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Natural Resource Management and Institutional Dynamics: Myanmar and Indonesia in Comparative Perspective

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ABSTRACT

Natural resource management in the conflict area has raised a debate on how institutions adapt to conflict conditions. This paper utilizes Institutional Analysis and Development (IAD) framework provided by Ratner by conducting a multi-case comparative specifying on the sub-national in Kachin (Myanmar) and Papua (Indonesia). The analysis focuses on how the institutional dynamics relate to collective action in the mining operation during the ongoing conflict. The empirical investigation shows that the different results occurred due to the diverse decentralization arrangement. The case in Kachin indicates some degree of difficulties in the decentralization arrangement. This condition raises the lack of transparency and participation, which implicates the unequal developments for local people. On the other hand, Papua's case demonstrates the progress of systemic transformation and changing legal framework. The output reflected some improvements, though there is some degree of marginalization on its implementation.

Keywords: natural resource, conflict area, institution, Kachin, Papua

ABSTRAK

Manajemen sumber daya alam di area konflik telah menjadi perdebatan para ilmuwan terutama mengenai bagaimana institusi beradaptasi terhadap kondisi konflik. Tulisan ini menggunakan model kerangka *Institutional Analysis and Development (IAD)* oleh Ratner et al. (2013) dengan metode komparasi multi kasus yang terfokus pada skala sub-nasional di Kachin (Myanmar) dan Papua (Indonesia). Analisis terfokus pada bagaimana hubungan antara dinamika institusi terhadap aksi kolektif dalam operasi pertambangan di tengah konflik. Investigasi empiris memperlihatkan bahwa perbedaan hasil di kedua kasus terjadi karena perbedaan proses desentralisasi. Kasus di Kachin menunjukkan adanya beberapa kesulitan dalam pengaturan desentralisasi. Kondisi-

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si ini menyebabkan kurangnya transparansi dan partisipasi, kemudian berimplikasi pada perkembangan yang tidak merata bagi masyarakat lokal. Sementara, kasus di Papua menunjukkan transformasi perubahan secara sistematis dan kerangka hukum. Hasilnya memperlihatkan bahwa operasi pertambangan di Papua memperlihatkan beberapa kemajuan, meskipun dalam implementasinya masih terdapat marginalisasi.

Kata kunci: sumber daya alam, area konflik, institusi, Kachin, Papua

INTRODUCTION

The evolving debates of resource conflict have inspired various ideas and perspectives on conflict resolution. While there are some theoretical and empirical shortcomings on the argument of scarcity and abundance as the leading cause of resource conflict (Bayramov 2017, 78), some scholars rather see the conflict contextually based on the capacity to manage the resource (Barnett and Adger 2007; Eriksen and Lind 2009; Le Billon 2012; Bond 2014). Bond (2014) argued that a holistic approach could help find a broader social and institutional perspective. Another way is to combine it with the historical approach in understanding the political economy and cultural ecology. This work strengthens institutional analysis's importance, especially in the illiberal setting (Castro 2018).

The study of resource conflict develops the importance of stakeholder participation. Then, this debate encompasses the behavioral approach to emerge more robust empirical research (Yasmi 2004, 427). Studies started to concentrate on actors' participation in decentralized government. It explains that the structural view justifies more collaboration and consensus (Raik, Wilson, and Decker 2008, 734). On the other hand, Giordano et al. (2007) examined the consensus achievement process. Knowledge and capability of local people limit their participation. Therefore, there is a need to establish a social network that collaborates with the government, NGOs, the local community, and academia (Apipalakul et al. 2015, 326). It also explains that the different power of stakeholders mainly influences the decision process. Then, Darbandsari et al. (2012) provided behavioral studies with an agent-based approach to understand stakeholders' interactions. This research unfolds that the institutional capacity is related to conflict dynamics.

The literature above referred to the necessity of institutional analysis. It is not only fit to current global environmental changes but also crucial to coordinate resource users, clash between individual and group interest, and allocate benefit and cost (Cumming et al. 2020, 26). The institution controls illicit activities and malfunction management (Eastery 2000, 14–15; Vesco et al. 2020, 3, 11). It is also essential to control resources through policies, coordinate resource users, and ensure security (Ezirim and Ekenedirichukwu 2011, 61). The need for a broader analysis demands the institutional approach for a broader context. The institutional approach in this research refers to the relations between structure, process, context, and outcome rather than only focusing on formal laws and policies (Cumming et al. 2020, 27).

Despite many institutional approaches—historical institutionalism (Hall and Taylor 1996), normative institutionalism, empirical institutionalism, and international institutionalism (Peters 1999)—Institutional Analysis and Development (IAD) framework has some advantages to assess resource management in conflict areas (Ratner et al. 2013). It dismantles stakeholders' relations in adapting to governance, resource, and conflict context. It is also to understand actors' behavior and their implication to socio-economic and socio-ecology dimensions. This framework provides a guide in multiple scales of analysis, including the comparative method. However, many comparative studies focus on examining the national level, while there is still limited examination on the sub-national one (Ratner et al. 2013, 202).

This study examines the resource governance in Kachin (Myanmar) and Papua Province (Indonesia). There are large-scale mining located in Kachin and Papua, such as jade mining (Hpakant area) and copper-gold mining (Grasberg and Ersberg). Both have experienced long-historical conflict with the exclusive aspects of managing the natural resource in the authoritarian regime. These conditions aggravated the multiple confrontations between separatist groups and their national army. Although the governments have decentralized the system, the conflict remains.

