.

The law requires that a mining company apply to the central government to be granted a mining concession if they want to acquire the right to mine. The Minister may grant a concession to *anyone*

who provides evidence that the mineral of interest occurs in commercial quantities that allow it to be mined at a profit. Once the concession has been granted, the central government removes itself from the process of land acquisition and compensation. It is the responsibility of the mining company to engage local communities, community leaders and individual property owners to acquire the necessary land and to negotiate appropriate compensation to the land-owners.

As we heard from a broad spectrum of interviewees, a number of significant challenges emerge from this process:

- a) Since a mineral concession can encompass a significant quantum of land (up to 63 sq kms), the land acquisition process can involve a large number of land-owners and their families and cause significant impact on their agrarian-based livelihoods and local economies. Most of the large-scale mines in Ghana are open pit operations. The civil society organization WACAM (Wassa Association of Communities Affected by Mining<sup>31</sup>), observe that open pit mining maximizes the environmental impact and social disruption to local communities due to loss of land. According to WACAM “...the impact of open-pit mining was underestimated by everyone, including government”.
- b) The owner of the farm land is the head of the family and he cares for the land on behalf of his family and future generations. If he decides to sell the land, he benefits, but future generations will not. Selling the land will mean that family livelihoods and income have been lost permanently.
- c) Compensation has not always taken into account the long-term value of the land and the crops that are continually harvested from it. In other words, compensation for land has not necessarily been based on net present value.
- d) Most land-owners are illiterate, inexperienced in negotiation practices and business principles and this makes them vulnerable to the risk of unfair compensation for their land. Added to this is the reality that farmers, unused to receiving what to them is a large amount of money on the sale of their land, have often quickly expended those funds or invested them unwisely. They and their families (including future generations) are then left without resources, without a livelihood and a source of income. Interestingly, initial satisfaction with compensation does not seem to be the issue. Instead, satisfaction wanes over time as people come to recognize that their loss, in terms of being able to sustain themselves, is ongoing.
- e) The lack of presence of government in overseeing and monitoring the process of land acquisition and compensation or providing mandatory guidelines to the process has been problematic given the power differential that exists between large mining companies and indigenous farmers.
- f) Recognizing the challenges associated with the land compensation process, in 2012 the central government introduced the Resettlement and Compensation Regulations, a set of legal requirements and guidelines governing the negotiation process. In negotiating a value and therefore a price to be paid for compensation for land, the parties must now follow a process defined in law. A negotiation committee is formed and consultants are hired to represent the company and the communities (community consultants are hired at the expense of the company). However, local authorities and community members point out that these rules are of limited benefit now since a large portion of land has already been lost to mining concessions under the old system of compensation.
- g) Loss of livelihood is contributing to illegal mining (galamsey). When former landowners find that they have no land, no income and no livelihood they turn to the only alternative they feel is available to them – illegal, small-scale mining. So the arrival of the large-scale mining sector together with the lack of presence of government following the approval of mining concessions, leads to significant social, environmental and economic disruption to local communities, including loss of livelihood and movement of former land-owners and farmers to the illegal mining sector.

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31 A civil society organization focused on communities affected by mining, with programs to support community mobilization, organization and rights-based education for empowerment at the local, national, sub-regional and international levels.

Some community leaders expressed the view that given the significant disruption caused by large-scale mining operations, together with the large profits they believe are realized by the companies, it should be the responsibility of the companies to provide much higher compensation for land and to replace lost livelihood through employment. Others have pointed out that compensation should not be a one-off payment but regular payments over time, with the benefits accruing to all the people that have been impacted. Resettlement to alternative farmlands has been tried with some examples of success<sup>32</sup>, however, interviewees expressed the view that this is a complex process that has often created more challenges than solutions, including a) farmers complain that the new land is not as conducive to farming as their previous land, b) often times the new farm areas are farther away from their communities and farmers find it difficult to access them unless transportation is provided and c) farmers can find themselves under the jurisdiction of a different chief which can give rise to significant social issues.

Most expressed the view that apart from establishing a more rational formula for land compensation, farmers and local community members should have been better prepared for the arrival of the LSM industry, including capacity-building on how to manage the funds they receive from the sale of their land, access to training and skills development to leverage their employability, and access to programs that can lead to alternative livelihoods. This raises the question as to who should be responsible for funding, organizing and delivering all of this – the company, the government or both? One thing seems to be certain and that is that the central government working in collaboration with local authorities and traditional leaders should have had a significant role to play in all of this. However, rural Ghanaians have learned that they cannot depend on the central government.

### 5.1.2.EMPLOYMENT, TRAINING AND LOCAL PROCUREMENT

The issues associated with local employment are closely linked to those resulting from the process of land acquisition and compensation. Mining companies commit to local employment to satisfy their unskilled and skilled labour requirements. To successfully accomplish this they also commit to the development and implementation of training and skills development programs.

As mentioned above, the large-scale mining industry now employs over 29,000 people, approximately 98% of whom are Ghanaians (Minerals and Metals Policy of Ghana, (2017), although no figures have been found indicating what proportion of these employees are local to the mining operations. Companies also leverage employment and local economic opportunities through local procurement practices. The government has encouraged this practice through the introduction of procurement regulations in 2012, which require mining companies to give preference to qualified Ghanaian suppliers of local goods and services. They also provide a list of designated items and services that should be purchased from local areas. The number of designated items has increased incrementally from 8 when the program was introduced to 19 at the present time.

In 2016, producing mines spent USD 1.01 billion on purchases of goods and services (excluding diesel and power) in-country. This represents 31% of realized mineral revenues and is a substantial increase over the 2015 figure of USD 865 million (Ghana Chamber of Mines, 2016). During our conversations with traditional leaders and local authorities, we heard repeatedly that employment issues are the most likely catalyst for conflict between the LSM sector and local communities. The main challenges and frustrations expressed by them about employment include the following:

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32 For example, the Golden Star Resources initiative, briefly described in the highlighted box on p.96.

- a) Companies cannot employ everyone from the local communities and there is a perception that they sometimes employ people from outside the area. Local people become highly resentful of this. This situation is exacerbated where the mining concession includes more than one district and/or community (in one case the mining operation is in one district and the processing plant in the other), which can lead to misunderstandings and jealousy regarding employment issues between the two jurisdictions.
- b) Those who sold their land to the company and lost their livelihood feel that the company owes them a job with the mine, training for a new livelihood or relocation to nearby land that they can farm. As one community leader expressed it, *"Before the company came it was farmers and galamsey. Now the farming has been reduced and traditional livelihoods have been negatively impacted. If you take away farming and traditional livelihoods you must replace it with employment"*. Given that the local people have learned not to expect help from the central government, they turn to the mining companies for these interventions.
- c) The chiefs are expected to look after the young people in the community. But when the young people are not trained or hired by the company, they take out their frustration on the chiefs. This contributes to an erosion of the traditional respectful relationship between young people and chiefs.
- d) The presence of the mining company stimulates the economy of local communities because mining employees have more money to spend. The resulting inflation is particularly hard on those who were not fortunate to be employed.
- e) There is a perception that local people are targeted for retrenchment when there is a downturn in the industry or the job requirement comes to an end. *"Those recruited from local communities are the first to go"*.

Views on employment challenges expressed by the mining companies include the following:

- a) Community expectations about employment are unrealistically high. *"Their thirst for employment cannot be quenched"*.
- b) The companies do not employ directly on a large scale. Third parties (contractors) do much of the hiring. They do not pay as much and the jobs are not permanent.
- c) The challenge with training and apprenticeships is that people expect/demand to be hired after their training is complete. *"Even if the company makes it clear that training does not guarantee a job, the people choose not to believe it."*
- d) While it is relatively easy to shift from expat to Ghanaian staff over time, it is much more difficult to switch from one Ghanaian to a more local Ghanaian, which is what people in communities expect. This is because expats are not hired on a permanent basis but Ghanaians are. Labor law protects against a company releasing a Ghanaian without cause in order to hire another Ghanaian simply because he happens to come from the local mining area.
- e) On the one hand, the loss of livelihood through dispossession of land has driven local people to become practitioners of galamsey. On the other hand alternative livelihood programs introduced by companies have a hard time attracting people because farming as an income source does not compete well with that of galamsey.
- f) It is hard for people to understand that when there is a global downturn in the mining industry that affects metal prices, mining companies are forced to make adjustments in the mining operations to reduce the bottom line, including a downsizing of the work force.



It appeared from our interviews in the different mining regions of Ghana that communities have had different experiences with regards training programs. In some regions, challenges arise when training programs exist but there are not enough jobs available to hire all the graduates. In other areas local authorities complain about the absence of training programs, which may reflect the reluctance of companies to offer them in the absence of job opportunities. This situation is complicated by the process of in-migration. In response to this some companies have restricted training programs to only those who can demonstrate that they are local residents.

The suggestion came from both community leaders and mining company staff that it would be helpful if government developed some guidelines around local employment and training, including the possibility of a percentage hiring requirement from the local area, which would help manage the expectations for all parties.

Some community leaders expressed a desire for all hiring, including that from contractors, to be done through the chiefs. However, when the chiefs are involved in the hiring process there is often bribery involved. Some companies have formed Community Employment Committees, including chiefs, queen mothers, elected leaders and youth representatives from across a catchment area, who decide how to distribute available job opportunities. This increases transparency, inclusivity and makes bribery more difficult, but company employees become frustrated with the complexity and inefficiency of interviewing for technical positions alongside committee members who are not familiar with the job requirements.

The conversion of land use from farming to mining concessions combined with the dispossession of land by farmers is a serious issue. It is a chain reaction that contributes to the illegal mining problem and negatively impacts agricultural production and therefore the availability and price of agricultural products. This is felt at both the local and the national levels. As one community leader put it, *"Agriculture is 60% of our livelihoods. To threaten that is to threaten our future. Lease concessions are too large. They are a threat to sustainability"*.

#### ROLE OF GOVERNMENT

The central government took an ad hoc rather than a strategic approach to the attraction of foreign direct investment and the introduction of the large scale-mining industry to the country. This is illustrated by the apparent complete lack of planning and preparation of communities in the affected regions with regards the social, environmental and economic impacts to be expected and until recently, the absence of regulatory guidelines regarding compensation for land. Planning and preparation would need to include information, training and skills development, alternative livelihood programs and the preservation of the farming sector.

### 5.1.3. ENVIRONMENTAL PERFORMANCE

The LSM sector is required to comply with environmental impact assessment regulations and effluent guidelines administered through the Environmental Protection Agency and the Water Resources Commission respectively, both of which are agencies of the central government. Viewpoints about the environmental performance of the LSM sector varied depending on who was being interviewed. On the one hand representatives of the Environmental Protection Agency and Water Resources Commission acknowledge that there have been problems in the past involving cyanide spills, acid drainage and arsenic contamination which have caused challenges with local communities. However, they observe that the

sector's environmental performance has improved significantly over the past 15-20 years and they are now largely compliant with the current, more stringent regulatory requirements.

According to the Water Resources Commission, local people play an active role in monitoring the environmental performance of the LSM sector. As pointed out by a Commission staff member *"Communities are very sensitive to water quality due to legacy issues that happened in the past. They are always looking for indications of pollution and contamination"*.

A different point of view was expressed by the Wassa Association of Communities Affected by Mining (WACAM), who claim that the LSM sector is still causing pollution of rivers and getting away with it because the central government agencies do not have enough capacity to properly monitor the situation and enforce the regulations. In their words *"Government is trusting LSM to do it properly and just pretending to regulate. People do not have access to information. Poor regulation, monitoring and enforcement of the LSM sector have led people to mistrust government and LSM. They believe that the (social and environmental) cost of mining is not worth the benefits."*

The lack of effective monitoring of regulatory compliance appears to be a legitimate issue, but this applies to both the LSM and ASM sectors. At the present time, concerns regarding environmental degradation and contamination of waterways, as articulated by interviewees and Ghanaian society in general (expressed through the media), focus on the unregulated and rapidly expanding activities of the ASM and galamsey sectors, and far outweigh environmental concerns regarding the activities of the LSM sector. This is discussed in more detail below.

#### 5.1.4.INDUSTRY CSR PROGRAMS

All companies operating large-scale mining operations in Ghana have designed and implemented comprehensive CSR policies and programs for the purpose of social development work in local communities. Producing member companies of the Chamber of Mines invested USD 12.2 million in 2016 on a variety of social and economic projects (Ghana Chamber of Mines, 2016), details of which may be found on the company websites. These programs also include environmental and health and safety initiatives that are designed to comply with what is required by law and the government CSR Guidelines, but also to go beyond these standards. For the most part these programs are based on international standards but more importantly they are tailored to the specific circumstances and needs that companies find in their local communities.

The mechanisms companies have employed to design and implement CSR programs include company-community partnership agreements, trusts and foundations, all of which are founded on the principles of inclusivity and shared decision-making. The examples we were exposed to have been structured to include boards of directors, and special committees comprising members of the community leadership, district assemblies and company personnel. Areas of focus include education, health and sanitation, water quality and alternative livelihoods (see boxes for examples).

A significant challenge faced by the operating mining companies was the task of re-aligning their existing CSR programs with the requirements of the government CSR Guidelines when they were introduced 5 years ago. However, they appear to have accepted this challenge, recognizing the objectives the government was trying to achieve in introducing them, including aligning CSR programs with government expectations and adding new modalities and areas of focus that companies had not considered before. As one company representative put it *"The CSR Guidelines go beyond what is required by law. They embrace the requirements of the law but go beyond it and include flexibility on the how they are implemented."*

Community leaders, community members and local authorities did not have input into the development and content of the CSR Guidelines and generally speaking remain largely unaware of its' existence and how they impact the quality of the company CSR programs and the behaviour of the companies.

## COMPANY CSR PROGRAMS

"Our operations straddle two catchment areas, which makes things complicated. So we have set up a trust for our CSR programs. The purpose of the trust is to increase the living standards of the communities. A trustee board of directors has representatives from the communities and the district assemblies from both catchment areas. There are committees for each catchment including in the areas of sustainable development, community engagement, compensation negotiation, resettlement negotiation and employment. The Sustainable Development Committee conducts needs assessments with communities. Proposals arising from the needs assessment go first to the relevant district assembly (to ensure coordination and avoidance of duplication) and are then presented to the trustee board for consideration and decision."

### **Perseus Mining**

"As a project to address the alternative livelihood problem we started a palm oil plantation project, funded at the rate of \$1.00 for each ounce of gold we produce. The plantation was established on land allocated by the chiefs and divided into 4 acre plots, to farmers who had sold their land for the concession. There are 317 small-holder farmers who have now been operating for 10 years. Farmers earn about the same as low-wage mine employees. It is growing on an annual basis as fast as the funding will allow. The next step is to build a palm oil mill." **Golden Star Resources**

The Newmont Ahafo Development Foundation has partnered with an NGO and 2 of its local communities in the establishment of a bamboo bike factory. The company will be building about 50 bamboo bike frames a month for export to Germany, Netherlands, UK and USA. The bike frames have passed all international standardization tests and are guaranteed for durability and quality. The objective of the project is to provide employment to youth as an alternative to engaging in activities such as illegal mining. **Newmont Ghana Gold**

Civil society organizations, none of which were involved in the development of the Guidelines, expressed mixed feelings about them. One community-support organization was highly critical, commenting that CSR is unnecessary if the laws are followed and in fact the Guidelines are simply a public relations tool for the companies and a distraction to compliance with existing laws governing mining, particularly in the areas of compensation for land and environmental degradation. They went on to point out that in Ghana, the law provides a tax deduction for conducting CSR, so it has just become a means of avoiding tax. In their words, *"After all of this time without adequate monitoring and enforcement, they (the government) come up with voluntary CSR Guidelines. This is not an appropriate intervention."*

The LSM sector itself has a similar criticism of the central government but for different reasons. They express the opinion that the challenges don't come from the laws and policies themselves, which for the most part are well-designed, but arise from how they are implemented. In the words of one company representative, *"The government is not enforcing the law or taking steps to work with and complement the companies. Government needs to support the mining industry (LSM) not leave them to do it alone."*

On the other hand the National Small-Scale Mining Association (NASMA), an organization in support of artisanal and small-scale miners in Ghana were critical in another way, pointing out that while the CSR Guidelines are designed specifically for the large-scale mining industry, conflict arises for the most part from the activities of the ASM sector, implying that it is the ASM sector where the government should have placed its regulatory attention. As they put it *“It is the ASM sector and galamsey that encroach upon the concessions of the large-scale mining sector and cause problems with the communities.”* Some government officials have expressed the view that the large-scale mining sector is not providing enough economic benefits to the communities through employment, training and procurement that would balance off the socio-economic disruption that they introduce. On the other hand the absence of a central government presence is highly evident in these mining regions, along with the accompanying infrastructure and social investment programs that would be expected. This aspect is discussed in more detail below.

