REGULAR RESEARCH ARTICLE

Multilevel Peatland Governance: Exploring the Policy Impact among Local Actors in Shaping Peatland Policy Intervention in Indonesia

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ABSTRACT

Indonesia established the Peatland Restoration Agency (BRG, now BRGM) in 2016 to address land and forest fire issues through measures to develop and strengthen the implementation of policies to restore some part of the 24 million hectares of the country's damaged peatlands. BRGM was presented as a response to the transboundary haze issue and was applauded globally, with substantial success claimed in delivering changes in local land management behaviours. However, limited detailed analyses have been conducted regarding how the BRGM programme is implemented. Employing concepts drawn from work exploring multilevel governance strategies and actor-network theory (ANT), we explore how the BRGM's programmes were implemented in seven different district locations in Riau province. We focus on local actors' views concerning the programme to assess local perceptions and responses to BRGM initiatives. Our findings show that multilevel peatland governance, as implemented by BRGM, encounters significant obstacles and challenges. Key issues were linked to poor coordination and synergy between different levels of governance and the actors involved, which in turn hampered collaboration efforts. In addition, problematic implementation due to formal and informal power struggles linked to actors' diverse interests also inevitably impacted local responses to the programme and, hence, its performance and efficacy. We suggest that these underreported factors inevitably affect the BRGM programmes' capacity to deliver on their formal aims sustainably and may hinder the achievement of justice and equity outcomes in the community.

1. INTRODUCTION

The transboundary haze crisis in Indonesia has caused a public outcry and diplomatic tensions, particularly between Indonesia and its two neighbouring countries, Singapore and Malaysia (The Straits Times, 2015; Kheng et al., 2019; Lay, 2016; Azhar, 2023; Aprilia, 2023). In 2013, Indonesian President Susilo Bambang Yudhoyono faced a citizen lawsuit by an environmental NGO WALHI[1] (Wahana Lingkungan Hidup) regarding land and forest fires on peat in Riau and Jambi Provinces. The judges rejected the lawsuit; however, the case highlighted growing public disquiet and diplomatic pressure on Indonesian politicians and policymakers (Nugraha, 2014). This was reflected in 2014 by the Indonesian government's ratification of ASEAN's Agreement on Transboundary Haze Pollution (AATHP). A month before President Joko Widodo's first term inauguration, his incoming administration committed to policies addressing issues linked to transboundary haze via a pragmatic approach, linking foreign policy and domestic issues through purposeful diplomacy (Qin, 2015; Rosyidin, 2017). This

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[1] The Indonesian Forum for Environment.

commitment involved rebalancing power within Indonesia's complex governance system and led to domestic policy innovations reflecting these commitments (Mahbub & Septian, 2015; Diela et al., 2019). As multiple national and international studies had drawn attention to links between peat fires and haze (for example, Page et al., 2011; Varkkey, 2016; Evers et al., 2016; Varkkey, 2020), it was unsurprising that the new administration identified peatlands' protection and restoration as key to reducing the frequency and severity of fire and haze events. It was in this context that *Badan Restorasi Gambut* (BRG, the Peatland Restoration Agency) was created (Astuti, 2020; Syaufina, 2018).

Established through Presidential Regulation Number 1, year 2016 (Presidential Regulation Number 1, 2016). The BRG was intended to accelerate the recovery of peatlands and restore peat hydrological function from forest and land fires via administrative arrangements, which reflected the president's new policy approach. BRG sits outside Indonesia's established, tiered system of government. It is directly responsible to the president; however, in its work procedures, BRG reports the implementation of its duties on peatland matters to the president through the Ministry of Environment and Forestry. An important feature of BRG was its attempt to employ integrated multilevel governance, envisioned as multi-sectoral, coordinated across ministries, institutions, and international organisations, and involving national, provincial, and sub-provincial layers of governance (Secretariat Cabinet, 2016). Vertical integration in the form of these new relationships between Indonesian governance entities at different levels supports "horizontal integration", whereby measures to address the social and economic needs of peatland communities are linked to desired changes in biophysical systems via modified land management practices. This idea forms both the basis of the "institutional fit" (Uda et al., 2018) between national policy and local implementation and the programme's in-field modus operandi. Nazir Foead, former WWF conservation director, was appointed to head the programme.