Decentralization empowers local people in the collective process (Balooni, Puhlin, and Inoue 2008, 4). It also mitigates conflict (Diprose and Ukiwo 2008, 49). However, decentralization does not always prescribe success strategies. Decentralization needs to facilitate self-management, collaborate all actors to the resource management, and contribute to the common goals (Balooni, Puhlin and Inoue 2008, 3). It is important to note that self-management is possibly efficient if it addresses horizontal inequalities and group domination through coordination (Diprose and Ukiwo 2008, 49). This process still requires political and fiscal autonomy (Bribois 2020, 20).

In the case of Myanmar, the decentralization initiative emerged on the constitutional reform agenda in May 2008. Nevertheless, after decades of the military government, the decentralization process remains influenced by the military. This uncertain process failed the local government's empowerment (UNDP 2015, 3). Their inefficiency kept the rent-seeking motives in jade mining operations (Depice 2016, 11). Consequently, the weak allocation and benefit are the reason local elites refused the ceasefire negotiation. This study will focus on Myanmar's experience of decentralization before the 2021 military coup.

The case of Papua shows a similar situation. Papua has obtained the accommodative legal framework through special autonomy law. However, although the legislation addressed higher mining revenue, which derives horizontal equality, this arrangement did not fully grant local representation of their interest (Abrash 2002, 12–13; Yanuarti 2012, 36–38). There are still complications in handling the influential multinational company. The sense of outsider from the mining area continued among rebel armies. It then provokes violent confrontations. The context of Papua in this research will be limited from decentralization in the 1990s until 2020. This comparison aims to assess how the decentralization contexts contribute to the contrasting institutional dynamics that might develop different outcomes. This study uses the IAD framework to understand actors' changing behavior toward governance transformation. We also utilize evaluation criteria to specify

the outcomes. The ground criteria are based on the focus area from the framework.

THEORETICAL FRAMEWORK

The studies of resource conflict governance mainly indicated the need for functioning and appropriate government. Misgovernance in politics, economy, and culture caused the central problem in the Gulf of Guinea region (Ezirim and Ekenedirichukwu 2011, 61). There is a necessity for innovations to promote government transparency from the critical view. Some researchers agreed that conflict in resource-rich countries is mainly characterized by endemic corruption, malfunction of government, and lack of accountability (Cuvelier, Vlassenroot and Olin 2014; Adams et al. 2019). Institutions and governments also control the economic dimension, defining who benefits from the process and who suffers from the disadvantages (Schilling et al., 2018, 443). There is also a priority to evaluate the community benefits agreement as an instrument for handling resource conflict (Gunton, Werker, and Markey 2021).

Based on the previous research, resource conflict governance still needs more elaboration, especially on the resource stakeholders' relations in building resilience institutions. Their interaction with government, resource, and conflict context will obtain a less normative approach. While the government has a broader range in controlling the resource, economic elites often influence the distortion of resources (Cuvelier, Vlassenroot, and Olin 2014). Therefore, the institutional approach needs to refer to behavior as affecting all participants (reciprocal to IAD framework). It is not limited to the formal laws (decision consequences) but how the participants design the rule based on their adaptation to various contexts (Ostrom 1986, 4–6; 2005, 61–62).

The relevancy of IAD in current issues and its flexible guidelines beyond normative urged the use. Although there are critics regarding the limited set of theories, this framework could connect the structure of power relation and rules used in the resource area, as well as their interaction among actors built in the resource. The framework will help

to understand how a particular structure influences the current process. In assessing the outcome, IAD gives a more flexible ‘list of the variable’ related to any resource system through time (Cumming et al. 2020, 29, 32). This research used a core framework that contains four elements. As these elements relate to each other, it is necessary to see them in the systematic process. Following is a more in-depth explanation:

Table 1. Institutional Analysis and Development

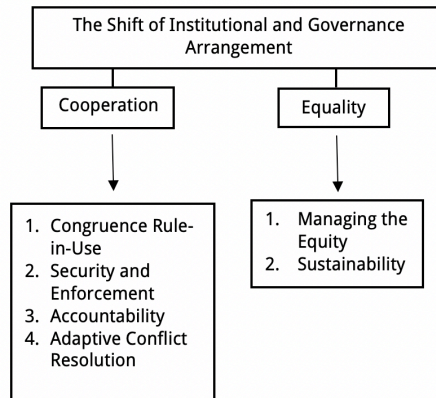
Variable	Description	Indicator
Context	Understanding the case and cause of conflict	<ol style="list-style-type: none"> 1. Resource (its value and trends) 2. Resource Users (socio-economic character, ethnicity, and wealth disparities) 3. Governance (the decision-making process, and inclusivity)
Action Arena	It focuses on actors' social bargaining (choosing to cooperate or conflict).	<ol style="list-style-type: none"> 1. Actors (their attributes and behavior) 2. Action Resource (capability to participate in resource operation) 3. Rule-in-use (the values, norm, and law applied in the using resource)
Pattern of Interaction	The pattern of actors' bargaining and choices in the operation	<ol style="list-style-type: none"> 1. Custom system 2. Legal and administrative 3. Alternatively open conflict
Outcome	There are two principal evaluations: <ol style="list-style-type: none"> 1. Livelihood security, resource status, and actors' adaptive capacity 2. The shift of institutional and governance 	This paper focuses on the second evaluation, which has two main branches: <ol style="list-style-type: none"> 1. The institutional support for cooperative management 2. The capacity of the institution to generate equality

Source: Adapted from Ratner et al. (2013)