### 5.1.5.RELATIONSHIP BETWEEN MINING COMPANIES AND COMMUNITIES

The relationship between operating mining companies and local communities is critically dependent on the company CSR programs, their alignment with community needs and how effectively these programs are being implemented at any given time. It is important to note here that while companies are expected to comply with government regulations and guidelines, the arms-length relationship of the central government with the communities and their general lack of response to community needs means that they have a relatively insignificant part to play in this relationship.

The relationship varies from one mining operation to the next. During our meetings with community representatives we heard expressions of tolerance, appreciation, understanding, misunderstandings, tensions and frustrations, and whether one aspect or another is in the ascendency depends on what is happening at any given time. One company has operations which straddle two adjacent districts and a community on each side of the district boundary. The company described the leadership in one community as predominantly constructive and positive while the other was predominantly negative and seemingly never satisfied.

While in general, the relationship between mining companies and communities is dynamic, with constant underlying currents of tension of one kind or another, on the whole, it appears relatively stable and generally constructive, most likely a result of the vigilance of company staff, local authorities, community leaders and community members. So far there has been an avoidance of sustained tensions that could propel things towards the outbreak of conflict. Mention should be made here of a position created a few years ago within the Minerals Commission referred to as Senior Social Scientist. The responsibility of this position includes ensuring that the CSR Guidelines are adhered to by the LSM sector but also facilitating constructive relationships and problem solving between communities and mining companies. This is an important function but is supported by only one position for the entire country.

Aside from the primary issues of compensation and employment as described above, the most common issues raised by communities in the day-to-day living in close proximity to large-scale mining operations, in particular open pit operations, relate to concerns about contaminated water and complaints about dust and noise, the latter applying in particular to blasting. In some cases we also heard expressions of frustration about the length of time that companies sometimes take to respond to complaints from the community and in this respect not complying with the provisions of their own grievance system.

Maintaining order and preventing conflict at the local level is traditionally the role of the chiefs and traditional leaders. The chiefs' authority is hereditary but depends in practice largely on their power over

land allocation and use (i.e. people's ability to make a living). Large-scale mining negatively impacts this traditional structure. We heard on a number of occasions from Chiefs and District Assembly members, that community youth, at times disappointed by lack of opportunities for employment and their perspective of the ratio of benefits to costs of LSM operations, have directed their frustrations at the chiefs and are starting to question their legitimacy as traditional leaders and community decision-makers and potentially undermining their traditional role in conflict prevention.

### ROLE OF GOVERNMENT

Following the granting of concessions to mining companies, the continuing involvement of the central government is minimal. The companies are left to work on their own with respect to the challenges involved in mitigating impacts and generally improving the quality of life for communities. Communities have learnt not to depend on the central government and so there is a firmly established and ever-increasing dependency of communities on mining companies in the absence of government and government programs. Company CSR programs are not designed to replace the role of government but in this situation all the community needs, expectations and tensions are focused on the mining companies. Such a relationship cannot be sustained indefinitely and there is a high risk of building frustrations eventually leading to the outbreak of conflict.

The following are views expressed by mining company representatives:

- a) *"There is a kind of implicit assumption among community members that the obligation resulting from a negative impact is more than mitigation; it is to meet people's needs. In other words, for any losses suffered, the company is expected not just to cover the loss but also to add benefits."*
- b) *"The main issue is to determine how to meet community expectations. An important aspect of this is determining what is the sustainability of the surrounding communities? As the mine grows, there is in-migration. Communities around the mine have gotten electricity for free, but now lots of new people are moving in. Distinguishing between them is very difficult. Dependency does not equal sustainability."*
- c) *"Relationships are key to the effectiveness of CSR interventions, however, communication is an issue. Often times information does not filter down from the chiefs and the leadership to all community members, so increased attention has to be paid to engaging deeper."*
- d) *"Health & safety is a priority. We have a program which emphasizes that health & safety does not stop at the mine fence. We encourage people to take the health & safety culture and standards back to their communities and homes as well."*

The following are views expressed by community leaders and local authorities:

- a) *"Companies went from philanthropy to CSR to social investment. They're just changing the name. It's just a public relations exercise. They should require impact and benefit agreements." The point being made had to do with development assistance from companies being voluntary and often being just 'window dressing' that fails to make beneficial contributions that are proportional to the level of impacts.*
- b) *"Times have changed. In the old days we asked the companies for help and they said no. Today, we're building consensus – the mine has initiated a process to set up a community consultative committee. The purpose - to stop infighting. We can't make progress if we're*



*always taking each other to court.”*

- c) *“The government and the laws are helping to prevent or mitigate impacts, but they’re not helping to improve things.”*
- d) *“Our forefathers, the Chiefs, gave the land to the mine for 99 years. The mine is thankful. The projects help to show their appreciation. They also understand the importance of our traditions. They support pouring libations (ceremony). We believe, if you don’t pacify the gods, people will attribute any accident to the mine and become very angry. Libation is conflict prevention.”*

## 5.2.ARTISANAL AND SMALL-SCALE MINING SECTOR: CURRENT REALITIES, KEY ISSUES AND CHALLENGES



It can be demonstrated that artisanal and small-scale mining (ASM) is now one of *the* most important economic and livelihood sectors in Ghana. Whereas LSM provides employment for 29,000 people and supports a further 66,000 jobs indirectly, ASM directly supports an estimated one million people and creates additional employment opportunities for as many as five million more in downstream industries and markets (McQuilken and Hilson, 2016).

It can also be argued that the ASM sector has evolved to become significantly more diverse and complex. Whereas the LSM sector has 16 operations, primarily in three main regions of Ghana, ASM has on the order of 1000 licensed operations distributed across the entire country. McQuilken and Hilson (2016) and Crawford and Botchwey, (2016), estimate that of the approximately one million artisanal and small-scale miners, about 200,000-300,000 are licensed and 700,000-800,000 are illegal. Our observations suggest that these numbers might understate the proportion of illegal miners.

The galamsey problem is a rapidly growing and complex one involving many interrelated factors but there is a consensus among most of the stakeholders interviewed that there are three key, interconnected drivers that are of particular importance including, 1) widespread poverty and livelihood issues, 2) a rapid transformation from artisanal mining operations employing hand tools, to mechanized, small-scale mining, introduced and accompanied by a large influx of Chinese entrepreneurs and 3) lucrative business opportunities which have drawn in influential Ghanaians, mainly behind the scenes, including politicians, businessmen and local, traditional leaders.

The most significant facts and consequences surrounding the galamsey problem as derived from our interviews and analysis may be summarized as follows:

### 5.2.1.ASM AS AN INHERENT RIGHT

People living in rural Ghana don't necessarily view illegal mining in the same way the central government and urban dwellers do. ASM activity has been in existence for centuries and licensed or not is experienced by them as a traditional, inherent activity. They feel the minerals belong to them and it is their customary right to mine them. In the past the central government had supported this point of view and encouraged ASM activity as an economic stimulus in rural areas, but at that time it was mainly traditional (non-mechanized) small-scale mining. The government had good intentions but didn't foresee how quickly the sector would become mechanized.

### 5.2.2.MECHANIZATION

The ASM sector is by law reserved for Ghanaians. However, migrants come to illegally mine the gold from nearby countries, including Mali, Togo, and Niger. But the vast majority are from China. Most agree that the number of Chinese people involved in galamsey in Ghana, number in the 10,000s, with a high of up to 50,000 (Crawford and Botchway, 2016). Some observe that there were few problems associated with the ASM sector until 2008, when the Ghanaian government sent a delegation to China to investigate their ASM technology. The Chinese followed them back and introduced mechanization. Now Ghanaians, including ASM operators and influential people behind the scenes are inviting the Chinese to come with their capital and equipment to partner with them. This has vastly increased small-scale mining efficiency, productivity and profits, but also the rise in illegal mining and the negative environmental impacts that come with it (Hilson et al, 2014).

The growth of ASM from traditional to mechanized mining has overwhelmed the government and now they are trying to play catch-up and control it, according to a senior representative of the Ghana Chamber of Mines. *"It was a question of monitoring - the government should have been monitoring what was going on across the country and then they wouldn't have been surprised but would have been able to keep ahead of it and control it."*

Our observations suggest that the government has directed most of their attention to the standards of operation of the LSM sector, but has turned a blind eye to the social and environmental impacts of the ASM sector.

### 5.2.3.SOCIO-ECONOMIC FACTORS

The tributaries flowing into and feeding the galamsey phenomenon include poverty, livelihood issues, the time and cost of licensing and pure economics. As previously described, farmers turned to galamsey in

increasing numbers in the decades following implementation of the IFC structural adjustment programs and their exposure to the competitiveness and costs associated with the international, open markets for agricultural products. There are also the farmers who sold their land for the development of large-scale mining operations and spent the proceeds, leaving them without a livelihood and income. This situation has become a powerful incentive to turn to galamsey. Finally farming as a means of livelihood does not compete well with the potentially lucrative, small-scale mining, which can yield much larger and more immediate rewards for those who own land as well as those who work the fields.

The surge in ASM and galamsey activity has brought significant prosperity to rural communities and this activity now represents one of the most important economic underpinnings of rural Ghana. However, in many ways ASM and galamsey is a double-edged sword. On the one hand the prosperity arising from ASM can have more immediate and noticeable economic impacts on local communities than the longer-term benefits that arise from the LSM sector. On the other hand such prosperity can give rise to inflation and significant increases in the cost of living. Furthermore the widespread destruction of land together with the transition of livelihoods from farming to galamsey, has contributed to increasing scarcity and cost of agricultural products which is felt both in local communities and in major urban centers including Accra.

The double-edged sword of galamsey is also apparent with youth and education in rural areas. On the one hand making a lucrative income is discouraging youth in rural communities from pursuing educational alternatives. On the other hand an owner of an illegal small-scale mining operation being interviewed by journalists on a national Ghanaian radio station, pointed out that since moving from farming to illegal mining he has put two of his children through university, an accomplishment that wouldn't have been possible on the basis of his former income.

In 2015, Golden Star Resources helped former galamsey miners set up mining services companies (Local Companies in Mining Services (LOCOMS)). Fifteen LOCOMS companies now do all of the company's hauling based on a quota system worked out through consultation between local leaders and the company.

*"Issues between the company and community have gone down drastically. Now we think we can even provide mining services to the company (in addition to hauling). Some members have degrees and experience in geology and engineering. Mining is currently being done by international mining contractors. We've written to say we have the capacity."*

**LOCOM Owners**

#### 5.2.4. ENVIRONMENTAL CONSEQUENCES

From the perspective of the Water Resources Commission and the Environmental Protection Agency, the main challenge emanating from the ASM sector, most of which are alluvial operations, is the accompanying rampant environmental destruction, in particular as a result of the dredging and excavation of rivers and streams, contamination arising from the widespread use of mercury for the separation and concentration of gold and the absence of health and safety standards. As ASM operators move from one site to another there is no reclamation, resulting in a continuous and expanding damage to waterways. This applies to both the licensed and illegal ASM operators.

*"Our company ceded part of the concession back to the government and we worked out an agreement with the Minerals Commission. 200 small-scale blocks were set up. They were highly prospective. Only 2 individuals went and got concessions. A small-scale mining license costs less than \$100. All the area gets mined anyway - just illegally. There's no disincentive to mine illegally. Why be legal? The laws have never been enforced. The reason it persists: government is the end beneficiary of illegal mining."* **Mining Company Employee**

One of the key issues is that the ASM operators are not expected to do any exploration or gold assaying prior to commencing excavation. So they commence excavation activity before they have any idea whether or not economic concentrations of gold are present. As described by representatives of NASMA, *“It is trial and error mining’. If there is no gold they move to another site and start all over again.”* In addition, the concession size (maximum 25 acres) originally designed for artisanal mining is now far too limited for mechanized, small-to medium-scale mining.

### 5.2.5.THE LICENSING ISSUE

A consequence of this relatively frequent movement from one site to another is that many licensed ASM operators become galamsey because they don’t have the patience, time and money to go through the complex process of applying for a new license each time they move. As one ASM operator observed *“Getting licensed is difficult. There is more burden: taxes, reclamation, inspections, crop compensation, and the licensing is Accra-based – remote and rigid. And after all this, government provides no services.”* In addition NASMA points out that the licensing process at the local level is no longer transparent. District assembly members and chiefs are bribed by the ASM operators to undermine the 21- day period for consultation prior to licensing. Another way in which the line between licensed ASM operators and galamsey has become blurred is that licensed operators sell copies of their licenses to non-licensed operators and local authorities don’t examine them carefully or look the other way.

#### ROLE OF GOVERNMENT

The issue of rapid mechanization of ASM and rise in galamsey is another consequence of the lack of presence and capacity of the central government in rural Ghana. The central government adopted a policy of encouraging ASM in rural areas as a strategy for addressing livelihood issues and rural economic stimulation. However, they did not follow through with active control mechanisms, monitoring and enforcement of regulatory compliance, strengthening of local governance institutions and initiation of social support programs that should have accompanied this strategy. The latter appears to be a pattern since it is also the approach that they have taken with the LSM sector. There is also probable complicity of the Central Government in the rapid growth and mechanization of the ASM sector and/or tacit acceptance of it, at least in the initial stages, before it gained momentum and got out of control.”

### 5.2.6.CURRENT POLITICAL DYNAMICS

The galamsey have now become an important political issue that has galvanized the country. The national government has tried to control illegal mining a number of times in recent years, primarily by force, without success and with little public support. Now there is strong public support for eradication of galamsey, arising particularly in urban centers such as Accra and propelled by the media, politicians and opinion leaders. There is much concern focused not only on the environmental damage, but also on a significant loss of revenues to the country. The Minister for Lands and Natural Resources has estimated that Ghana is losing approximately \$2.5B USD per year due to illegal gold mining. Economic benefits are lost not only to the central government but also to the regional governing bodies and district assemblies where ASM activities take place. As one large-scale mining company representative described it, *“The perception is that galamsey is more beneficial because it employs more people. But about 1/3 of gold production nationwide is from illegal mining - and no royalties are paid. That means the district assembly here should have received an additional \$3 million. Huge potential is being lost due to royalties not being paid because of illegal mining.’*

Nana Akufo-Addo was sworn in as Ghana's new President in January, 2017. He has committed to form a national, multi-stakeholder committee to develop approaches to dealing with the galamsey issue. Time will tell as to whether or not the introduction of a new political leader, a new political party, and strong public sentiment in opposition to galamsey, at least in urban Ghana, will result in progress and constructive measures with respect to the complex issues surrounding this sector.

### 5.2.7.LACK OF REGULATORY ENFORCEMENT

Travelling through regions of concentrated ASM activity revealed numerous tracts of degraded land with severe environmental damage, particularly along waterways and clearly visible from the highways. On the other hand, communities located in these areas show evidence of thriving economic activity with many outdoor stalls, replete with a large variety of merchandise for sale of every description, from food and agricultural products, through hardware to non-essentials. Many of these stores are operated by women, who are benefiting significantly from the economic activity. Most impressive of all however are the numerous businesses located along the side of the highway with row upon row of new and used mechanical excavators for sale or for lease, businesses owned and operated more-often-than-not by the Chinese (Crawford and Botchway, 2016). All of this continues in full view and with apparent impunity. Nobody seems to care about the laws governing ASM or the legal consequences of galamsey and the central government regulatory bodies are nowhere to be seen.