At the conclusion of its initial mandate in December 2020, another Presidential Regulation expanded BRG's role to include the restoration of mangroves and extended its operational life for four more years. Reflecting this change, the organisation became known as the Peat and Mangrove Restoration Agency (BRGM)[2] (Presidential Regulation Number 120, 2020). Currently, the focus of BRGM's peatland work involves 1) Coordinating and strengthening policies for implementing peat restoration; 2) Planning, controlling, and coordination of peat restoration; 3) Mapping of peat hydrological units; 4) Implementation of construction, operation, and maintenance of peat rewetting infrastructure and its accessories; 5) Strengthening community institutions in the context of peat restoration; 6) Socialization and education on peat restoration; 7) Improving the livelihoods of people on peatlands (BRGM, 2024a).

Multiple sources within and outside Indonesia praised the creation of BRGM and its efforts to link human and biophysical challenges in the peatlands via the "3Rs approach"; namely the rewetting of peatlands, revegetation (replanting of areas with peat species) and revitalisation (of local livelihoods) (See, for example, Ferdiansyah, 2017; Foresthints, 2022; United Nations, 2023). Numerous papers and evaluations reflected positively on the impacts of specific interventions under the BRGM programme. At the same time, others outline further promising options, including the introduction of "wetter" and/or more sustainable agriculture (see, for example, Ilham et al., 2024; Salmayenti et al., 2022; Uda et al., 2020; Uda et al., 2017).

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[2] This paper uses the name BRGM from this point on.

However, among others, reputable Environmental NGOs such as Greenpeace, WALHI, and Pantau Gambut[3] have questioned the claims made for BRGM's success (Prakoso, 2020; Herlina, 2022). It has been pointed out that in much of the period during which the BRGM was initially active, Indonesia experienced La-Niña conditions, which tend to see fewer fire incidents (Jong, 2022), making it difficult to measure the true degree of success claimed for BRGM's initiatives (The Ministry of Environment and Forestry, 2021). Issues have also been raised concerning the extent to which the local communities in project areas benefit from BRGM programmes (Budiman et al., 2020). The longevity of the programme's measures has also been questioned. At the same time, the latent or unanticipated environmental drawbacks of some of the proposed conservation measures have also been raised. Several critics have highlighted low coordination and synergy amongst involved actors (Goib et al., 2019; Martin et al., 2020; Daryani & Yustina, 2023) as well as questions of duplication and deadweight due to the overlapping roles and activities of actors involved (Goib et al., 2019). Some research suggests that sectoral egoism and power struggles in managing peatland restoration and related policy domains have negatively impacted the programme (Martin et al., 2020; Baskoro et al., 2018; Robertua, 2022).

Among other things, this work suggests that, in practice, BRGM implementation was top-down and that local actors felt excluded (Robertua, 2022). While much was made of the multi-sectoral, multilevel nature of BRGM, concerns regarding the extent to which the BRGM has been successful in this respect have given rise to discussions and proposals as to how to improve this aspect of BRGM's operation via enhanced socio-economic measures, knowledge exchange, community and stakeholder engagement, participatory methods, market innovations, and other established development approaches (see for example Fleming et al., 2021; Uda et al., 2022; Robins et al., 2021). However, efforts to assess the extent of these problems and their impact on BRGM more broadly are impeded by an absence of methods and studies analysing how the BRGM operates as an integrated programme in practice in specific localities. The situation is further clouded by much of the research that has been undertaken. Despite BRGM's "integrated" approach, analysis often involves the piecemeal study of separate elements of the programme. A function of administrators and researchers is "rendering technical" (Li, 2007) to make policy amenable to analysis and management. There is a need for a framework capable of understanding how the full range of human and nonhuman actors participate in the practices through which the programme is continually being "worked out" in practice. In this paper, we develop and test such a framework. In doing so, we explore the emergence of BRGM, its construction as a policy instrument, and how the responses of multiple human and non-human actors shape BRGM structures, processes and outcomes.