It is crucial to evaluate the capacity of institutional and governance arrangements in analyzing the outcome. Based on Ratner et al. (2013, 198), governance arrangement is expected to reinforce inclusivity through cooperative management and horizontal (fiscal) equality. Governance arrangements will promote more effective resource management during the conflict. It can also possibly reduce the likelihood of violent conflict. We adapted some evaluation criteria from the previous studies to specify the outcome investigation, which also used the IAD framework to analyze their cases (Persson and Prowse 2017, Nigussie et

al., 2018; Ouedraogo and Mundler 2019; Zhang and Zhao 2019). The adaptation will be modified to adjust in our resource context. Below is the explanation:

Figure 1. Evaluation Criteria



1. *Congruence Rule-in-Use*

Building compatible rules with the local condition and ecological considerations have been the highlight of Ostrom's work (1990, 68). Referring to Persson and Prowse (2017), she evaluates the formal regulation encompassing decentralization to guarantee representativeness and participation. However, the formal rules do not always correspond to the rule used in the internal resource operation, which we might need to refer to the informal rules. The informal rules may be adapted locally or built after long-term interactions (Persson and Prowse 2017, 76; Ouedraogo and Mundler 2019, 3; Zhang and Zhao 2019, 54). Therefore, evaluating the rule-in-use needs to be based on the participants' coordination in modifying operational rules. This evaluation is significant to the mining context in reaching responsible and sustainable operations.

2. *Security and Enforcement*

As previous studies consider security and enforcement in maintaining collective resource governance (Persson and Prowse 2017, 72; Oue-

draogo and Mundler 2019, 3), this evaluation is critical. The need for security and enforcement might be diverse based on that resource context. Our research focuses on three issues related to the mining sector. First, security and enforcement in mining sites are mainly linked to block mining, potential loss of livelihoods, culture, and heritage. Second, there might be potential social conflict due to the resettlement of labor or immigrant labor. Third, it is crucial to consider the safety workers and residents to embrace inclusive security (Steinberg 2008; Netherlands Commission for Environmental Assessment 2017, 2).

3. Accountability

The accountable mechanism with a monitoring and transparency scheme will help to evaluate equality and participation (Nigussie et al. 2018, 7–8). It is also essential to be more informative and open about redistribution mechanisms and CSR projects in the mining sector, e.g., through open dialogue. The accountability in this paper is also enhancing the need to inform the environmental impact and rehabilitation scheme.

4. Adaptive Conflict Resolution

There is always conflict risks under ruled and governed resource use (Ostrom 1990, 76; Ouedraogo and Mundler 2019, 3). Potential resource conflict could increase the intensity of the ongoing conflict. The previous studies highlight the limited community/local empowerment mechanism to coordinate conflict resolution (Persson and Prowse 2017, 71). Therefore, the evaluation should encompass adaptive conflict resolution and local empowerment.

5. Managing the Equity

Resource management often does not operate inclusively and fails to represent stakeholders' interests and concerns (Nigussie et al. 2018, 7). Evaluating the equity will embrace equal benefit and involvement in resource management. In the mining system, people who live near

the mines are affected by the operation, so they should be compensated. The rational, more significant share for local communities must be clear and beneficial (Institutional Institute for Environment and Development 2002, 198). Equity should also include economic and social development for the future generation. That term must refer to the Community Development Agreement (CDA) to reach equitable outcomes in the mining sector. While ensuring the equity needs to be based on community interest and concern, support from the government is necessary to gain equal bargaining (O'Faircheallaigh 2014, 2).

5. *Sustainability*

Sustainability should be included to build equal prospects in the mining sector. The environmental impact of the mining process is one of the considerations. The evaluation of environmental sustainability/mining impact is required to be inclusive to avoid illicit behavior. Sustainability also needs to support the long-term prospect of locals' development.

Since both cases in this study have similarities in transforming their governments and shifting to decentralization, assessing how the diverse actors' adaptation will be based on institutional shifting and governance arrangement. It is how the changing governance and actors' responses are related to resource management change. While the primary function of the IAD framework is to identify how the actors interact based on particular contexts (Zhang and Zhao 2019, 46), it does not develop the specific evaluation criteria to assess the outcome of interactions (Nigussie et al. 2018, 7). The concepts above will help to compare both cases in determining their outcome.

METHODS

This study evaluates the case in Kachin (Myanmar) and Papua (Indonesia). They are currently managing resource abundance under the remaining conflict. After being transformed from an authoritarian system (Myanmar in 2008 and Indonesia in 1999), they intended to shift to a decentralized system. However, their continuing problematic decentral-

ization may contribute to resource management. This writing will see how decentralization might affect actors’ adaptation and interaction, which possibly bring different results. The multi-case comparative will compare the different contexts, finding the influence factor, to explain the diverse outcome (Esser and Vliegenthart 2017).

Applying the Institutional Analysis and Development (IAD) model by Ratner et al. (2013) will comprehensively understand various stakeholders’ decisions adapting to their context. First, we will analyze each case. Second, we will elaborate on the comparison of both cases based on the IAD model. Then, we will compare both of the cases per evaluation criteria (see the previous section) to see the different outcomes. The evaluation will see how the decentralization context reinforces stakeholders/actors and their interaction to adapt to the transformation in the mining operation based on the criteria. To specify the evaluation criteria, below is the operationalization:

Table 2. Operationalization of Evaluation Criteria

Variable	Evaluation Criteria	Operationalization
Cooperation	Congruence Rule-in-use	<ol style="list-style-type: none"> 1. How is the formal regulation about local allocation and ecological impact used in operation? 2. Is the use of formal regulation represented by all stakeholders? 3. How is the informal rule internally regulated?
	Security and Enforcement	<ol style="list-style-type: none"> 1. How is the security regarding mining sites (including defined-border of block mining)? 2. How is the resettlement security for locals and workers? 3. Are the security and enforcement adaptable to the conflict?
	Accountability	<ol style="list-style-type: none"> 1. How is the accountable mechanism? 2. Is there any dialogue regarding the information about mining/ aspiration in mining/ CSR projects? 3. How is the transparency in environmental evaluation?
Adaptive Conflict Resolution		<ol style="list-style-type: none"> 1. Is there any conflict resolution if the ongoing conflict involves resource management as the factor to intensify the conflict? 2. Is the solution adaptive to empower the locals?