### 5.2.8.CONFLICT

Tensions started to build in Ghana, along with increasing risk of conflict outbreak, during the dramatic rise in the price of gold from 2002 – 2012. The resulting increase in gold mining activities of both the LSM and ASM-galamsey sectors led to a rise in competition for prospective lands. Significant conflict outbreak occurred at the Golden Star Resources, Prestea Mine, in 2005 and at the AngloGold Ashanti, Obuasi Mine, in 2011. While these conflicts were characterised by their own specific circumstances, central to both was the repeated entry by galamsey onto the company mining concessions, over extended periods of time<sup>33</sup>, in order to conduct illegal mining operations.

These conflict cases have been examined in detail by a number of authors, including Hilson and Yakovleva (2007), Okoh (2014), Mensah and Okyere (2014), Patel et al (2015) and Crawford and Botchway (2016). In general, the rise in tension and competition for land between the LSM and ASM-galamsey sectors, including the conflict outbreaks at the Prestea and Obuasi mines may be attributed to a common set of determinants, including the following:

- a) The feeling of the ASM-galamsey sector that they have been mining for centuries, that the minerals belong to them and that they have a traditional and inherent right to mine them.
- b) The assumption of ownership and management of sub-soil resources by the central government on behalf of the people of Ghana, the exclusive right to make decisions about where parties can operate and the granting of concessions to the LSM sector.
- c) The decision by the central government to create a land and mineral tenure system to manage the LSM sector, which they superimposed over the prior, traditional tenure system without consultation with the ASM sector. As demonstrated by Patel et al (2016) more than

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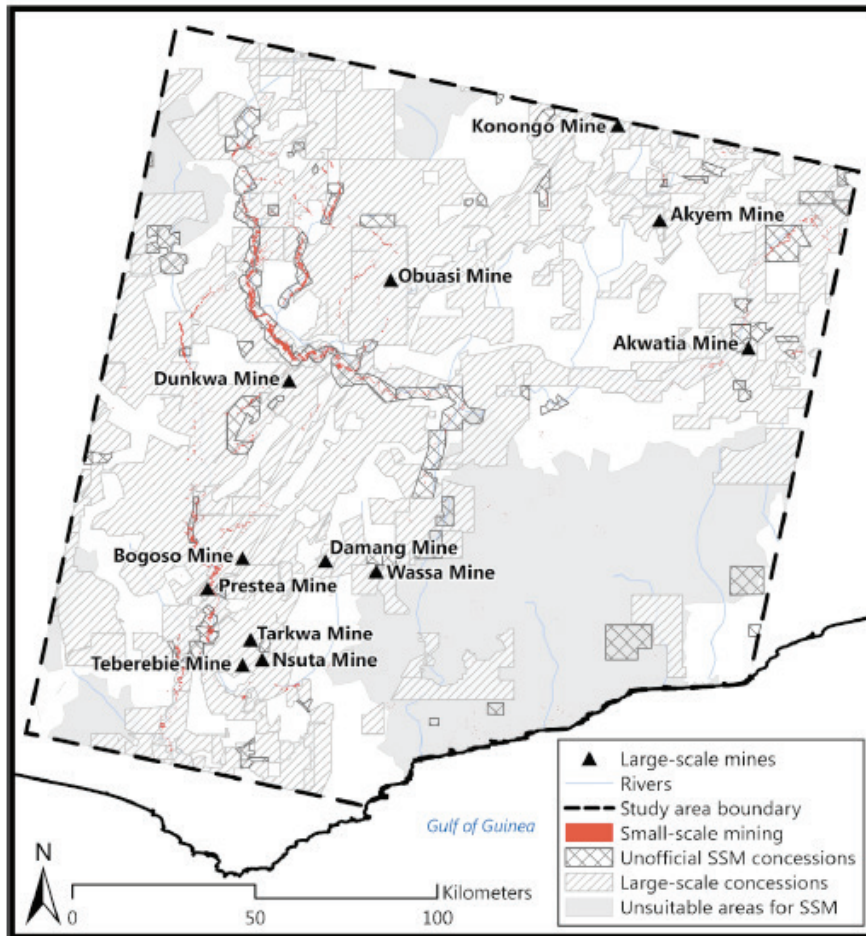
<sup>33</sup> As documented by Patel et al (2015), incursion of illegal miners onto the AngloGold Ashanti concession at Obuasi had been ongoing since the mid-1990s but increased in intensity in 2008 in parallel with a significant rise in the price of gold.



half (52%) of the identified small-scale mining activity occurs within the boundaries of LSM concessions, a large majority of which are for exploration purposes (Figure 3.2).

d) The position of the LSM operators that they have exclusive rights to mine on their concessions and should not have to tolerate incursions by illegal miners.

e) A lack of regulatory monitoring and enforcement of the ASM-galamsey sector by the central government, and resolution of illegal mining by ASM on LSM concessions by the use of forceful intervention.



*Figure 3.2. Map of the Western, Central and Eastern Regions showing the disposition of LSM concessions and ASM mining activity (Source: Patel et al, 2015)*

The approach by government to control the repeated conflict outbreaks that occurred at the Prestea and Obuasi Mines was to send in the army to remove the galamsey from the concessions, prevent them from re-entering and maintain order in the local region. This episodic use of force in reaction to conflict versus sustained application of regulatory control and enforcement has been ineffective over the long term, resulting in the death and wounding of galamsay, local community members and in some cases company representatives and police. In the case of Prestea, the army opened fire on a crowd of demonstrators and wounded seven local people (Hilson and Yakovleva (2007). In the case of Obuasi, the government eventually redeployed the troops to another part of the country. The galamsay returned to the concession, leading to a confrontation with company personnel, the death of a senior company official and the temporary shutting down of the mine which remained closed at the time of publication.

## 6.ANALYSIS

### 6.1.ROLE OF GOVERNMENT

As stated previously, an understanding of the role of one player cannot be achieved without invoking its' relationship with the other key players and understanding their respective roles. Up to this point in our discussion we have been examining the roles of all the key players, including the LSM sector, central government, the ASM and galamsey sectors, local authorities, community leaders and community members. Having established this necessary context, we are now in a position to focus on the role of government.



Based on our interviews, observations and analysis, it is our conclusion that most of the issues and challenges impacting the mining industry in Ghana, attributable to government, can be traced back to the highly centralized nature of the national government and its lack of presence in rural areas of the country. There have been a number of scholarly articles by Ghanaians describing the history of over-centralization of governance in Ghana and the negative developmental impacts it has caused in rural areas of the country, accompanied by confusion, disempowerment and loss of administrative and planning capacity of local authorities (e.g. Bandie, 2007, Ahwoi, 2010, Antwi-Boasiako, 2010). Antwi-Boasiako (2010) describes the governance approach of the central government as “*total hegemony*”, which he attributes to the effects of British colonial rule and the series of military governments and military coups that have peppered the country’s post-independence history (see highlighted box).

This manifests as a lack of willingness and ability by the central government to effectively govern these regions and to develop and implement necessary social support programs. The central government appears to see its role as developing the requisite laws, regulations and policies governing mining, both the LSM and ASM sectors, but not following through with adequate monitoring and enforcement of compliance.

#### GHANA AS A HEGONOMY

“Ghana’s political history since independence lacks administrative continuity. The road to Ghana’s independence was brutal and nasty, as the British did not want to relinquish its power over the occupied colonies. The military and democratic mix of Ghana’s political system since independence has given leaders a cause to be cautious of how they share power at the regional and district levels”

“Given the above discussion, leaders tend to delegate responsibilities and government duties to individuals who are loyal to a ruling party instead of allowing the grassroots to elect their own leaders to ensure security. It could be argued that such appointments do not consider the interest of the citizens, who oftentimes reject the presidential appointees. On four different occasions (1966, 1972, 1979 and 1981), the Ghana Constitution was suspended as a result of military coups. It can be argued that such political instability has forced democratic leaders to act like military leaders where the executive tends to hold on to power, while the regional leaders become extensions of the executive branch without any significant power.” **Bandie, 2010**

The most significant observations concerning the role of government in creating the challenges currently facing the large and small-scale mining industry in Ghana, as derived from our interviews and analysis, may be summarized as follows:

#### 6.1.1. LARGE-SCALE MINING INDUSTRY

- a) Absence of any indication of a strategic approach to the development of mineral resources in Ghana, in particular with respect to attracting FDI and the large-scale mining industry into the country, commencing in the late 1980s and without due consideration of the positive and negative social, environmental and economic impacts it would bring.
- b) Lack of preparation of society in general and mining regions, communities and the ASM sector in particular, for the arrival of the LSM sector, including transfer of knowledge, education and training, assistance in planning and procedures, management of expectations and local institutional capacity building.

- c) A lack of presence of the central government within the regions where large-scale mining companies have established their operations, accompanied by an arms-length relationship of the central government to local authorities (district assemblies), traditional leaders and mining companies within those regions.
- d) Lack of follow-through by the central government following the granting of concessions to the LSM sector, including direct involvement in the critical process of land acquisition and compensation, monitoring and enforcement of regulatory compliance and lack of participation in the development and delivery of alternative livelihood initiatives and social development programs.
- e) A governance approach with an emphasis on impact mitigation at the expense of the provision of benefits. In this respect the government has not been effective at translating minerals extraction into sustainable improvements and benefits. This leaves people disappointed by the stagnant or very slow pace of development and also feeling that they are not experiencing enough benefits from the LSM sector.
- f) Whereas government has set the social and environmental standards for the LSM sector and encouraged them to meet those standards, for the most part they have transferred the responsibilities of both impact mitigation and the provision of benefits to the mining companies, resulting in exaggerated expectations and an unhealthy dependence of local communities on the mining companies. The mining companies thus become the focus of the social, environmental and economic needs of local communities, and also of community resentment when these needs are perceived as not being fulfilled. Company CSR programs are generally of high quality, however, they are not designed to replace the role of government. The combination of these factors is a pathway which can lead to the outbreak of conflict.
- g) Lack of willingness by the central government to devolve power, authority, capacity and financial resources to local government. As defined by its own laws, the central government is required to create and maintain an efficient process for the transfer of a portion of the royalties received from the LSM sector to district assemblies, traditional authorities (chiefs) and communities (see accompanying box). However, interviewees expressed the view that for most district assemblies this rarely happens on a consistent basis, if at all<sup>34</sup>. It is not clear what prevents distribution or causes interruptions to the distribution of these funds and no explanation has been provided by the central government.

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34 The Ghana EITI (2010-11) Report presents a somewhat different point of view, indicating that while the central government dispersed funds to regional offices, regional offices did not always forward the full sum received from head office to districts and municipalities.



## DISBURSEMENT OF LSM ROYALTIES

Up until recently, the Minerals and Mining Act, 2006 provided the blueprint for sharing mine revenues (Standing and Hilson, 2015). In November 2015, Ghana's parliament passed the Mineral Development Fund Bill (2014) to provide a legal basis for the disbursement of royalties through the Mineral Development Fund (Ankrah, 2015). The royalty is paid to the Large Tax Unit of the Internal Revenue Service, which then dispenses the money into the Consolidated Fund. Twenty percent of the royalties are allocated to the Mineral Development Fund, which is then dispersed as follows:

10%: To mining sector agencies, including Ministry of Lands & Resources, Minerals Commission and Geological Survey Department;

10%: To the Office of the Administrator of Stool Lands (OASL), of which

- 10% retained for administration of OASL
- 25% to traditional authority for stool maintenance
- 20% to the chief
- 55% to the district assembly

(McQuilken and Hilson, 2016)

Our initial impression was that the central government had been playing an effective role in regulating the LSM sector in Ghana and avoiding conflict. In fact, we suspected that their attention to the LSM sector may have been at the expense of their ability to properly regulate the ASM sector. Following our field investigations however, it would appear more accurate to state that the relative success and stability of the LSM sector in Ghana is due less to government initiative and more to socio-economic pressures being relieved by ASM activities and by the practical need for mining companies to maintain stable operating environments.

We would suggest that the relative stability which characterizes the LSM sector is largely due to the vigilance, discipline and self-regulation of the mining operators themselves, their implementation of innovative, social development programs and on this basis, their ability to create and maintain what are for the most part, stable, constructive relationships with local communities. An important contributing factor here is the ability of the ASM sector to stimulate local economies and keep 5-6 million people with enough income to sustain themselves.

Whereas the CSR Guidelines developed and implemented by the Minerals Commission is an innovative and effective initiative, it does not replace or compensate for adequate monitoring and enforcement of regulatory compliance and the absence of social benefit programs, including local employment and contracting, that the central government should be offering in collaboration with the LSM sector and local authorities. Again, the success of the CSR Guidelines appears to be due largely to the acceptance and effective implementation of them by the LSM sector, with minimal support, monitoring and oversight offered by the central government.

As observed by senior representatives of the National Artisanal and Small-Scale Miners Association (NASMA), the advocacy group for the licensed ASM sector, *"Most of the potential for conflict now comes from the ASM sector, not the LSM sector."*



## 6.1.2.ARTISANAL AND SMALL-SCALE MINING SECTOR

The current lamentable state of the ASM sector in Ghana, now dominated by illegal small-scale mining, following its accelerated mechanization, rapid expansion of galamsey, lack of effective regulation and accompanying widespread environmental degradation, is largely attributable to the governance approach and patterns of weakness of the central government, already documented in the previous section focused on the LSM sector. These patterns of weakness include:

- a) The lack of a strategic approach to encouraging ASM activities in rural Ghana and consideration of the social, environmental and economic risks and impacts. The lack of a strategic approach to the introduction of the LSM sector also meant that no consideration was given to how the LSM and ASM sectors would co-exist and how land and resources would be shared and as a result the rise in tension and competition for land and resources between the LSM and ASM sectors.
- b) The lack of presence of the central government in rural Ghana and in parallel, its lack of willingness, ability and capacity to ensure regulatory compliance, monitor developments and adapt to its rapid evolution.
- c) Lack of follow-through by the central government on social development programs that should have accompanied the rapid expansion of the sector, in particular, programs focused on the challenge of alternative livelihoods and preservation of the agricultural sector.
- d) Lack of willingness by the central government to devolve power, authority, capacity and financial resources to local authorities and traditional leaders and a resulting inability and lack of motivation by these groups to exercise any control over the activities of galamsey. The behind-the-scenes involvement of highly-placed politicians, business figures and local traditional leaders in the galamsey sector exacerbates this problem.

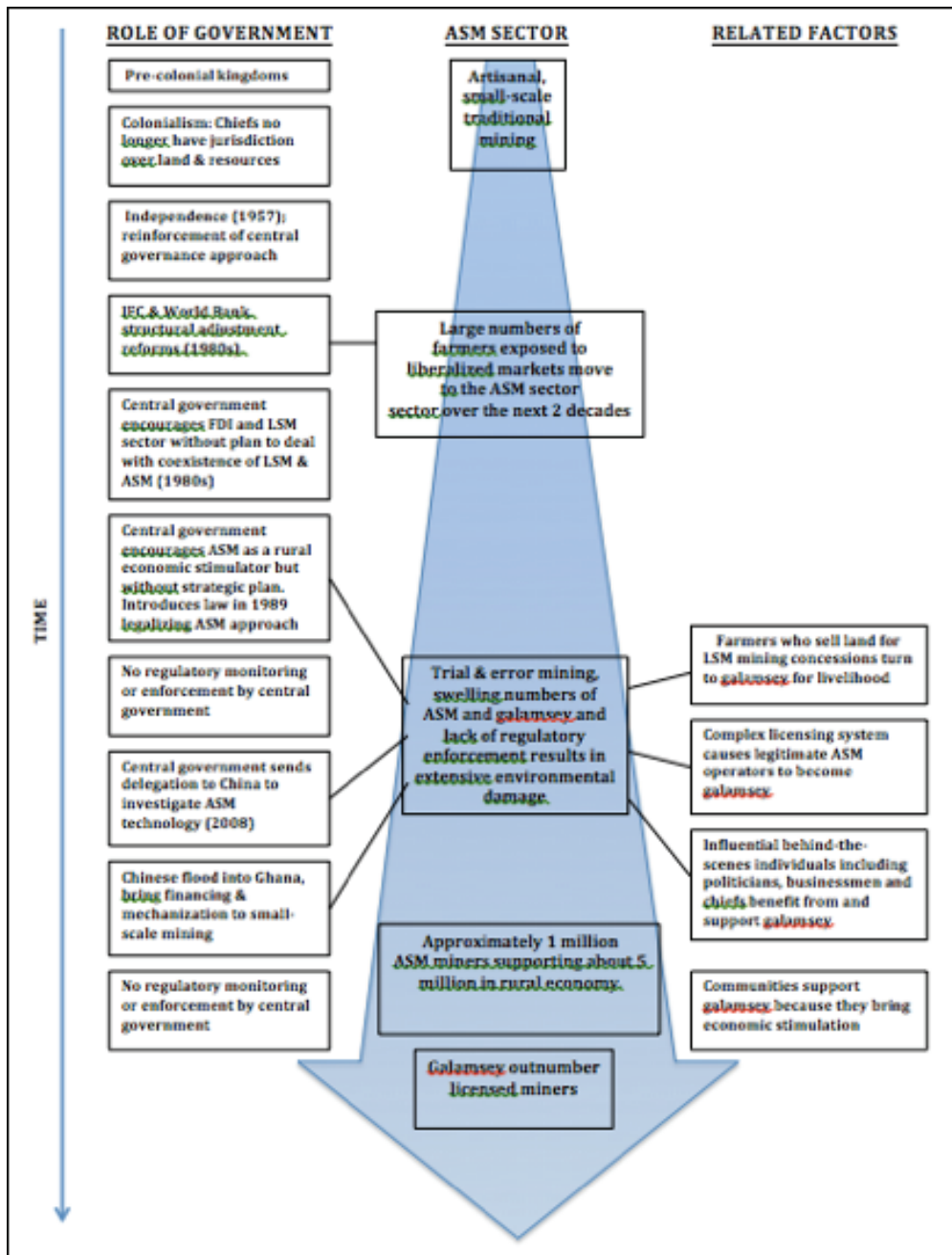


Figure 3.3. Schematic representation of the role of government in the legitimization and development of the ASM sector and the eventual expansion of illegal mining (galamsey) to its present day domination.

As previously described, during colonial times, British rulers used the chieftaincy in Ghana to help maintain authority in rural areas, a strategy of the British arising from the realization that they did not possess the capacity to effectively rule the country as a whole. While the British rulers maintained control over the chieftaincy with measures to keep them in line, the chiefs who did not fall out of favour enjoyed a significant level of local authority and influence. Following independence in 1957 and the adoption of structural adjustments in the mid-1980s, the influence of the chiefs was markedly reduced by the direct efforts of successive military and civilian governments to disempower them. However, as described by McQuilken and Hilson (2016), the hands-off approach taken by the central government towards the ASM sector in more recent times, has inadvertently re-empowered the chieftaincy, and not necessarily in a constructive way.

In regions where chiefs have remained custodians of the land, many of them have become involved in the day-to-day transactions of the ASM and galamsey sector (Hilsen et al, 2014, Hilson and Hilson, 2015, Crawford and Botchwey, 2016). Highly exploitive transactions over land demanded by chiefs, have led small-scale miners to come to agreements with them to share gold production, forego the licensing process and join the burgeoning ranks of the galamsey (McQuilken and Hilson, 2016). Thus the role of the chieftaincy, particularly in mining regions has transformed over time from what used to be traditional community leaders with formal legislative, judicial and executive powers, accountable to their communities, to the current informal, backroom land-brokers, accountable to no one. The former role of the chieftaincy of maintaining order and managing conflict in their communities is undergoing significant erosion.

Tensions between the LSM and ASM-galamsey sectors persist due to competition for land and resources as described above, together with the inability of the central government to regulate and control the burgeoning galamsey sector. The risk of conflict outbreak will remain elevated as long as the government resorts to forceful interventions alone to control the activities of galamsey, rather than implementing longer-term strategies aimed at the underlying causes of the problem.

It is clear from government policy statements (Minerals and Metals Policy of Ghana, 2017) and recent speeches by the Minister of Energy and Mines (Amewu, 2017), that the central government is very aware of the negative impacts and inherent weaknesses of their approach to governing the mining industry. This general awareness is accompanied by commitments to address this situation, however, interviewees, more-often-than-not, expressed the opinion that they had heard it all before and their expectation is low that little if anything will change.

## THE EVOLUTION AND EROSION OF TRADITIONAL AUTHORITIES AND LOCAL GOVERNANCE

### PRE-COLONIAL

Strong decentralized governance based on tribal system with local, traditional authorities comprising kingdoms and chieftaincy. Traditional leaders exercise legislative, executive and judicial authority.

### COLONIAL

British colonists establish central governance but retain chieftaincy to enable their rule across rural Ghana. Chiefs become administrators and subject to regional governors who can de-stool them if they don't behave.

### POST-COLONIAL (1957-1992)

Successive military governments simultaneously strengthen central government approach and systematically disempower and weaken chieftaincy and local traditional governance.

### MULTI-PARTY DEMOCRACY (1992 - Present)

Constitution establishes architecture for local governance but centralized approach continues. Chieftaincy provided with some authority over their own organization (National Assembly of Chiefs), but they remain subject to central government control which continues to deprive them of traditional authority

### CURRENT REALITY

Local chiefs maintain control and ownership of lands around communities. They regain a significant amount of informal power and influence through land dealings with farmers and ASM along with declining transparency and accountability.

## 6.2. APPLYING THE CONFLICT PATHWAY ANALYTICAL FRAMEWORK TO GHANA

As presented in the Introduction to this study, Andrews et al (2016) employ a conflict pathway analytical framework to systematically analyse and understand the inclination of mining jurisdictions to move towards either conflict or sustainable development. The model enables a systematic examination of the roles and responsibilities of the main players involved through the lens of their historical context and development trajectories. When this model is applied to the situation we find in Ghana, the following determinants, their interrelationships and the roles and responsibilities of the various players are revealed as follows.

**Table 3.1. Conflict Pathway Analytical Framework Applied to Ghana**

PRIMARY CONFLICT DETERMINANTS	KEY PLAYERS
<p><b>Structural Factors</b></p> <ol style="list-style-type: none"> <li>1. Slavery depopulates Ghana and deprives it of its most useful, innovative and creative members of society.</li> <li>2. Colonialism, which follows a few decades later, dismantles Ghana’s indigenous economy and self-identity, sets the template for centralized governance and initiates the gradual deterioration of traditional authorities and local government.</li> <li>3. The combination of slavery and colonialism undermines Ghana’s socioeconomic launch and impairs its’ development process and integration into the world economy.</li> <li>4. Following independence in 1957, alternating military and civilian governments firmly entrench the central-government approach.</li> <li>5. Regulatory changes introduced during IMF and World Bank structural adjustment reforms (1980s), expose farmers to liberal trade policies, triggering a large-scale migration of farmers to the ASM sector over the next 2 decades.</li> <li>6. In spite of the emergence of multi-party democracy in 1992 and development of a Constitution (including the architecture for decentralization and local government), successive governments continue the central governance approach until the present day.</li> </ol>	<ul style="list-style-type: none"> <li>• Colonial Powers</li> <li>• International Financial Institutions</li> <li>• Host governments</li> </ul>
<p><b>Contextual Factors</b></p> <ol style="list-style-type: none"> <li>1. Sustained problems of underdevelopment, including high national debt, persistent, structural poverty and youth unemployment, particularly in rural Ghana.</li> <li>2. Intentional further weakening of the local, traditional authorities (chieftaincy).</li> <li>3. Severing of ownership of surface lands (Ghanaian individuals) and subsurface mineral resources (central government) (1962).</li> <li>4. Decision by government to legalize and encourage ASM activity in rural Ghana (1989) but without regulatory monitoring and oversight.</li> <li>5. Decision by government to send delegation to China to learn about ASM technology. Growing numbers of Chinese arrive in Ghana bringing financing and initiating mechanization of the small-scale mining industry (2008).</li> <li>6. Lack of a strategic approach to opening up Ghana to foreign direct investment and the LSM sector, including the absence of planning and preparation of communities in mining districts and without consideration of how the LSM and ASM sectors would coexist (1980s).</li> <li>7. Guarding of power-base by central government; inability to effectively govern across rural Ghana, reluctance to effectively decentralize and empower local government.</li> </ol>	<ul style="list-style-type: none"> <li>• Central government</li> </ul>



<p><b>Conflict Drivers</b></p> <ol style="list-style-type: none"> <li>1. Superimposition by the central government of a land tenure system designed for the LSM sector over the traditional system, without consultation with the ASM sector.</li> <li>2. Competition for land and resources between the LSM and ASM-galamsey sectors, particularly following the rise in the price of gold in the early 2000s.</li> <li>3. Dissatisfaction and resentment by farmers, traditional leaders and local authorities over compensation for land acquired for LSM concessions and employment expectations.</li> <li>4. Loss of livelihood by farmers.</li> <li>5. Lack of training, skills development and employment of youth.</li> <li>6. Lack of follow-through by central government, subsequent to the granting of concessions, to oversee land acquisition and compensation, monitor and enforce regulatory compliance and initiate social support and alternative livelihood programs for communities.</li> <li>7. Lack of effective distribution of LSM royalties back to district assemblies and local authorities by central government, as required by law.</li> <li>8. Sustained and deepening dependency of communities on LSM sector operating companies.</li> <li>9. Rapid growth of ASM sector, mechanization, illegal presence of Chinese and rise of galamsey, leading to widespread environmental degradation of forests, farms and waterways</li> <li>10. Lack of monitoring by central government of growth and transformation of ASM and galamsey and lack of willingness and ability to regulate and control these sectors.</li> </ol>	<ul style="list-style-type: none"> <li>• Central government</li> <li>• LSM Sector</li> </ul>
<p><b>Conflict Inhibitors</b></p> <ol style="list-style-type: none"> <li>1. Burgeoning ASM and galamsey activity which supports rural economy, alleviates poverty and provides livelihood for many.</li> <li>2. Tendency of Ghanaians to be law-abiding.</li> <li>3. Traditional practices of Ghanaians, historically rooted in the tribal system, which emphasize dialogue and negotiation as means to resolving tensions and avoiding conflict.</li> <li>4. Quality, innovation and delivery of CSR programs by LSM sector and commitment to maintain stability around the sites of their operations.</li> <li>5. Diligence of LSM company personnel, local authorities and traditional leaders to deal with emerging needs and tensions and avoid conflict.</li> </ol>	<ul style="list-style-type: none"> <li>• Ghanaian people</li> <li>• LSM sector</li> <li>• Local authorities and traditional leaders</li> </ul>

<b>Potential Conflict-Outbreak Triggers</b>	
<ol style="list-style-type: none"> <li>1. Galamsey entering LSM concessions to mine for gold. This has caused serious conflict outbreaks at the Obuasi Mine in the recent past.</li> <li>2. Continuing use of force by central government to prevent galamsey from entering LSM concessions for the purpose of illegal mining, in the absence of strategies to address underlying contextual factors and conflict drivers.</li> <li>3. Draconian measures by central government to stop galamsey activities, which would cause significant economic and social repercussions across rural Ghana.</li> <li>4. Continuing unregulated activities of ASM sector, galamsey and mechanized small-scale miners and accompanying environmental damage to lands and waterways.</li> <li>5. Sustained downturn in the price of gold resulting in large-scale redeployment in the LSM sector.</li> </ol>	<ul style="list-style-type: none"> <li>• Galamsey sector</li> <li>• ASM sector</li> <li>• Central government</li> <li>• LSM sector</li> </ul>

## 7. CONCLUSIONS AND POLICY IMPLICATIONS

The role of host governments in responsible, sustainable mineral development is the establishment and implementation of appropriate governance regimes which serve to optimize the economic benefits of mining to local communities and society as a whole, while minimizing environmental and social impacts. Andrews et al (2016) demonstrated that the ability of governments to effectively perform this role (i.e. establishing the contextual environment in which mineral development will occur) is a critical determinant in enabling either the creation or prevention of conflict associated with mining operations.

Like many African nations, the socioeconomic, developmental and governance trajectories of Ghana were significantly impacted by 400 years of slavery and 75 years of colonial rule. From independence in 1957 until the establishment of multi-party democracy in 1992, the post-colonial period was dominated by the debilitating effects of successive military governments, including political instability, sustained economic decline, social decay and deep structural poverty. The imposition of IMF economic reforms and the World Bank structural adjustment program in the 1980s and 1990s, gave rise to the establishment of democracy, relative political stability and significant economic growth. However, the country remains socio-economically challenged and still suffering the impacts of a disarticulated, chaotic developmental pathway.

Ghana achieved independence from British rule a mere six decades ago and the deep impacts of colonialism still reverberate within the roots of the country to this day, manifesting as a highly centralized-state approach to governance, a deeply disconnected economic structure and development pathway between urban and rural Ghana, and an incremental dismantling and disempowerment of traditional leadership, authority and governance at the regional and local levels. These outcomes have had fundamental impacts on the approach the country has taken to the development and management of its substantial mineral endowment, which in turn has given rise to the current challenges that the mining sector faces today.

Our assessment is that given the chaotic developmental experience of Ghana and as a result, the approach the government has taken to the development and management of its mineral resources, significant risk has been created for the buildup and outbreak of conflict. In fact, given the conditions in rural Ghana it is surprising that sustained social opposition to the large-scale mining industry (LSM) has, to date, been relatively limited. However there are mitigating factors that have acted to prevent this from happening (see Conflict Inhibitors in Table 3.1). Similarly, the approach by the central government towards the development and management of the artisanal and small-scale mining sector (ASM) has created significant risk of conflict, particularly with respect to the rapidly growing activities of the galamsey, which has caused conflict in the recent past and is dangerously close to causing further conflict outbreaks in the near future. Whether or not such conflict outbreak will occur depends in large part on the course of action the Ghanaian government is willing and able to take to manage the situation in both the immediate and longer term.

On the basis of our observations we present the following recommendations for the mining sector of Ghana, in moving forward from where they are at present, and recommendations for host governments of other countries in the early stages of embarking on the long journey of mineral development, or contemplating a retooling of their existing mining sector to align with current global realities.

## *7.1. THE WAY FORWARD IN GHANA*

The main way forward for Ghana is for the central government, in the near and medium term, to establish more presence and capacity in the mining regions of the country and in the medium to long-term, to devolve administrative authority, capacity and resources to strengthen local institutions and actuate politically autonomous, local governance. This is conceptually simple, operationally complex, but absolutely essential in our view for achieving three vital objectives, (i) maintaining stability of the LSM sector, (ii) transforming galamsey activities and establishing a regulated, small- and medium-scale mining sector and (iii) setting a rational course for socio-economic development in rural Ghana.

The following recommendations focus for the most part on the strategic and tactical rather than the operational level. They are not intended to reproduce the comprehensive, natural resource governance guidelines that have been outlined elsewhere<sup>35</sup>, but emerge from the key observations of this study and what appear to be the most logical and essential next steps.

### 7.1.1. MAINTAINING STABILITY IN THE LSM SECTOR

- a) The current situation of relative stability in the LSM sector is the result of the significant commitment by operating companies to self-regulation, their delivery of high quality social development programs, diligence by community leaders, local authorities and company representatives in addressing emerging needs and maintaining constructive relationships, local economic support provided by the ASM sector and the general tendency of Ghanaians to put negotiation and dialogue ahead of conflict.
- b) However, it is a tenuous balance requiring constant intervention and communities are travelling further and further along the path of total dependency on the LSM sector. The central government has managed to get away with an arms-length relationship with active mining operations to date, but this cannot be sustained.