Equality	Equality	<ol style="list-style-type: none"> 1. Is the share equitable in financial and employment? 2. Does the share bring the development to the local people? 3. Is there any support to empower the local community
	Sustainability	<ol style="list-style-type: none"> 1. Is there any sustainability plan for community development? 2. How is the implementation of the sustainability plan (including the rehabilitation design and externalities)?

This paper uses a qualitative method with secondary data analysis. Data sources were obtained from previous studies, reports, and news. Considering this research has a periodical focus, Papua (Post-New Order Regime in 2000) and Kachin (after constitutional reform in 2008), the empirical data refer to this temporal limitation.

DISCUSSION

Context: Case Study in Kachin

Besides many rich-resource states in Myanmar, Kachin has one of the highest resource values. It is located in the northern region of Myanmar and bordered by China to the north. Below is the figure:

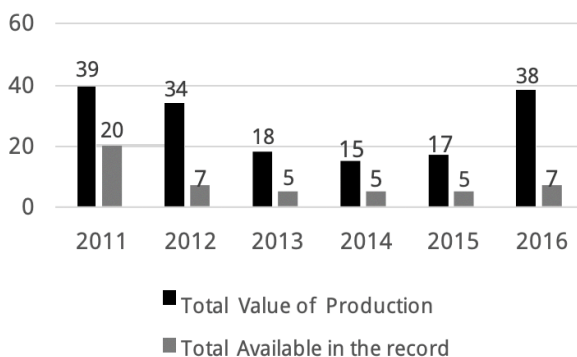
Figure 2. The Map of Hpakant Area



Source: China Daily (2020)

Among diverse resources in Kachin, jade mining is the highest value, worth 31 billion USD. The mining is an open-access resource without any specific advanced technology. It is primarily located in Hpakant township and has roughly 32,000 acres (Natural Resource Governance Institute n.d.). Jade mining was estimated to be equal to 50 percent of Myanmar’s GDP in 2015 (Natural Resource Governance Institute n.d.). Following is the jade mining valuation (mainly in the Hpakant area) from 2011-2016:

Figure 3. The jade mining data in Myanmar 2011-2016 (million kg)



Source: Natural Resource Governance Institute (nd)¹

Resource management becomes complex in the middle of the continuing conflict between Kachin and the central government. Since independence, they have engaged with the historical-ethnic conflict. Kachin is one of the minority ethnicities in Myanmar, while most central governments came from the majority ethnic, Bamar ethnic. The socio-economic sentiment also hampered their relations. There were high disparities in education and wealth distribution (Jaquet 2015, 10, 42). Tatmadaw (national military) has sustained its influential role in jade mining operations during the military government. It drives KIO/ KIA (Kachin Independence Army/Organization) dissatisfaction, who used the resource for financial support and local development.

¹ The real data could be higher

After the decentralization initiative in 2008, the pseudo-process survived the exclusive resource management. The shift to local self-autonomy is only indicated marginally in the 2008 constitution. This condition impacted the confusion and uncertainty of local autonomy, especially regarding the decision-making process. The local government in Myanmar is directly supervised by the General Administration Department (GAD), which is the backbone of the Ministry of Home Affairs. That ministry must be led by the military officer (UNDP 2015, 20–21). Although Thein Sein declared the more transparent process and fiscal decentralization, including resource management, the implementation reflected the lack of clarity (Lynn and Oye 2014, 1–2). This condition continued at the township level after the civil government. They handle administrative duties and manage tax collection from natural resources, including minerals (UNDP 2015, 20–21). Therefore, it is still hard to expect the changing operation in mining, which is still dominated by the military (Tatmadaw) and their network (Lin et al. 2019, 9). Although the decentralization addressed the mining revenue, the shared for local is still smaller than the national. The national-level revenue is 80-95%, and sub-national is 5-20% (Depice 2016, 14).

The recent military coup in early 2021 becomes the main obstacle for future decentralization in Myanmar (Jatmika 2021). Ethnic Armed Organization (EAOs), including KIA, has confronted the military to ask for civil government with larger self-autonomy (The Irrawady 2021).

The current dynamic may have implications in the future of mining operations. We focus on Kachin's decentralization experience in the discussion.

Context: Case Study in Papua

As one of the rich-resource regions in Indonesia, Papua contained the third-largest copper and second-largest gold in the world. Based on the data, the resource condition in Papua could ramp up to about 240,000 tons per day. By the end of 2005, the Grasberg/Ersberg had 56.6 billion pounds of copper and 58.0 million ounces of gold (Nakagawa 2008, 75). The mining process is a closed system that needs advanced technol-

ogy to extract the mining. The mining location is centralized in West Papua. It is located in most of east Indonesia. Below is the illustration of its position;

Figure 4. The location of West Papua



Source: BBC (2019)

Despite its high value, the former regime's unfair allocation and entire operation still raised Papua's sentiment. After growing racial and religious discrimination in post-independence, the authoritarian New Order Regime exacerbated the extended unequal distribution. It provoked the separatist movement in Papua. Although there were changes after the reformation, Papua is still the least developed province in the country. While the data showed that Papua's GDP was competitive after reformation (Resosudarmo et al. 2014, 436), the poverty rate remains high. West Papua still reached about 35% of the poverty rate, and Papua reached 36% (Yanuarti 2012, 36). From 2011 to 2017, Papua and West Papua were still ranked the highest poverty rate in Indonesia (Harianja and Findi 2018, 189). Therefore, the mining process and allocation for local Papua was still the highlight after the transition.