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<sup>35</sup> For example, the Natural Resource Charter (NRGI, 2014) and various requirements and guidelines formulated by international financial institutions.

- c) Companies cannot fulfill the regulatory compliance, monitoring, and enforcement role of government. Neither can companies alone, deliver the social development programs required over the medium to long term to create sustainable development and economic stability that these rural communities need to experience. The participation of the central government, in collaboration with the LSM sector and civil society organizations, in the design and delivery of social and economic support programs to local communities is essential and will act as a catalyst for a rational and sustained developmental process in rural Ghana.
- d) The factors that are contributing to the relative stability between the LSM sector and local communities are probably at capacity. Rapid increases in the size of the LSM sector over and above what it is today should be avoided. Further development of the LSM sector should be approached selectively<sup>36</sup>, incrementally and with considerable caution, avoiding aggressive programs designed to attract FDI and the granting of concessions to numerous new players over a short period of time. This relatively cautious approach will be particularly important if and when the global commodity cycle moves into strong and sustained recovery and mining sector investment begins to heat up.
- e) In the meantime the central government needs to work with and provide support to the LSM sector and civil society organizations to create additional new initiatives for addressing the land compensation and employment challenges, and alternative livelihood issues that have been clearly expressed by community authorities and traditional leaders as their highest priority.
- f) All of these activities should be focused in the specific districts of the four main regions where LSM and ASM activities are the most concentrated.

### 7.1.2. BUILDING PRESENCE AND GOVERNANCE CAPACITY IN MINING DISTRICTS

- a) None of the above will be possible without the participation and commitment of local authorities, in particular district assemblies and traditional leaders. For these groups to meaningfully participate they will need access to funds and programs that will enable them to build capacity in local governance, in particular, financial management, planning and administration.
- b) This will be enabled by unlocking the flow of funds allocated by law for district assemblies and traditional leaders, derived from the royalties paid to the central government by the LSM sector. The flow of funds to local authorities and traditional leaders must be accompanied by the introduction of mechanisms of transparency and accountability at the local level.
- c) Devolution of administrative authority, capacity and resources through decentralization, to actuate local governance is a long-term, complex process that, among other things, requires political re-engineering at the central government level (at present, local authorities and traditional leaders are politically beholden to the central government). Following so many decades of constructing the political infrastructure for holding onto power, it will be a challenging task for the central government to engender and sustain the necessary political will to accomplish this. Given this reality, our suggestion is for the central government to first initiate a deconsolidation process, whereby they build the necessary presence and capacity of their own government departments in mining regions and districts and focused on the Minerals Commission, the Environmental Protection Agency and the Water Resources Commission.

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<sup>36</sup> Selecting companies with proven records of establishing effective CSR programs and constructive relations with local communities

### 7.1.3. TRANSFORMING GALAMSEY AND ESTABLISHING A REGULATED ASM-MSM SECTOR

- a) Many countries are facing the formidable challenge of formalizing a sector that has been informally active for decades if not centuries, the members of which feel that it is their inherent right to mine and most of whom have never been regulated and/or have never before been required to pay taxes to government. A necessary prerequisite to formalizing and regulating the ASM sector will be the establishment of meaningful communication and influence.
- b) Any large-scale attempts to suspend galamsey activities in Ghana in the short- to medium-term will run a high risk of causing deep disruption within the socioeconomic fabric of rural Ghana and the eruption of widespread conflict.
- c) Establishing communication and influence with the ASM and galamsey sectors will be a difficult and delicate process that will need to be approached in a gradual, incremental manner, involving a combination of education, technical support programs, rebuilding the authority, planning and administrative capacities of local government institutions and establishing respect for regulatory requirements and the rule of law. We suggest that the following activities would be required:
  - While the central government increases their own presence in mining regions and districts focused on the LSM sector and contributing to social development of communities, we recommend that they begin the process of empowering local authorities and chiefs to regain administrative and planning authority of ASM and galamsey in their own jurisdictions, working in cooperation with and support of a special division of the Minerals Commission created and resourced to focus on the ASM sector.
  - Reconcile the land tenure system applicable to the LSM and ASM sectors to minimize competition for land and resources, including a) the designation of lands for the exclusive use by the ASM sector and b) a modification of the LSM land tenure system, particularly focused on exploration concessions, to facilitate more equitable access to these lands by the ASM sector.
  - Mandate the Geological Survey Division to provide geological mapping support and gold assay services to assess mineral potential of land prior to granting mining licenses.
  - Commence the process of professionalizing the ASM sector and incentivizing locally contracted mining services, by utilizing the existing mining professional community which includes engineers, geologists, metallurgists and others who are currently unemployed or underemployed in the LSM sector.
  - Create district-level EPA and Water Commission offices to begin the process of environmental reclamation of land and waterways and to ensure environmental regulations and reclamation requirements are being met.
  - Consider the creation of a fund for reclamation of legacy sites, financed initially by the central government and in the medium-term by taxes derived from the ASM sector. In the longer-term reclamation responsibility should be transferred to the ASM sector.
  - Focus attention on illegal immigrants and non-Ghanaians involved in ASM and



- galamsey activities, stop their operations and remove them from the country.
- Create a new governance and permitting regime for mechanized small- to medium-scale mining including licensing requirements, regulations and appropriately-sized concessions. The Minerals Commission should be responsible for facilitating and orientating individuals and groups to the new regime and providing a grace period for compliance. Those who have not complied by the end of the grace period should have their equipment confiscated and cease operations. Given that mechanized galamsey to date, represents only a small proportion of ASM activity in Ghana, this measure should not have an overly large impact on the rural economy.
- The steps to establish communication and influence with galamsey will not be possible unless measures are taken to deal with the “big men” involved behind the scenes including politicians, businessmen and local chiefs. Pressure should be brought to bear on these individuals to stop creating harm to the country, but at the same time they should be provided with opportunities to become involved with the newly regulated business, a grace period to accomplish this transition and requirements to establish that they have done so.
- We suggest initiating the above process in one mining region, where conditions support the likelihood of success, allow for lessons to be learned, capacity to be built and on this basis the process slowly expanded.

#### 7.1.4.POLICY IMPLICATIONS FOR HOST GOVERNMENTS OF OTHER JURISDICTIONS

There are a number of countries in Africa and elsewhere about to embark on mineral development or already in the early stages of this journey. The Ghana case study provides some useful lessons for the host governments of these countries which are summarized as follows:

- a) Take a strategic approach to the development of mineral resources, in particular with respect to attracting FDI and the large-scale mining industry and with careful consideration of the positive and negative social, environmental and economic impacts it will bring and how they will be addressed.<sup>37</sup> Think of and plan for the mining sector as an engine for development and growth not only for the economic and population centres of the country, but also as a mechanism for regional development in rural areas. Clearly define the roles and responsibilities and expectations of all key players who will be involved in the mining sector and establish a collaborative approach including all key stakeholders.
- b) Assess the current capacity of the central government apparatus to effectively regulate the LSM sector and provide support for local authorities and communities. Critical also is the assessment of the capacity of local government institutions and the establishment of a plan to build the required capacity, either through deconsolidation and enhancement of existing central government facilities and/or decentralization and the development of politically and administratively autonomous and accountable local government. The former can be the near- to medium-term objective and the latter the long-term objective.
- c) Establish a conservative approach to the introduction of the LSM sector, being careful to maintain a balance between the number of mining operations desired and the administrative capacity to monitor and enforce regulations and provide essential social support programs to local communities. Ensure that licensed companies possess the

<sup>37</sup> Highly useful resources in this respect are A Framework for Advancing Responsible Mineral Development, the Responsible Mineral Development Initiative (RMDI), World Economic Forum, 2011; and the Mining: Partnerships for Development Toolkit, ICMM, 2012.

- capacity and experience to successfully manage the relationship with local communities.
- d) Ensure that modern mining and environmental codes are in place along with the administrative capacity and infrastructure to effectively monitor and enforce compliance. Develop rules and guidelines for land acquisition for mining concessions, local employment and procurement and the capacity to oversee and participate in these processes.
  - e) Take steps to prepare communities in regions of high mineral potential where LSM operations are likely to be established. Preparation would include (i) information sessions on the nature of LSM, its' impacts and benefits and measures being taken or planned by the government to mitigate social and environmental impacts, particularly around the sites of operations; (ii) dialogue sessions to listen to the needs and concerns of the communities and shared decisions on mitigation measures and (iii) begin the process of building the resources and capacity of local authorities with the objective of their eventual involvement in regulatory compliance monitoring, planning and administration of both the LSM and ASM sectors.
  - f) Take steps to prepare the ASM sector for the arrival of the LSM sector including information and dialogue sessions as described above. Bring representatives of the two sectors together in formal arrangements at the operational level, including shared decision-making and planning designed to enable their coexistence.. Commence the process of formalizing the ASM sector, focusing on regions where the LSM sector is likely to begin operations.
  - g) Work in collaboration with mining companies, local government, community members and civil society organizations in the development and delivery of social development programs, including those focused on education, training and skills development and alternative livelihood needs. Develop CSR guidelines for the LSM sector, ensuring that their community engagement and development programs address the specific needs of local communities in mining regions and meet the norms set out in international standards and clearly defining the roles, responsibilities and expectations of all key players. The mechanisms of impact and benefit agreements (IBAs) and community development agreements (CDAs) should be considered here.

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## PART 4. SUMMARY OF OBSERVATIONS, DISCUSSIONS AND RECOMMENDATIONS



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# 1. INTRODUCTION

The role of host governments in achieving responsible, sustainable mineral development is the establishment and implementation of appropriate governance regimes which serve to optimize the economic benefits of mining to local communities and society as a whole, while minimizing environmental and social impacts. Andrews et al (2016) demonstrated that the ability of governments to effectively perform this role (i.e. establishing the contextual environment in which mineral development will occur) is a critical determinant in enabling either the creation or prevention of conflict associated with mining operations.

The purpose of the current study is to focus attention on the role of government in the creation or prevention of conflict associated with mining operations, to better understand the nature and process of governments' involvement and on this basis to recommend practical actions for governments to take for conflict transformation, mitigation and prevention.

Andrews et al (2016) examined the dynamics of the rise in conflict associated with mining based on field case study investigations in Bolivia, Peru, Madagascar and Tanzania, supported by a literature survey and a quantitative analysis of a global database of recorded mining conflict incidents. They described the conflict process in terms of a *conflict pathway analytical framework*, which portrays the conflict process within a hierarchical system of conflict determinants, descending as a function of space and time through structural factors, contextual factors, conflict drivers and conflict-triggering events (see Introduction, Figure 0.2, p3).

In the following we integrate the main observations arising from our three independent studies presented in Parts 1 to 3, together with findings from our previous study (Andrews et al, 2016), relevant to the role of government and examine them within the conflict pathway analytical framework. The primary findings are summarized in Table 4.0 below.

**Table 4.0. Summary Of Conflict Determinants Implicating Government Agencies**

<b>Structural Factors</b> <ul style="list-style-type: none"><li>• Colonialism and authoritarian rule</li><li>• Neoliberalism and democratization</li><li>• Low levels of trust in and reliance on government</li></ul>
<b>Contextual Factors</b> <ul style="list-style-type: none"><li>• Lack of strategic approach to mineral development</li><li>• Lack of Preparation of Rural Communities</li><li>• Weak governance capacity</li><li>• Lack of presence and regulatory oversight by government in rural regions</li><li>• Lack of social development programs in rural areas</li><li>• Lack of effective decentralization and weak local government institutions</li><li>• Lack of Reconciliation Between the LSM and ASM sectors</li></ul>
<b>Conflict Drivers</b> <ul style="list-style-type: none"><li>• Land and resource ownership, compensation and livelihood issues</li><li>• Dependency of local communities on mining companies</li><li>• Distribution of benefits from the large-scale mining sector (LSM)</li><li>• Environmental Degradation and Threats to Water Quality and Supply</li><li>• Lack of transparency and accountability in central government and local government</li></ul>



### **Conflict-Outbreak Triggering Events**

- Forced displacement of artisanal and small-scale miners from mining concessions
- Unilateral decisions by government to change policies, rules or procedures associated with mining operations without consultation or warning to local people.

*NB: There are a large variety of circumstances that can act as triggering events once the structural factors, contextual factors and the conflict drivers have all combined to form an environment conducive to escalating tensions and resentment over unresolved issues.*

## **1.1.STRUCTURAL FACTORS**

As previously outlined our conflict hierarchy comprises a series of conflict determinants, which define a descending order in terms of geographic extent and duration of influence (textbox, p.5). As we progress down through the hierarchy from structural factors through to triggers, the dimensions of space (geographic extent) and time (duration) progressively narrow and in this way define the pathway which leads to eventual conflict outbreak or prevention. Central to this, is the recognition of *path dependency*; that is, the tendency for events and decisions early on in the process to lock-in courses of action that, as time proceeds, become more difficult to reverse. They shape the trajectory of the process and its eventual outcomes.

In the following discussion we begin at the top of the hierarchy with structural factors; these are conditioning or generic factors which are long-term in duration, ranging from global, international to national in geographical extent and can manifest in both historical and contemporary settings. There are a number of important structural factors relevant to this topic<sup>38</sup>, however we restrict our discussion to the following three.

### **1.1.1.COLONIALISM AND AUTHORITARIAN RULE**

#### **The Issue**

While colonial rule differed in each country case, the common thread for the host societies was oppression, dispossession of land and resources, subservience, destruction of indigenous industries and trade, and varying degrees of loss of identity. The post-colonial era of many of these countries were underpinned by significant periods of political turmoil, authoritarian rule, weak governance, fragile economies, deep poverty, widespread corruption and ethnic rivalries, the realities and consequences of which still persist to this day, particularly in the form of socio-economic and developmental processes that have not achieved expected results.

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38 Other structural factors of a contemporary nature would include for instance globalization, income disparity, the rise in social tension and protest activity commencing in the early 2000s and the commodity boom which commenced around 2003.

## **The Role of Government**

Colonialism followed by authoritarian rule, established a centralized approach to governance and political control, a path that has been difficult for many countries to move away from. As a result, resources, expertise, and decision-making powers around mineral extraction have been concentrated in capital cities and as discussed in further detail below, local governance institutions in rural areas have remained relatively weak and ineffective.

Ghana has travelled the path of colonialism and experienced all of the negative consequences, including a haphazard developmental process, an over-centralized government described by Ghanaian political scholars as a hegemony, weakened and ineffective sub-national and local government institutions and a disarticulated development process which favored urban Ghana at the expense of its rural regions. These impacts have had far-reaching effects on the governance approach adopted for mineral development, which filter down through the conflict determinant hierarchy as discussed below.

### 1.1.2.NEOLIBERALISM AND DEMOCRATIZATION

#### **The Issue**

These political developments, accompanied by IMF economic reforms and World Bank structural development programs were designed to liberalize governance approaches and strengthen national economies. However, these measures acted to strengthen the centralist approach to governance, favoured urban societies with the benefits of these developments as opposed to rural, more isolated areas, where most of the mineral resources are located. Rural communities experienced dislocation and marginalization from this process and in many respects suffered most of the negative consequences, especially those arising from resource-development focused policies initiated by central governments. Neoliberalism and emerging democratization continued the disconnection and growing lack of trust rural societies felt towards central governments and prepared the ground for how the majority of them would come to view the arrival of the LSM sector – with a mixture of suspicion and mistrust which in most cases would expand with time to include an unhealthy dependency.

#### **The Role of Government**

Again, Ghana serves as a very cogent example of this process and its impacts. As noted in the case study analysis, the imposition of economic reforms and structural adjustment programs in the mid-1980s set Ghana on a more coherent path towards economic development. However, as in many African countries, the negative consequences were the continuation and deepening of a developmental process that disarticulated urban and rural regions. An additional consequence affecting many African countries was the loss of competitiveness of small-scale farmers when exposed to liberalized trade markets, resulting in a broad migration of farmers to the ASM sector.

### 1.1.3.LOW LEVELS OF TRUST IN AND RELIANCE ON GOVERNMENT

#### **The Issue**

Mistrust of government combined with fear and oppression from experiences of forceful intervention by the police and the army are particularly powerful legacies of colonialism, and subsequent authoritarian rule, the latter of which still dominate in the African continent to this day. These experiences, which are prevalent in societies located in rural and remote areas where the majority of mineral resources are located, represent powerful underlying themes which penetrate down through the conflict determinant hierarchy from the level of structural factors where the seeds are broadly planted, through to the highly localized events that manifest as conflict-outbreak triggers.



## **Role of Government**

As discussed in the literature review, forceful oppression of opposition to mineral development by central governments focused on resource-driven development, persists as an important determinant of heightened conflict risk in many countries today. Forceful oppression can be motivated by a number of factors including protection of the investment climate and rent-seeking by government officials. Foreign mining companies venturing into such environments face major social challenges, since they are considered to be aligned with the governments that licensed them and are therefore viewed with suspicion and mistrust. As pointed out by Andrews et al (2016), mineral development in environments characterized by a recent history or continuing fear by and oppression of local people, are vulnerable to conflict which manifests in passive-aggressive forms as opposed to organized protests and blockades, however they can be equally detrimental as openly expressed forms of conflict, to mining companies and governments institutions alike.

Low levels of reliance and trust in government leads to growing dependency of local communities on mining companies for the delivery of social services and infrastructure and in general maintaining social order and stability. With time this focus on the company to provide for a burgeoning array of community needs can give rise to important conflict drivers, which are discussed in more detail below.

### 1.1.4.POLICY IMPLICATIONS FOR STRUCTURAL FACTORS

In many countries, the history of colonialism, followed by authoritarian rule, neoliberalism and emerging democracy has served to reaffirm a centralist approach to governance. Ironically, this has given rise to the adoption of natural resource-dependent development pathways, which have excluded the very areas from which the natural resources are being derived. In this way, central governments, in pursuing natural resource development have often continued a colonial-like coercive, exploitative relationship with their own rural societies.



Pursuing a developmental path where exploitation of natural resources plays a central role, as is the case in the majority of developing countries, requires inclusion of rural areas of countries in the developmental process as a priority. Critical to this is the establishment of regional and local government institutions along with social development and infrastructure programs as discussed in further detail below.

## **1.2.CONTEXTUAL FACTORS**

In testing the application of the conflict pathway analytical framework on the basis of field case studies, Andrews et al (2016), demonstrated that the field of contextual factors is dominantly a policy and regulatory space and addressing conflict determinants at this level will primarily involve initiatives by government agencies. Our literature review (Part 1 of this study) presents the (in)activities of host governments as generally falling into three categories: (1) conflict aggravation through negative peace; (2) conflict suppression through negative peace; and (3) conflict reduction through positive peace. As our phase 1 analysis suggests (Andrews et al., 2016), in the absence of well-designed mineral development strategies, the activities of host governments have generally fallen within the first two categories. Effectively performing their roles and responsibilities in support of responsible and sustainable mineral development, would require host governments to focus on the third category, conflict reduction through positive peace. This would encourage authorities at all levels of government to enhance the state's resource governance capacity, therein enabling it to address the multifaceted factors that both enable and trigger conflicts outbreaks. Moreover, rather than hastily criminalizing opposition, which the literature suggests has been a rising trend in governments in recent times, this strategy should, according to the recommendations coming out of this investigation, help domestic authorities to promote the peaceful transformation of resource conflicts.

### **1.2.1.LACK OF STRATEGIC APPROACH TO MINERAL DEVELOPMENT**

#### **The Issue**

This factor was viewed by Andrews et al (2016), as a primary conflict determinant on the part of host governments of most developing countries, based on the literature review and the four case studies examined as part of that study. The literature review presented in this study considered this factor in the context of the rise of neoliberalism in developing countries, particularly in Latin America, and compounded by the imposition of IMF economic reforms and World Bank structural adjustment programs in the 1980s and 1990s. Both were premised on attracting FDI to strengthen mineral resource development as a means of economic growth, development and poverty alleviation. The attraction of FDI was more-often-than-not accompanied by a move towards a market-based economy including downsizing government involvement in this area, privatization of state-owned mining entities, new mining codes, and investment incentives, which included competitive corporate tax rates.

#### **Role of Government**

While all of these measures were designed to invigorate the national economy, host governments still failed to approach the goal of mineral development from a strategic point of view. Many, in spite of new mining codes, did not take the time to build governance capacity in the areas of administration, permitting, social and environmental standards and the process of regulating, monitoring and enforcement.

Large-scale mining had been ongoing in Ghana for over a century, however, the decision by the government to open the doors to FDI in the mid-1980s resulted in the expansion of large-scale mining activity to unprecedented levels, valued at over US\$5 billion from the 1980s to the present time. The

central government also made a decision in the 1980s to legalize the ASM sector and encourage its growth, such that the sector has now expanded beyond existing regulatory controls. Our interviews and observations indicate that there was little or no strategic approach taken by the central government to mineral development in the country, applied to either the LSM or the ASM sectors. Instead it appears that rather ad hoc decisions were made without due consideration to consequences.

### 1.2.2.LACK OF PREPARATION OF RURAL COMMUNITIES

#### **The Issue**

Host governments have done little or nothing to prepare their societies for the arrival of the large-scale mining industry, which manifested as a significant and precipitous wave of investment and mining activity in developing countries, commencing in the mid-1990s. Preparation of rural societies is a critical aspect of the strategic approach to mineral development, especially for relatively isolated, rural areas of countries where mining companies would focus the majority of their activities.

#### **Role of Government**

As discussed above, rural people were already suffering from the absence of government attention and a disarticulated developmental process, which left them isolated from the benefits accruing from neoliberalism and emerging democracy. Preparing rural communities in regions of high mineral potential would involve a) the provision of information on the LSM sector, regulatory controls, positive and negative impacts of mining activity, b) application of free, prior and informed consent (FPIC), c) the organization of dialogue sessions and shared decision-making, including identification of concerns, formulating solutions and d) building the capacity of local government.

In Ghana, the central government had no programs for preparing rural communities for the decision to open their doors for FDI and the resulting significant increase in activity of the LSM sector. As documented in the Ghana case study (Part 3 of this report), significant issues occurred due to inadequate rules and lack of government support for the complex process of acquiring land from local farmers for mining concessions resulting in loss of livelihood by farmers, a significant swelling of the ranks of illegal miners (galamsey) and negative impacts on agriculture and food production. Neither did the central government consider how the LSM and ASM sectors were going to co-exist and what kind of risks would emerge from a significant and concurrent growth of both sectors. Such growth occurred along with the unprecedented increase in the price of gold in the early 2000s, resulting in intensifying competition for prospective lands and conflict outbreak in some locations between the LSM sector and galamsey.

The reality is that most host-governments, when they are about to embark on the complex journey of mineral development, have shown a lack of political will and capacity required to engage rural societies in the manner described above.

### 1.2.3.WEAK GOVERNANCE CAPACITY

#### **The Issue**

The literature ranks weak governance capacity high on the list of conflict determinants which contribute at the contextual level to conflict associated with mining operations, pointing out that governments have created fertile conditions for conflict through lack of capacity in terms of regulatory clarity, monitoring, enforcement, planning and administration, a limited ability to participate in engagements between mining companies and stakeholders and when required, to act as neutral arbitrators. The point is also made that the transition from governments feeling beholden to FDI to a more balanced policy objective that

reconciles the needs of both the national economy as well as those of individual rural regions and local communities, will be challenging and a long-running process.

### **The Role of Government**

In alignment with the disarticulated approach to development that has characterized Ghana over the decades, governance capacity is predominantly focused on the political and socio-economic center of the country at the expense of rural areas, which comprise about 46% of the total population.<sup>39</sup> While the regulatory regime governing mining is considered modern and generally of good quality, as in many developing countries, the challenges reside in its implementation across the country, both with respect to the LSM and ASM sectors. The LSM sector is under-regulated due to the lack of presence of central government facilities and personnel, with a resulting lack of capacity for regulatory monitoring and enforcement. The capacity and self-discipline of the LSM sector along with their individual and collective commitment to maintaining constructive relations with local communities, has enabled the continuation of a relatively stable situation, involving a significant degree of self-governance. This cannot be said of the ASM sector, which is not only unregulated, but rapidly expanding in both size and proportion of illegal players as well as with regards to its' environmental impact.

The lack of capacity of host governments is an important factor leading them to employ reactive measures such as coercion, forceful repression and criminalization of protest to manage conflict (negative peace), as opposed to prevention and transformation of conflict through effective policies, governance, protection of the human rights of citizens and deliberative engagement (positive peace<sup>40</sup>). More often than not the reactive/forceful approach results in exacerbation and further escalation of conflict and stoking resentment towards government authorities.

Domestic judicial systems have a crucial role to play in conflict reduction. Robust courts send credible signals to both stakeholders and private capital that can have conflict mitigating effects: when local communities do not confront persistent barriers to accessing legal remedy, they are less likely to adopt extra-legal means to articulate grievances. However, in many resource-rich developing countries, there exists a lack of capacity and integrity in judicial systems and a frequent sense among local communities that authorities, private capital, subsidiaries, and security forces can operate with impunity. As a result, the application of justice for abuses committed by governments, mining companies, contractors, and other parties can be ad hoc, if applied at all, effectively ensuring that conflicts remain a powerful option for those who have learned from experience that the government and the judicial system cannot be trusted.

### **Relationship Between Governance Capacity and Conflict Risk**

The quantitative analysis (Part 2 of this report) revealed interesting relationships between governance quality, governance capacity and conflict risk. Data analyzed at the country level indicated that a) the number of conflicts increase with increasing number of companies operating in a country, regardless of governance quality - in other words host governments have capacity limits as to the number of operating companies they can regulate effectively and b) the weaker the governance quality<sup>41</sup>, the higher the risk of conflict with increasing ratio of foreign companies to total number of companies, and increasing country reserves (mineral endowment). Data analyzed at the property level (reflecting more local influences) were generally similar, indicating that the likelihood of conflict increases with the ratio of foreign owners to

39 As of 2015

40 Positive and negative peace are the frames used in the literature review (Part 1) to describe destructive and constructive approaches to managing conflict respectively.

41 As measured by a composite of World Bank indicators.

total number of owners of properties and increases with the amount of on-property mineral reserves. For developing countries, the increasing likelihood of conflict with these factors was suppressed by increasing quality of governance. As discussed further below, local land owners and small-scale miners, who feel an inherent right to the land and resources of their country, can harbor resentment towards foreign mining companies who acquire large amounts of mineral concession lands from central governments, unless the central government takes measures to ensure that land and resources are distributed equitably.

#### 1.2.4. LACK OF EFFECTIVE DECENTRALIZATION AND WEAK LOCAL GOVERNMENT INSTITUTIONS

##### **The Issue**

Given that mining operations are often widely distributed across rural regions of countries, the presence of functioning, effective, local government institutions, empowered with appropriate authority and resources can make a very significant difference to socio-economic viability of communities and success of mining activities in such areas. In essence local government institutions are the most knowledgeable about local needs, problems and challenges and therefore, if appropriately equipped, are best able to deal with them. However, the fact remains that decentralization and devolution of authority, resources and capacity to local government institutions has not been implemented effectively in many developing countries.

##### **The Role of Government**

The issue of decentralization and the level of success (or lack thereof) in the creation of effective local government proved to be of central importance in conflict creation and prevention in the case studies investigated by Andrews et al (2016) in Bolivia, Peru, Madagascar and Tanzania. There had been moves to decentralize government in all four cases, but with different approaches, varying degrees of success and with different consequences for the mining projects in each case. In short, the approaches taken by central governments in Peru, Madagascar and Tanzania had all been unsuccessful or of limited impact and contributed in significant ways to conflict risk associated with mining in these areas.

Bolivia was the exception. The San Cristobal mine, located in the southern Altiplano of Bolivia is a success story in the prevention and transformation of conflict for a combination of reasons arising from the local communities, the company and the central government of the day. In Bolivia, decentralization began in the 1950s, but really became effective in the early 1990s. By all accounts, the decentralization reform which took place at that time was impressive<sup>42</sup>, resulting in a high degree of autonomy in municipalities, significant increases in investments into local regions, decrease in poverty and for the most part effective local governance, with systems in place designed to reduce and prevent corruption. The San Cristobal mining operation benefited from the fact that decentralized government was functional. Mining royalties in the Department of Potosi were effectively employed for the provision of social infrastructure and services at both the local and regional levels.

The literature review conducted in this study notes that for fiscal decentralization to be an effective poverty reduction, and by extension conflict management tool, it must be accompanied by efforts to strengthen the governance capacity of the local administrators tasked with managing revenues, including the de facto ceding of administrative powers by central authorities to local ones. However, while decentralization may become formal written policy, decision-making structures may nevertheless remain highly centralized in practice, as the meaning of “decentralization” can remain unclear, therein undermining local voice,

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42 For example: Jean-Paul Faguet, Decentralization and Local Government in Bolivia: An Overview from the Bottom Up, Working Paper No. 29, London School of Economics and Political Science, ([http://eprints.lse.ac.uk/481/1/crisis\\_WP29.pdf](http://eprints.lse.ac.uk/481/1/crisis_WP29.pdf))

access to revenue streams, and local development planning. In this regard, Peru and Nigeria have become emblematic cases of the adverse effects fiscal decentralization can have when implemented within the context of weak and unclear sub-national governing capacities. The literature review also points to the fact that local government institutions are not often supported by the existence of a professional class of civil servant. Instead municipal administrators are appointed through patronage, effectively replaced in accordance with the election cycle, thereby preventing local governments from retaining technical organizational knowledge across administrations.

Ghana can be added to the list of emblematic cases of failed decentralization. It has experienced a long history of retaining power at the center, commencing with colonialism, which imposed a central government power over a previously decentralized governance, through successive military governments and continuing to the present day political structure of unitary democracy. The historical erosion of government institutions at the local level in Ghana has involved the gradual undermining of traditional leadership (the chieftaincy) by successive central governments and the refusal of recent governments to devolve power, authority, capacity and financial resources to local government, in spite of the existence of its own laws requiring it to do so.

The staff of local authorities (district assemblies) have little or no administrative skills, including planning and budget control. Lack of capacity and presence of the central government in rural areas combined with dysfunctional local government are key contributors to a deeply engrained lack of trust of government by community members, a growing dependency of communities on mining companies and absence of regulatory monitoring and enforcement that is a key contributor to the burgeoning, mechanized, illegal small-scale mining sector and the resulting ever-widening environmental degradation. The combination of these factors contribute to an ever-increasing risk of conflict outbreak.

#### 1.2.5.LACK OF RECONCILIATION BETWEEN THE LSM AND ASM SECTORS

##### **The Issue**

Many developing countries have long-standing, traditional artisanal and small-scale mining sectors, involving a significant proportion of rural populations. The ASM sector often represents a key economic foundation for rural people in these countries, supporting millions of people. More-often-than-not the location of ASM activity is a strong indicator of high mineral potential, in particular gold, which means that the LSM sector, once they arrive, will be sharing the same land-base, minerals, infrastructure and social fabric. Given that the LSM sector usually comes with a large footprint in terms of land required for concessions, their arrival will mean that significant accommodations and adjustments will be required so that the two sectors can coexist.