After decentralization, demand for greater local autonomy was responded to by the policy reform in Law No. 33/2004. It focuses on resource distribution, in which the local government will get 80% (16% for the province and 64% for regency) and 20% for the central gov-

ernment from the mining. Moreover, the local government held the evaluation and monitoring function, and Papua obtained the special policy (JDIH BPK RI n.d.-a). Law No. 35/2008 reflects the respect for customary law and guidance for sustainability in the mining process. Papua's special autonomy also guarantees deliberative communication through open dialogue (JDIH BPK RI n.d.-b).

The special autonomy in Papua still reflected some issues at the implementation level. After long being centralized by the New Order Regime, the government officials demanded to rule their land. The local political elites, who were hungry for power, found and used opportunities in many sectors. There were corruption behaviors in the local government. In many rich-resource areas, like Grasberg/Ersberg, the elites contested for seeking the opportunities to gain compensation. This condition has been labeled as 'erring decentralization' (Timmer 2007, 470–478). Another research identified Papua as asymmetrical decentralization. It refers to the lack of good governance. First, the development and welfare program has not shown improvement. It is possibly because of local corruption and complicated program. Second, autonomy has not implemented the excellent representation and fundamental rights for indigenous. Third, it still exhibits a lack of transparency and accountability (Prabowo et al. 2021, 27–30).

The recent investigation showed that the elite corrupt behaviors misused the special autonomy. Since the beginning of special autonomy, many have disagreed due to the elitist process. It influenced the public trust in the government's commitment to addressing issues in Papua. Expression of opposing the special autonomy had risen from 2005 to 2010 (Nurbaiti 2020). This response did not happen without any reason. Special autonomy is mainly used by the elite group who capitalize on their relationship and power. They maneuver the power and benefit the relationship with multinational companies, foreign governments, and Indonesian occupiers. The elites tried to secure their power and relation because of the uncertainty of future policy with Indonesia (Huwaie 2019, 124–125).

*Institutional Analysis and Development
(IAD): Case in Kachin and Papua*

The decentralization context in both cases (see in the previous section) severely impacts the actors' adaptation to the mining process. The pseudo-decentralization in Myanmar failed to arrange any substantive change in the mining operation (Lin et al. 2019, 9). It did not prepare the system and government capacity for a more open mining process (Lalhriatpuii and Shyamkishor 2019, 80–81). This condition enlarges the rent-seeking behavior. Meanwhile, the tentative implementation in Papua hampered the inclusive mining process. The maneuver of local elites with multinational corporations has sustained the prospect of local corruption in the mining area. This section will explain deeper how the actors adapt to the government's transformation.

In the case of Kachin, the open-access resource system has conflicted mining blocks. Most high-profile actors have utilized the fragile system behind the mask of normative decentralization. The operation still depends on the actors' political relations and armed capacity (Global Witness 2015, Depice 2016, 5–6). Such unfair competition diminished local small-middle miners from gaining a proportional margin. Following is the highest monetary data of actors' sales in jade mining:

Table 3. The jade mining actors and their sales in Myanmar (2013-2014)

Category	Actors	Sales
Army/ Government Actors	Than Shwe	\$220,041,68
	Ohn Myint	\$80,429,544
	Maung Maung Thein	\$142,051,570
Army Companies	MEHL	\$229,917,965
	MEC	\$52,826,423
'Crony' Companies	Ever Winner	\$361,339,295
	Asia World	\$48,208,953
	Htoo Group	\$13,223,634
Ceasefire Group	UWSA/UWSP	\$101,780,242

Source: Global Witness (2015, 40)

Global Witness (2015) recorded that some high-rank politicians/actors were involved in mining. As the former prime minister, Than Shwe's family held a high percentage of the Jade Mining operation.

Another actor recorded, Ohn Mynt (Tatmadaw Northern Commander in Northern Kachin), owned the 'Myanmar Win Gate' company. The shareholders were his son and wife. Furthermore, the former secretary of the ruling party, Maung Maung Thein, controlled the Myar Yaman and Myo New companies (behind his son's name).

Other large mining blocks belong to MEHL and MEC (army companies/Tatmadaw) with 614 and 22 licenses of Jade Mining. As a powerful national army, the MEHL had the privileged to run the company exclusively with the Penal Code (protected by a tight military guard).

Furthermore, three prominent companies were dominating the mining operation. The Chinese tycoon, Ever Winner Group, had an enormous mining block, which controlled 12 small companies. Their mining operation was backed by the connection of Aung Ko Win, head of KZB Group.² Asia World company, owned by the drug lord Lo Hsing Han, also controlled the large mining blocks due to the network with SPDC (State Peace and Development Council) that later served as vice president after 2011. Another actor was Htoo Group, a drug-lord crony company, which linked the military and the ruling party. Htoo Group's operation was classified as controversial. They had forcibly allocated the village of Tang Kaw to enlarge the mining operation.