##### **Role of Government**

A strategic approach to mineral development should include careful planning as to how these two sectors will coexist and preparations made for the arrival of the LSM sector, in order to avoid competition for land and confrontation. However, as we have seen, the reality is that strategic planning for mineral development has been rare. Host governments either did nothing, or worse, simply took measures to forcefully remove artisanal and small-scale miners from land set aside for large-scale mining concessions. These are challenging conditions for the LSM sector to have to operate in and it is only a matter of time before tensions between the two sectors will start to rise. Rural communities normally support ASM activities given the alternative livelihood it offers and because of the economic stimulation this activity brings to community businesses. Thus conflict involving members of the ASM sector can draw in local communities in support of their cause.



Artisanal and small-scale mining activity has been ongoing for centuries in Ghana but starting in the 1980s, following the introduction of World Bank structural adjustment programs, the sector expanded significantly as farmers, exposed to liberal markets, resorted to ASM activities as an alternative livelihood and as the central government started actively encouraging ASM activity for the purpose of rural economic stimulation. The central government has created laws governing ASM activity along with a permitting process, however, due to capacity limitations and the lack of government presence in rural Ghana, the ASM sector and now the much larger unlicensed, illegal mining sector (galamsey) is almost completely unregulated.

As indicated earlier, there have been a surprisingly limited number of significant conflict outbreaks in Ghana associated with mining, but all those that have occurred have been driven by incursions of galamsey onto mining concessions to conduct illegal mining. The response by government has been to forcefully remove them employing the army and local police forces, a temporary measure of applying the rule of law, in an environment which is essentially unregulated.

### 1.2.6.POLICY IMPLICATIONS FOR CONTEXTUAL FACTORS

#### **Lack of Strategic Approach to Mineral Development**

When host country governments are preparing to embark on the journey of mineral development, or rebuilding and improving an existing mining sector, it is strongly recommended that they develop a strategic approach to this highly complex objective as a prerequisite to opening the doors to FDI and attracting the LSM sector. This strategy should include (a) building the governance capacity of the host government in the areas of administration, regulation, monitoring and enforcement, (b) preparing rural societies/communities for the arrival of the LSM sector and expanding mining activities, particularly in the regions of high mineral potential, (c) strengthening and building capacity of local government institutions and (d) developing mechanisms to enable the LSM and ASM sectors to co-exist.

#### **Weak Governance Capacity**

Doing what is necessary to strengthen governance capacity both prior to attracting FDI and during subsequent expansion of the mining sector is an integral part of the strategic approach to mineral development. Building governance capacity is a long-term process subject to political agendas and the comings and goings of successive governments. However, based on the observations arising from our quantitative analysis (Part 2), developing countries starting out with relatively weak governance capacity, should be able to mitigate conflict risk until they are able to create improvements, if they follow a strategy of a) limiting the total number of operating mining companies, b) limiting the ratio of foreign mining companies to total number of mining companies and c) carefully selecting companies with demonstrated high standards of CSR capability and practice. In other words, while they gradually build the governance capacity at the country level, host governments can probably depend on high quality mining companies to maintain stability at the local level. However, this can only be considered as a temporary measure because it also carries the risks and challenges associated with increasing dependency of communities on company support and companies becoming proxies for government.

International financial institutions would be advised to build appropriate requirements into their conditions of financial and technical assistance for mineral development, based on these types of strategies and tailored to the specific circumstances of individual host-government applicants.

## **Lack of Effective Decentralization and Weak Local Government Institutions**

Governments embarking on a mineral development strategy or re-engineering an existing one would be strongly advised to strengthen local government institutions as part of their efforts to increase overall governance capacity. However, devolution of administrative authority, capacity and resources through decentralization, to actuate local governance is a long-term, complex process, especially for governments used to controlling power from the center, whether they be democratic or authoritarian in nature. Given this reality, our suggestion is that central governments first initiate a deconsolidation process, whereby they build the necessary presence and capacity of central government departments in mining regions and districts. Later, governments may consider moving to decentralization; that is, the development of politically and administratively autonomous local government.

Capacity building in this context will need to be part of a larger multi-stakeholder development process. National governments, with the support of intergovernmental organizations (such as EITI, OECD, IGF and the Open Government Partnership, OGP) mining companies, and developmental organizations, have crucial roles to play in support of administrative capacity building, and technical training for professionalized subnational civil servants and authorities, as well as democratizing the development process through measures such as participatory budgeting and regional development planning.

It is interesting to contemplate the situation we find in Ghana with regards governance capacity and the risk of conflict. Our quantitative analysis revealed that conflict risk increases with decreasing levels of economic development of countries, increasing relative importance of the mining sector to the overall economy and decreasing country landmass. As well, conflict risk increases with decreasing quality of governance, when the ratio of foreign companies to total number of companies is high and with increasing resource endowment. All of these relationships imply that Ghana should be characterized by high conflict risk, and yet, as discussed in Section 3, conflict outbreak has been relatively limited and has manifested primarily as competition over land and resources between the LSM and ASM sectors, as opposed to social conflict between the LSM sector and local communities.

We attribute the relative stability of LSM-community relations in Ghana to a) the relatively low number (16) of operating mining companies, which are widely distributed over 4 regions of the country, b) the ability of those companies to deliver high quality community development programs and to maintain stable relationships with local authorities and community members, c) the contribution of the ASM-galamsey sector to the economic stability of communities in mining regions, and d) the commitment of Ghanaians to avoid conflict through dialogue and negotiation, an attribute that can be traced back to the tribal system and in which traditional leaders (the chieftaincy) still maintain an important role.

These factors appear to have mitigated the high-risk of conflict associated with mining in Ghana, at least for the time being. However, it is important to note that this situation appears to have developed organically and was not a result of a strategy developed and implemented by the central government. In our opinion, dependency on the LSM sector to maintain stability is sustainable over the short term. It is a tenuous balance requiring constant intervention and communities are travelling further and further along the path of total dependency on the LSM sector. Growing expectations that accompany this dependency and the limitations of the LSM sector to deliver on them is a major source of rising tensions leading to conflict outbreak. Maintaining stability over the longer-term will require direct involvement of the central government to improve the quality of governance and support sustainable development, particularly at the local level.

## Lack of Reconciliation Between the LSM and ASM Sectors

A strategic approach to attracting FDI and the LSM sector must include careful planning as to how the LSM sector is going to co-exist with a pre-existing ASM sector, which in the majority of countries supports millions of people and provides a significant economic base in rural parts of the country. Of central importance will be the development of a mineral tenure system that serves both the ASM and LSM sectors and apports prospective lands in a fair and systematic way in order to minimize competition for land and resources. There is widespread acknowledgement among developing countries that formalization of the ASM sector is essential and the approach should involve a mix of education, technical assistance and incentives to improve practices. Also that formalization of the sector should be accessible, enabling a more effective implementation of regulations, tax payments, mitigation of environmental impacts and more generally, application of the rule of law. But the most complex aspect of all of this is not the destination but how to get there.

In our view attracting FDI and the LSM sector does not have to wait until formalization of the ASM sector is complete. We believe that the granting of concessions to the LSM sector can proceed incrementally and in parallel with formalization of the ASM sector, as long as certain preconditions are applied as follows:

- a) A mineral tenure system is designed that serves both the ASM and LSM sectors.
- b) Illegal ASM activities are eliminated through both formalization and legal means.
- c) Geological mapping and gold assaying services are provided to assist in the identification and designation of prospective lands for the ASM sector.
- d) A mine closure and reclamation system is designed and implemented for the ASM sector.
- e) Central governments increase their presence and capacity in mining districts accompanied by strengthening of local government institutions, to enable regulatory monitoring and control of the LSM and ASM sectors.
- f) The above process is initiated in pre-selected areas where conditions support the likelihood of success. The selected areas can be expanded as lessons are learned, systems adjusted and governance capacity increased.

### 1.3.CONFLICT DRIVERS

Conflict drivers occupy the third tier in the conflict determinant hierarchy of our analytical framework. An important distinction between contextual factors and conflict drivers is that the former is almost the exclusive domain of host governments (a policy and regulatory space), whereas conflict drivers are more characterized by multiple actors, including industry, communities, NGOs and government agencies (for example see Table 3.1 p. 113). It is worth noting that there is some fluidity of conflict determinants implicating governments between the levels of contextual factors and conflict drivers. Other determinants exist as persistent themes that penetrate down through multiple layers of the conflict hierarchy. Examples of these are:

- Lack of trust of government, the seeds of which are planted at the level of structural factors (during colonialism, authoritarian rule, neoliberalism) and persist right through to conflict-triggering events;
- Lack of presence and oversight of government in rural regions and local communities, and
- Lack of social development programs in rural areas.

These have already been addressed in the sections above and therefore won't be repeated in the discussion below.

### 1.3.1.LAND AND RESOURCE OWNERSHIP, COMPENSATION AND LIVELIHOOD ISSUES

#### **The Issue**

In pre-colonial times, land-owners in countries with mineral resources also owned the subsurface rights to those underlying mineral resources. Nowadays, most countries with established mining industries have severed title between the surface lands and the sub-surface mineral resources. Governments assumed ownership of the subsurface mineral rights for the purpose of regulating mineral development for the benefit of the country as a whole. This is a measure that often accompanied the introduction of new mining codes, in preparation for attracting FDI and the LSM sector. However, the severance of surface rights and mineral rights has been a fundamental, underlying determinant for conflict in many countries, arising from the competing needs of owners and occupiers of surface lands versus the government owners of the subsurface resources, and by extension, mining companies who have acquired the rights to those resources from the government.

Companies require access to mineral resources and therefore need to acquire the title and/or the right to enter the surface lands above them from the legal owners, who more-often-than-not are subsistence or small-scale commercial farmers. In many instances, mining companies find themselves dealing with informal occupiers of the land or artisanal miners, with no legal title to the surface lands or mineral resources, but a strong sense of an inherent right to the land and resources. If the land acquisition process is not carefully controlled by government, it can easily lead to conflict, particularly, as noted earlier, if the acquirer is a foreign mining company.

An additional conflict pathway which arises from the government as custodian of mineral resources, occurs when communities, civil society organizations, and even society at large view the government as being overly pro-mining in terms of its policies, and biased towards the interests of already privileged groups - such as domestic urban elites - when taking investment decisions or enforcing regulations. Governments often follow a logic of resource export driven growth, privileging 'national' priorities over local aspirations, and to siding with companies during conflicts to protect their investment climate. As a result, confrontational relations often arise, as the state does not appear as a neutral arbitrator between diverse stakeholders and defender of rights.

As outlined in our literature review, the nature of early engagements over the acquisition of lands have direct implications for the perceptions affected communities have over whether an operation is considered legitimate, and whether they are willing to protest. Generally, inadequate recognition of traditional land uses and unjust compensation for land and loss of livelihood represent significant elements in the conflict pathway at the level of conflict drivers.

#### **The Role of Government**

While land acquisition negotiations typically occur directly between corporations and land-holders, governments have a crucial role to play in structuring the terrain of these negotiations. This represents an essential component of the preparation of rural communities for the arrival of the LSM sector, as discussed above. One of the principle sources of asymmetrical bargaining power between companies and communities is the lack of authoritative information over the monetary value of land. As a result, companies have been accused of utilizing informational asymmetries to their advantage, misleading local land-owners as to their monetary true value. The role of government here is in establishing the laws and procedures governing land acquisition and compensation, as well as in creating and maintaining up-to-date land value registries, so that negotiations over land can occur with parties having equal access to the same information.

In Ghana, the vast majority of land is legally owned by Ghanaians, and in rural areas, mostly by farming families. The subsurface and the mineral resources are owned by the central government. The majority of those interviewed during our investigations expressed the opinion that compensation for land acquired for concessions by mining companies is one of the most challenging issues facing the mining sector.

Compensation for land is a catchment and redistribution point for an array of interrelated issues involving the central government including a) the large size of concessions, particularly exploration concessions, leading to a significant number of impacted farms and farming families, b) the prior presence and activity of small-scale miners, c) the lack of direct involvement of the central government in the land acquisition process following the granting of mining concessions, c) until recently, a lack of clarity and completeness of the rules set by the central government, guiding the compensation negotiation process and the methodology employed to value the land and crops<sup>43</sup>, d) loss of livelihood by farmers who sell their land, e) reduction of the farming community and croplands leading to a decrease in agricultural production, f) the absence of training and livelihood programs offered by government for dispossessed farmers and g) the movement by dispossessed farmers to illegal small-scale mining (galamsey).

### 1.3.2.DEPENDENCY OF LOCAL COMMUNITIES ON MINING COMPANIES

#### **The Issue**

The unrelenting and increasing dependency of local communities on mining companies is a common phenomenon in many developing countries. It is the result of factors already discussed, including the preoccupation by host governments on political, governance and developmental aspects of the political and socio-economic center, at the expense of the rural areas, manifesting as a lack of presence, capacity and social support programs provided by central governments to rural areas and weakness and dysfunction of the institutions of local government. The combination of these factors, often accompanied by lack of transparency and accountability, result in a deep and abiding loss of trust by rural people in government, including government's ability and willingness to respond to their needs.

#### **The Role of Government**

It has been convenient for central governments to take the approach of minimal intervention, once they have granted mining concessions to companies, essentially leaving mining companies and rural communities to their own devices. This is the point of initiation of a process that creates the enabling environment for the onset and growth of dependency of local communities on mining companies and their community development programs. In this way, mining companies turn into a proxy for government and become the focus of community social, economic and environmental needs and also the focus of community resentment which can lead to conflict when these needs are perceived or experienced as not being fulfilled.

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43 Rules governing the land compensation negotiation process and the methodology for evaluating land have recently been amended and improved (Ghana's Mining Portal, (2017). <http://www.ghana-mining.org/ghanaims/Home/tabid/36/Default.aspx>. However, communities complain that this came too late because much of the land has been sold under the old system.



Our literature review, draws attention to the fact that excessive reliance of governments on companies to perform de facto state-like functions, ultimately undermines incentives for governments to develop the administrative capacities and institutions necessary to ensure more effective and productive governance of their extractive sector. As already discussed, depending on companies to maintain stability at the local level can work only in the short-term. Longer-term stability requires government to be present and to play its role in collaboration with the other key players.

As pointed out in point 7b above, our quantitative analysis suggests that governments may choose to embark on an intentional strategy of temporary dependence on high quality companies to maintain local stability, while they devote their time and resources to building the capacity for improved country-level governance quality over time. However, it is one thing for such a strategy to be conscious and intentional and quite another for it to fall on the shoulders of the LSM sector as the result of uncontrolled circumstances, such as the absence of a strategic approach to mineral development combined with a lack of capacity to govern effectively.



### 1.3.3.DISTRIBUTION OF BENEFITS FROM THE LARGE-SCALE MINING SECTOR

#### **The Issue**

Benefits accruing from LSM operations include taxes and royalties normally paid to central governments and material benefits such as employment, procurement and various components of social development programs that are directed primarily towards local communities. The unfair distribution of benefits from the LSM sector can occur as a perception or a reality, and in either case manifests as an important conflict driver, as recognized in the four case studies examined by Andrews et al (2016) and confirmed in the current study.

## **Role of Government**

Host governments have unique roles to play in setting appropriate levels of mining taxes and royalties and establishing systems based in law for their collection, deployment and investment. Governments also have a central role to play in leveraging and maximizing access of material benefits, such as jobs, tax revenues, and social investments, to local communities.

Our literature review examined the role of government in this respect through the lens of fiscal decentralization schemes, designed to address issues arising from the distribution of benefits, by enhancing access to and authority over the spending of mining tax revenues by local government. This strategy is premised on the simple notion that local populations, particularly those residing nearest to the point of extraction, are more familiar than distant central administrators, with local conditions and needs and therefore better equipped to spend resource rents to achieve poverty reduction and sustainable development objectives. However, the reality is that in many developing countries, the redistribution of revenues by central governments back to mining districts is not always dependable and local government administrators often lack experience in managing such revenues. Additional complications can arise due to the existence of patronage and corruption at central, regional and local levels of government along with a general lack in many cases of systems and procedures to ensure transparency and accountability.

Many of those we interviewed in Ghana complained about a governance approach with an emphasis on impact mitigation at the expense of the provision of benefits. In this respect they observed that government had not been effective at translating minerals extraction into sustainable improvements and benefits. This leaves people disappointed by what they experience as a stagnant or very slow pace of development and also feeling that they are not experiencing enough benefits from the LSM sector. We heard many community leaders and authorities complaining that the benefits of the LSM sector were not enough to counteract the social and environmental impacts. We heard from mining company representatives that benefits derived from the LSM sector are experienced as medium- to long-term and often cannot compete with those derived from the ASM-galamsey sector, which can be experienced as immediate and much more lucrative.

High on the list of frustrations to most of those we interviewed at the community level in Ghana, was the lack of willingness by the central government to devolve power, authority, capacity and financial resources to local authorities. As defined by its own laws, the central government is required to create and maintain an efficient process for the transfer of a portion of the royalties received from the LSM sector to district assemblies, traditional authorities (chiefs) and communities. However, for most district assemblies this rarely happens on a consistent basis, if at all. No one seemed to know what prevents distribution of these funds or causes interruptions of their flow back to mining districts and communities.

### 1.3.4. ENVIRONMENTAL DEGRADATION AND THREATS TO WATER QUALITY AND SUPPLY

#### **The Issue**

Real and perceived threats of environmental degradation to land and to the quality and supply of water are potent conflict determinants at the level of conflict drivers. Rural communities have been known to react strongly when they become aware of plans to construct a mine in the vicinity of their farmlands when community engagement has been lacking or inadequate, and they fear negative impacts to their health and livelihoods. These kinds of fears taken together with a lack of trust in government combine

to form a cogent recipe for conflict outbreak when local communities feel that the threats are not being addressed in an effective manner. This is especially the case in sensitive areas where ecosystems are delicate and water is in limited supply. Broader societal reactions to perceived threats to environmentally sensitive areas are increasing in parallel with growing global concerns over renewable resource depletion, biodiversity loss, extinctions and climate change

### **Role of Government**

While the protection of the environment including water quality and supply is a responsibility shared by all stakeholders, governments are the gatekeepers of this important area with primary responsibility for designing and implementing an environmental regulatory regime, including an environmental impact assessment (EIA) process, permitting procedures, regulatory compliance, land use planning and the designation of protected areas. Host governments have contributed to the conditions for conflict by permitting investments in ecologically sensitive regions, wherein pre-existing concerns over renewable resources, local resource-based livelihoods and biodiversity conservation are salient.

Host governments of most developing countries have installed modern, effective regulatory systems designed for the purpose of environmental protection. However, the most common causes of the breakdown of these measures which implicate government are a) the lack of preparation of rural societies for the arrival of the LSM sector, including information and planning as to how environmental impacts will be managed and mitigated, b) the lack of capacity of central governments and local authorities to follow through with thorough monitoring and enforcement of environmental regulatory requirements and c) the general absence of systematic approaches to land use planning for development and for protection of ecosystems, including 'no-go' areas.

As we have observed in the case of Ghana, modern legal requirements for environmental protection are in place and effectively implemented by the LSM sector, such that environmental impacts are for the most part effectively mitigated. However, this does not apply to the ASM-galamsey sector. Due to its lack of presence in the rural areas of Ghana and limited capacity to conduct regulatory monitoring and enforcement, the central government has allowed galamsey and the mechanization of small-scale mining to proliferate, such that it now continues essentially unregulated, and with ever-expanding environmental impacts to the land and waterways. Urban societies in Ghana have been voicing their concerns about this situation through the media and urging government to take action. But rural communities suffering the direct impact of this environmental degradation are ambivalent, because they also derive significant economic benefits from a vibrant and expanding ASM-galamsey sector.

Optimizing economic benefits and minimizing environmental impacts resulting from ASM activities is the role of government through the design, implementation and enforcement of regulatory regimes.

### 1.3.5.POLICY IMPLICATIONS FOR CONFLICT DRIVERS

As pointed out above, the field of contextual factors is dominantly a policy and regulatory space and addressing conflict determinants at this level will primarily involve initiatives by government agencies. In contrast, the field of conflict drivers is a mix of conflict determinants involving a number of key players, including government agencies (both central and local), mining companies, local communities and civil society organizations. It follows that successfully addressing conflict determinants at this level will require collaborative approaches involving all the players involved.

## Land and Resource Ownership, Compensation and Livelihood Issues

Given the deep connection with and livelihood dependence on land by rural people, unresolved land issues can be a springboard to conflict, manifesting either as a conflict driver or as conflict outbreak-triggering events. The decision by host governments to acquire title to the sub-surface mineral resources is understandable, given the need to regulate and manage the exploitation of those resources in a controlled, systematic way. The alternative would be a process of deal-making with individual, private land owners that would rapidly devolve into a disorderly and uncontrollable situation. So the decision to attract FDI and develop mineral resources for the benefit of the country as a whole, must be balanced against the very real needs of the local people that own/occupy the land where the resources are located. This circulates back to the need for host governments to take a strategic approach to mineral development, including the preparation and support of rural people who will be most directly impacted. There are a number of ways that land acquisition for mining concessions can be managed and two are presented as follows:

- a) In the near- to medium-term, it is recommended that governments develop stringent requirements and clear processes for companies and land-owners to follow, for the valuation of lands and crops and the land acquisition negotiation process. Governments need to be directly involved in this process as overseer and neutral arbitrator, either through local, central government offices and qualified personnel or experienced administrators from functioning local government institutions. Governments also need to partner with the mining companies in the development of programs to help offset the socio-economic impacts that will inevitably follow the land acquisition process and also in resettlement programs. As discussed above, when the capacity of government is a limiting factor here, it is recommended that host governments limit the number of regions approved for mineral development and the number of mining companies which are granted concessions.
- b) In the medium- to long-term it would be beneficial to local people and the nation as a whole, to empower autonomous, local government to deal with mining-related land issues. In the Canadian North, comprehensive land agreements have been negotiated between the federal governments and aboriginal (indigenous) peoples, whereby aboriginal peoples have been provided with rights to surface lands and subsurface resources in their traditional lands along with the authority to administer and regulate access to those surface lands and exploitation of the mineral resources. Government was involved in a large-scale capacity-building exercise to assist indigenous people to acquire the knowledge and skills to accomplish this.



Foto: Bruno Camarero Rolo / PNUD Perú



## **Dependency of Local Communities on Mining Companies**

The decision by central governments to devolve a major portion of the role of socio-economic development in rural regions of countries to the LSM sector is in our opinion, often deliberate but not necessarily strategic; that is, it is not accompanied by a framework of supportive initiatives, objectives, roles and responsibilities and timelines. Evidence for this is the lack of government presence in rural areas accompanied by absent to inadequate social development support programs and regulatory monitoring and enforcement. The LSM sector certainly has an important contribution to make to community social development programs, but the appropriate role is contributor as opposed to sole provider. We recommend host governments transform this informal devolution of social responsibility to the LSM sector to one that is strategic, intentional and collaborative, with clear roles and responsibilities for government, companies, communities and civil society organizations and with time-dependent objectives.

Enhancing the state's administrative, governance, service provision functions, and legitimacy in local regions will be a long-term process requiring that authorities at all levels of the state work in conjunction with international institutions, mining companies, and donor countries to improve its functioning and basic service provision. Meanwhile, it will be crucial to democratize the development process through various measures, including participatory budgeting and regional development planning, if only to increase the frequency and quality of interactions between local stakeholders and state agencies. The process can be incremental and supported by the recommended tactics emerging from our quantitative analysis, namely (i) limiting the total number of mining companies operating in the country at any given time (ii) limiting the ratio of foreign companies to total number of companies that are granted concessions and (iii) granting concessions selectively to mining companies with demonstrated ability to deliver high quality community development programs and maintain stable relations with local communities. The first two can be gradually relaxed as governance capacity improves to predetermined levels.

## **Distribution of Benefits from the Large-Scale Mining Sector**

Leveraging and maximizing access of material benefits to local communities in rural areas of developing countries is fundamentally tied to the successful implementation of fiscal decentralization programs. In turn this will require central governments to legalize the allocation of a set proportion of tax revenues derived from the LSM sector to local communities in mining districts and ensure regular distribution. For fiscal decentralization to be an effective engine for poverty reduction, and by extension a conflict management tool, the literature review suggests that it must be accompanied by efforts to strengthen the governance capacity of the local administrators tasked with managing revenues, including the de facto ceding of administrative powers by central authorities to local ones. Studies indicate that subnational administrators must be equipped with the management systems and technical knowledge of development policy to ensure monies are invested into tried and tested poverty reduction, as well as subjected to citizen oversight to be held accountable for their spending decisions. Effective distribution and use of benefits and the translation of LSM activities to visible manifestations of sustainable development in rural areas, requires collaborative efforts among government agencies, LSM companies, communities and civil society organizations.

## **Environmental Degradation and Threats to Water Quality and Supply**

Mitigating environmental impacts to land and waterways will require a focus of attention on the main areas of weakness for many developing countries which include (a) lack of preparation of rural societies for the arrival of the LSM sector, following the decision by government to attract FDI for mineral development



(b) lack of governance capacity of both central government and local authorities to implement regulatory compliance monitoring and enforcement in mining regions and c) the absence of systematic approaches to land use planning for development and for protection of ecosystems. As previously outlined, preparation of rural societies should be included as an integral part of a strategic approach to mineral development. The literature review refers to the process of community preparation as *institutionalized engagement* including information-sharing, the application of FPIC, dialogue, shared-decision making, planning and capacity-building of local government institutions. Land use planning should include designated 'no-go' areas for situations of high environmental and/or social sensitivity. The option of non-extractive development strategies should be explored for such areas.

Re-investing LSM taxes and royalties back into the mining regions from where they came, along with collaborative, multi-stakeholder approaches, will form the foundation upon which capacity building for improved environmental governance at the local level will be accomplished.

#### **1.4.CONFLICT TRIGGERING EVENTS**

As summarized in Andrews et al (2016), conflict needs a 'trigger' or tipping point to precipitate a shift from latent to active confrontation. There are a large variety of circumstances and events that can act as triggers for conflict outbreak once the structural and contextual factors and the conflict drivers have all combined to form an environment conducive to escalating tensions and unresolved issues. This is diagrammatically illustrated on Figure 0.3 (page 4) in the study introduction. Once such a tension-filled environment has been created, the transformation to conflict outbreak is akin to a spontaneous combustion. The circumstances or events that can trigger such an outbreak are numerous, involving one or more of the key players involved and possibly precipitated by something at arms length or completely unrelated to the focus of tensions. Conflict triggers can be emotionally charged, and often unpredictable, but in some cases premeditated and engineered as a tactic to bring attention to a grievance that is perceived to have been ignored.

Once the latent potential for conflict outbreak has been created, the most effective way to prevent it is through dialogue, if that is still possible, collectively identifying the underlying causes and implementing effective solutions. In Ghana, the main driver of conflict outbreak has been the incursion of galamsey onto mining concessions in order to conduct illegal mining. The response by government has been to send in the army or police to forcefully remove the galamsey and to prevent them from returning. However, once the army is redeployed the galamsey quickly return. Up to this point in time the central government has not made a resolute effort to identify the underlying issues and deal with them effectively.

## 2.CONCLUDING STATEMENT

Over the past 20 years there has been considerable focus on the mining industry and individual mining companies to seek continual improvement in the areas of ethical practice, social responsibility and environmental stewardship. However, in spite of considerable progress in this regard, the evidence has shown that in recent times, conflict associated with mining operations has experienced a dramatic rise in frequency and intensity (see Figure 0.1 on p 2,, Introduction). It seems obvious now that depending on improvements in industry practices alone is only a partial solution at best.

Our investigations have demonstrated the central importance of the role of host governments in establishing the appropriate governance and management regimes to achieve sustainable mineral development and prevent the negative outcomes of destructive conflict. This lies at the heart of the challenge and also the solution.

With appropriate attention provided by host governments to the development of strategic approaches to mineral development, including an incremental approach to attracting the LSM sector to match governance capacity, strengthening local governance institutions, preparing rural communities for the arrival of the large-scale mining industry, reconciling the ASM and LSM sectors and maintaining a strong regulatory compliance and social development presence in rural mining districts, the negative consequences of destructive conflict can be avoided and a path towards sustainable mineral development established and maintained. With appropriate host-country governance, potential conflict instigated by mining companies through mistakes and/or inappropriate practices, can be mitigated and transformed.

In the past, most host governments were not able to provide the essential elements of effective governance for mineral development, but they felt compelled to embark on the journey nevertheless. But now effective governance is within the grasp of host governments readying themselves to embark on this complex journey, as well as those governments that began in the past and are now looking for redirection. In order to make progress towards sustainable mineral development and reduction of conflict, this is the place where we must now concentrate.

## 3.USE OF THE CONFLICT PATHWAY ANALYTICAL FRAMEWORK

Conflict is a process that is seemingly chaotic and difficult to almost impossible to unravel; however, it can be perceived as a watershed consisting of a cascade of decisions and actions and their consequences, which are in fact logical and predictable. The Conflict Pathway Analytical Framework has proven to be a useful analytical research tool for systematically analyzing and understanding the complex process and pathways leading to conflict outbreak associated with mineral development and to determine whether mining jurisdictions are moving towards either sustained conflict or sustainable development.

In attempting to understand conflict and the behaviors of the players involved, many previous studies have focused on the compelling and sometimes violent activities that characterize the point of conflict outbreak, which typically occurs at the company-community interface. While it is important to understand the conflict dynamics at the company-community interface, it is even more important to be aware that conflict outbreak represents only the final outcome of a process that has occurred over space and time. There is a need to understand the process and pathway that leads to that outbreak, not just what is happening during the outbreak itself. If the conflict process and the contribution of the various players involved are not well-

understood, then counter-strategies applied will be less likely to have the coordination, prioritization and effective targeting required to induce a desired transformation towards more positive outcomes.

When applying the analytical framework to specific circumstances, it is important to note the following:

1.While there are broad commonalities among the conflict determinants observed from one country or location to another (e.g. a history of colonialism), in detail there are important distinctions, giving rise to differences in the manifestation of conflict determinants from one country or locale to another. It is important to document and understand these distinctions.

2.The position of individual conflict determinants in the hierarchy of the analytical framework can vary from one case to another, mostly between contextual factors and conflict drivers, and to some extent between conflict drivers and conflict triggering events. In other words the sequence of actions and decisions can vary from one jurisdiction to another. This is not problematic since it is the identification of the pathway, including the sequence of decision-making and the parties involved, which are critical to understanding the conflict process in any particular case.

3.Some conflict determinants penetrate down through a number of levels in the conflict hierarchy, at times increasing in their potential impact along the way. An example of this is lack of trust of governments by rural communities. As previously described, this conflict determinant commences at the level of structural factors and persists down through the conflict hierarchy through to conflict triggering events.

4.The flow of decision-making within the conflict hierarchy is predominantly from top to bottom (from structural factors, through contextual factors, conflict drivers, to conflict triggering events). There are some decision-flows that move sideways or circle-back towards the top, however, these eddies and swirls are limited in their influence compared to the top-to-bottom driving force of path dependency, the powerful impetus arising from events and decisions early on in the process that, as time proceeds, become more difficult to reverse and shape the trajectory of the process of decision-making and actions and their eventual outcomes.

5.To date in our studies we have employed the conflict pathway analytical framework to examine broad relationships across the whole conflict determinant hierarchy (the complete watershed of decision-making). The analytical framework can be applied to equal effect in examining the decision hierarchy in more detail, focusing down on individual decision-making streams and tributaries within that watershed.

Beyond its implementation as a research tool, the Conflict Pathway Analytical Framework has a number of potentially useful, practical applications, including the introduction of more rigor and therefore significant improvements in the areas of a) policy and governance strategies for governments and b) due diligence and risk assessment for companies. The evolution of the analytical framework as a practical tool for governments and companies will be examined in more detail as part of our ongoing investigations.

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