The Ceasefire group also gained a slice of the vast jade mining operation. UWSA/UWSP (United Wa State Army/Party), the powerful ethnic armed group, built the mining blocks partnering with the international party to access the heavy machinery, such as CAT Inc. They employed brute force tactics which helped control and protect the company from external affairs or interference. They were also associated with big companies such as Wei Hsueh Kang's Hong Pang and Htoo Inc. Besides that, they were paid to protect influential companies like 'Myanmar Naing Group' owned by Than Shwe, former prime minister.

Most of the big companies joined the Myanmar Gems Enterprise (MGE) joint venture in the 1990s. Although it had legal papers, MGE reflected some suspicions and illegal trade indications (Natural Resource Governance Institute n.d.). Therefore, the mining was not only

² KZB is the thriving bank sector in Myanmar that provides a jade mining subsidiary.

portraying the elitist operations. It clarified the lack of a controlled system.

This condition failed the small-middle companies and artisanal miners, the hand-picker workers, in receiving the deserved benefit. They had maintained the operation in the periphery and dumping sites with lower value and higher risk processes. Due to the exclusive international market, they had more limited access. They could only sell the jade to larger companies or local markets (Lin et al. 2019, 13).

KIO/KIA (Kachin Independence Organization/Army) could also only obtain the small-middle level of mining (Lin et al. 2019, 15). Meanwhile, they had been intensively conflicting with the national army Tatmadaw who took many privileges in operation. Moreover, they could guarantee the lifetime mining concession for the companies, foreign or domestic, related to them (Global Witness 2015). Thus, armed confrontations frequently increased in the last ten years. Tatmadaw had been the central controller in the mining operation. Apart from owning the exclusive concessions, they also took part in (paid) security of many private companies. Tatmadaw secured the mining blocks freed from local people and EAOs (Ethnic Armed Organization) (Global Witness 2015, 89). Therefore, the conflict nearby the blocks of mining was unavoidable.

The capacity of prominent actors in the mining area could also be seen by the absence of control for the severe environmental impact. The frequent deathly landslide proves the environmental impact of jade mining exploitation in the last five years. Many local Kachin moved from their village due to the mining operation and landslide (Lynn 2016). However, the 2019 amendment of the Gemstone Law did not cover large-scale mining to consider its environmental impact (Lin et al. 2019, 9).

In a different situation, mining operations in Papua stayed under PT. Freeport due to their advanced technology (closed-system resource) after the reformation. Freeport's capacity to maneuver the new democratic actors caused the failure to renegotiate the royalty share and environmental problems. The contract continued putting Indonesia's position

in the less profitable prospect. While Freeport had 81,28%, Indonesia only got 9,36%, and Indocooper Investama had 9,36% (Rifai-Hasan 2009, 141). Although it changed in 2018, Freeport is still declared as a powerful mining company in history. Many view the new Freeport's IUPK does not fully benefit the national interest (Syahni 2019).

That argument is supported by the unresolved environmental problem. The rapid expansion of mining leads to environmental damage, such as floods and landslides (Astuti and Putranti 2018). The waste management process mainly caused this damage. The tailing procedure³ in the rivers invited much criticism. Freeport argued that the river was the best transport for channeling the tailing. According to Walhi, the tailing in the river was only 6%-8% of the mining operation. However, the company was not reporting any additional sediment (Walhi 2006, 26).

Since 1990, Freeport's tailing has polluted 84,158 ha offshore and 35,820 ha onshore. The tailing polluted the valley of Cartnez, Wagon, Ajkwa River, and Arafura Sea. This pollution would potentially cause an ecological disaster, especially to the marine and estuary environment. The tailing impact from 1988 to 2016 had cost about 185 trillion rupiahs (BPK RI 2017). The unsolved waste management occurred due to the inadequate waste permit process.

Another environmental impact has unveiled the damage of forests. Indonesia lose 300,000 ha of protected forest nearby the mining every year. Furthermore, this practice contradicts forest policy No. 41/1999 (BPK RI 2017). This condition reflects Freeport's higher bargaining position in discussing the environmental problems with the Indonesian government. Some argue that their affluence lowered the government's pressure on the environmental issue.

The higher bargaining power of Freeport could also be seen by their exclusive security. Although the security payment for TNI/Polri is legal, according to Law 63/2004, the specific payment standard remains unclear (White et al. 2018, 231). This gap triggered individual payments that could potentially change the security framework. Moreover, their

³ Mine tailing includes the effluent process that is generated in a mineral processing plant

role as protectors and security has engaged most illegal businesses to increase the military cash flow (Nakagawa 2008, 75–78). Freeport had given around 79.1 million dollars to TNI/Polri from 2001 to 2010 (Nugroho 2014, 126). The large payment of protection produced exclusive security around the mining operation.

The exclusive security encouraged human rights violations in the mining operation. Moreover, the sentiment between Papua Independence Movement (OPM) and the military from the former regime kept increasing frequently armed battle (White et al. 2018, 237-238). Violating the human rights of the local people occurred as the wrong target. The tight security format was also mainly conflicting with the protesters and experienced security disturbances from rebel groups. In 2006, some protesters and police officers died due to the confrontation (Suara Papua 2020). In the wage protest to Freeport, one labor died, and seven were injured (Nugroho 2014, 115). The recent extreme protest in 2017 from OPM-TNPB had intensified the battle. The dissatisfaction with the government and mining operation triggered the action. They asked the UN concerning the US position to accommodate their interest in gaining self-independency (Nugroho 2017; Briantika 2020).

Freeport's strategy to maintain the bargaining position with the government changed after decentralization. First, Freeport has provided Corporate Social Responsibility (CSR) and One Percent Trust Fund for local development, mainly for tribe groups. Seven tribes, namely Amungme, Kamoro, Ekari, Dani, Nduga, Moni, and Damal, had to move from their land for mining operations during the New Order Regime. However, corporate responsibility was not only ingratiating local government and tribe groups. It also created a dependency on Freeport. Second, Freeport has also contributed about 96% GDP in Mimika Regency and 400,000 US Dollars/year for financing infrastructure projects (Nugroho 2014, 130). Third, as mentioned earlier, some local government elites contested mining compensation. The central government also benefited from gold mining from the shared revenue.

From the explanation above, actors in both cases have gained more benefit through the mining operation. In Kachin State, the prominent

actors (see table 4) continued rent-seeking behavior to maintain their block mining. PT. Freeport in Papua showed the different processes through legal negotiation. However, their maneuver to the new political actors in the central and local government brought the failed negotiation in addressing the national interest and environmental impact.

The dominant actors in Kachin and Papua managed to adapt to the decentralization context. Some actors used their relations and political power to maintain block mining exclusively under the normative decentralized in Kachin. The missing of cooperative agreement and detailed mining policies increased the prospect of future confrontations. This interaction could be identified as open to conflict; meanwhile, PT. Freeport in Papua has adapted differently through legal negotiation. The lack of good governance and elite interests at the local level put the mining operation mainly to Freeport's benefit.

Comparison of Institutional Capacity and Governance in Kachin and Papua

In evaluating these cases, the rule-in-use aspect in the mining area is essential to determine whether the formal or informal regulations are congruent with all participants' interests. The formal regulation to determine the equal allocation to the local is essential in the mining sector. In the Kachin case, there is a smaller allocation for locals, which encourages dissatisfaction. The low empowerment of local government failed their process to have an equal bargaining process. This is mainly occurred due to the remaining influence of the military. On the other hand, Papua has a more significant allocation for locals with still progressing to the equal prospect.

Another essential formal law in the mining sector is regarding the environmental impact. Compared to Indonesia, Myanmar government shows less attention to the environmental impact. Their amendments do not include exploitation prevention (Lin et al. 2019, 9). In Indonesia, there are still laws and legal mechanisms regarding the externalities permit and environmental report. However, the implementation in Papua is still identified as a flawed and slower process.

The informal regulation in the case of Papua and Myanmar also reveals the differences. The failed decentralization in Kachin keeps the exclusive mining. As mentioned before, the political relations and military capacity determine the regulation in the mining area. This condition supports the rent-seeking behavior. In Papua, Informal dialogue is part of informal regulation. However, this collective process is not consistently implemented due to the mining area's competing elite interests. While both cases have problems, Papua maintains more efforts in gaining a more participatory process.

The security and enforcement to maintain the collective resource governance are also significant. In the mining process, clear defined block mining is essential to avoid block contestation. Kachin's difficulties in defining the mining owners occurred due to the lack of transparency which could generate competition between actors that caused the higher intensity of the ongoing conflict. On the other hand, the close system resource in Papua has an effortlessly defined border due to its smaller amount of actors.

Security and enforcement in the mining process need to include safety workers. Kachin's mining operation is classified damageable due to frequent deathly landslides in the last five years. Many local Kachin also moved from their village due to the landslide (Lynn 2016). A different situation in Papua, the security problem mainly comes from the confrontation and violent protest from the rebel groups. The recent case caused one employee to die and two injured (Wahyudi 2020). There are various factors of the confrontation, mainly due to dissatisfaction with the government and mining operation (Briantika 2020). To conclude, both cases still reflected problems to protect their employee.

The security also has to protect the residents around the mining area. In Kachin, there were many forced resettlements for residents due to the landslide, conflict, or mining expansion. The procedure for resettlement is mainly problematic without fair compensation. There were also forced resettlements in Papua from the former regime, especially indigenous Amungme and Kamoro. Although there are compensations, it does not bring equal impact and sustainable prospects. Environmen-

tal change due to the mining process transformed their way of life (Amirudin and Soares 2003, 13–15). The transmigration program from Java for the mining workers also made them feel a minority in their land (Antonopoulus and Cottle 2019, 164). Papua has more progress than Kachin in the aspect of compensation, with some problems followed.

In analyzing security and enforcement, both cases show the exclusive security framework. In Myanmar, the penal code method from Tatmadaw to secure their mining and related companies has increased the sentiment with the KIA/KIO, who has an interest in the mining block. The security format is also still challenging in Papua. The personal payment to TNI/Polri encouraged more complete security and sentiment with the separatist group (White et al. 2018, 237–238). The battle between the armed group and TNI/Polri mainly led the local people to the wrong target.

Accountability also determines the cooperative prospect in the mining sector. In Kachin, the accountable mechanism has not been prepared at the central and local levels. Figure 3 gives a bleak depiction of transparency and a monitoring system. The highly unbalance number between total production and recorded shows the insufficiency of officials in reporting the operation. Compared to Kachin, Papua has more progress in the accountable aspect. There is an accountable mechanism after decentralization. The weak transparency remains occurred due to their poor governance and local corruption. After years of environmental violations, The Ministry of Environmental and Forestry has conducted direct monitoring of Freeport since 2018 (Sukmalalana, Ananto and Kirana 2020).

The accountability also covers the dialogue about locals' compensation. Although some companies respond to the community development projects in Kachin, there is no open dialogue with the local people. Papua showed progress with open dialogues about CSR. However, the sustainable development for local people keeps reflecting some problems, such as lack of independence and inequality.

Both cases have problems in adapting to conflict resolution. In Kachin, there were no substantive results for peace resolution efforts

after decentralization. The intransparent discussion was the reason for the unmotivated KIA/KIO in setting the agreement. The interests of government and military actors in the mining process also affected the lack of decisions. The frequent confrontations happened due to the failed negotiation of the clear mining divisions (Combs 2018). Special autonomy is claimed as the progress to conflict resolution in Papua. The inadequate implementation lowered the public trust. The marginality regarding the environmental problems and development added to public trust (Nurbaiti 2020).

Moreover, the equality aspect is a significant evaluation. There has not been beneficial shared revenue for local Kachin. Companies involved in community development projects with low impact (Lin et al. 2019, 17). Substantial growth and poverty reduction were still massive challenges (Depice 2016, 7). Due to the military influence, there was no substantive effort from local authorities to support local empowerment to bargain in the mining operation. It impacted the inadequate regulation in mining employment, mainly for independent miners (artisanal miners). There are 65% independent miners. Their income has been uncertain and decreasing for the last five years (Lin et al. 2019, 18–24).

On the other hand, Papua gained more considerable shared revenue that improved the economic condition with some problems. The community development project remained unsatisfied with the tribal groups. The recent demonstration stated that the “One Trust Fund” increases internal conflict rather than prosperity. The CSR project is also problematic due to the unequal distribution. The interest of tribal elites complicates the distribution (Saputri 2017). Moreover, the job opportunity in Freeport only absorbed 20% of local Papuans (Astuti and Putranti 2018, 551). The mining actor in Papua showed more effort to gain equal prospects with some issues followed.

In the mining sector, sustainability needs to be evaluated. The government’s consideration regarding the rehabilitation design has not been transparent in Kachin. The intensity conflict between Tatmadaw and KIO/KIA holds back the plan to reach sustainable mining.

Myanmar government also manifests no attention to the environmental impact in the 2019 amendment. In Papua, there is a road map for tailing rehabilitation and compensation aid for the environmental impact (Arumingtyas and Nugara 2019). There is still a need to dialogue with Papuans regarding the environmental problems. Some view that this issue could not be solved with only compensation aid but appropriate sanction (Syahni 2019).

Below is the comparison table of the institutional capacity and governance in Kachin and Papua:

Table 4. Comparative Analysis

Comparative Variable	Kachin	Papua
Congruence rule-in-use	<ol style="list-style-type: none"> 1. The formal rule has not represented the local interest. 2. The informal rule is based on actors' political relations and military capacity. 	<ol style="list-style-type: none"> 1. The formal rule has progressed in representing the local interest. 2. Special autonomy encourages informal dialogue although it is not always implemented.
Security and Enforcement	<ol style="list-style-type: none"> 1. Exclusive security framework 2. Kachin has an unclear defining mining borders. 3. The mining operation is damageable. 4. The resettlement procedure remains unclear. 	<ol style="list-style-type: none"> 1. Exclusive security framework 2. Papua has a clear mining border. 3. The confrontations from the rebel groups become the security problem. 4. The compensations for resettlement procedure remain unequal.
Accountability	The accountability mechanism is challenged by other actors such as military and crony companies.	The accountability mechanism has problems in its implementation due to local corruption and elite interest.
Adaptive Conflict Resolution	There was no substantive result for peace resolution efforts after decentralization.	There is an insufficient capacity to implement special autonomy for conflict resolution.
Equality	<ol style="list-style-type: none"> 1. There has not been beneficial shared revenue for local Kachin. 2. The community development projects were not impactful. 	<p>Papua gained larger shared revenue that improved the economic condition.</p> <p>The CSR project is still problematic due to the unequal distribution.</p>
Sustainability	The government's consideration regarding the rehabilitation design has not been clear.	<ol style="list-style-type: none"> 1. There is a rehabilitation design. 2. There is a need for dialogue with Papuans regarding the environmental problems.

Both cases suggest that Papua showed more progress in the mining sector compared to Myanmar. Papua has the formal and informal process in the rule-in-use aspect, while Kachin remains absent in defining

cooperative rules. Moreover, both cases indeed have complex exclusive security frameworks. Papua is still progressing the better compensation to the residents near the mining. For the accountability and resolution for conflict aspects in Papua, the government and the mining actor revealed more efforts despite many problems that followed the process. We could conclude that Papua has developed fewer problems in coordination than Kachin. In terms of equality and sustainability, Papua has more progress with some remaining issues. The different results occurred as they have different decentralization contexts.

CONCLUSION

The decentralization contributes to the different outcomes in Kachin and Papua. The resource management in Papua shows some progress due to the relatively functioning decentralization. The mining actor has changed in supporting compensation and accountability with some issues. On the other hand, Kachin's difficulties in managing the resource are related to the uncertain decentralization. The domination groups adapt to the governance context to survive their power in the mining operation.

The failed decentralization in the Myanmar's case leads the main stakeholders to adjust to the corrupt system. The power relations between Tatmadaw and its crony companies and government elites leverage their rent-seeking process. This process implicates the detained amendment and regulations and the failed negotiations between KIA/KIO and Tatmadaw. The collective process cannot be materialized with the low accommodation to the local autonomy in resource management. The less empowerment of local government preserves the disproportion of local shared revenue and sustainable community development prospects.

In a different case, the sizable gold-copper mining in Papua continued its contract with PT. Freeport (closed-system resource). The company's adaptation to the legal transformation in governance changed their behavior in some aspects—specifically, the royalty distribution to the local people. This condition improved equitable management and

locals' development. However, the competing government interest with the company hampered the expected goals. As a result, some degree of alienation still occurs.

Based on the findings, decentralization institutions and actors' relations in resource management need to be examined. It is also worth discussing the relation between the local government and the community in advancing resource management during the conflict.

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