2. THEORETICAL FRAMEWORK

Under the current Indonesian presidency, environmental governance in Indonesia is a shared responsibility between central, provincial, and district governments. In this context, public discourse and policy regarding BRGM portray the organisation as involving attempts to implement policy via multilevel governance. BRGM is depicted as spanning the geographical hierarchy of governance levels with responsibility for different aspects of the programme vested in entities with the best competence to

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[3] Pantau Gambut is a non-govermental organization that networks in several peat-rich provinces in Indonesia which focuses on research and advocacy, and campaigns for the peatland protection and sustainability.

implement specific actions. In formal discourse, such arrangements suggest that responsibilities are devolved to different governance levels with power "shared" between units of different scales (Kedeputian Bidang Polhukam, 2021). Such approaches to governance have gained currency among multiple policymakers and researchers with an interest in how formal governance structures are organised in ways which allow for the effective implementation of policy across scales. A key concept in this respect is "multilevel governance", an approach which focuses on the structural and formal components of policy organisation. However, while multilevel governance serves as a useful metaphor for exploring formal depictions of how governance arrangement is designed, this approach tends to overlook questions concerning the different ways in which human and non-human actors associated with different sites within such formal frameworks respond to these arrangements. It has long been understood that new policy entities and actions constitute arenas and events which provoke difficult-to-predict responses as actors vie for control and influence. Understanding how an intervention that is "intended" to operate in a certain way is actually worked out in practice requires an analysis both of the formal components of the programme and of the ways in which the responses and interactions of different actors pursuing different projects shape interventions to align with their interests (See for example Long & Long 1992; Long, 2003; van Der Ploeg, 2012). For this reason, we integrate concepts drawn from multilevel governance and actor-network theory in our analysis.

2.1 Multilevel governance and Indonesia's multilevel peatland governance

Multilevel Governance was developed by political scientists working in a European context (Marks, 1993), emerging from efforts to conceptualise relationships between governance entities of different scales in the European Union (EU), ranging from supra-national entities (especially the E.U. itself), nation states and sub-national units of governance (Marks, 1993). MLG theorists paid particular attention to the distribution of control over policymaking between governance levels/scales, aligned to collective priorities and competencies (Bache & Flinders, 2004; Betsill & Bulkeley, 2006; Bulkeley et al., 2003). MLG envisages governance with authority dispersed between spatial (local, regional, national, and supra-national) and sectoral (states, markets, and civil society) entities (Daniell & Kay, 2017).

As initially conceptualised, MLG chiefly addressed questions of formal governance. However, studies within Europe and elsewhere found that it is not particularly suited to analysing the "micro politics of complex multilevel policy practices where multiple actors are engaged in both formal and informal efforts to influence the course of policymaking" (O'Reilly, 2012). Given the division between the national, provincial, regional, and subregional levels in formal Indonesian governance and the policy trajectory developed during Widodo's presidency, the concept has particular relevance in a study of policy discourse concerning the BRGM. Here, multilevel governance serves as a useful metaphor or heuristic through which actors situated in formal governance bodies sought to give expression to a new policy, defining the position of diverse types of entities and the formal relationships between them in the BRGM programmes. Indeed, we might define the multilevel approach of BRGM as a form of Foucauldian "governmentality" through which the state attempts to ascribe different roles to different actors and expand the role of government (See for example Dugdale, 2017).

As already discussed, the current framing of peatland governance has emerged in response to growing national and international concerns about transboundary haze pollution. This led to Indonesia's ratification of the AATHP (Heilmann, 2015; Ahmadi, 2012), alongside policy innovations aimed at achieving strong cooperation and

collaboration among different levels of governance and actors to address the haze issue. The means of achieving this was via the creation of BRGM. The approach was centred on what President Jokowi and Doni Monardo (former Head of the Indonesian Disaster Mitigation Agency) described as "the penta helix approach" at all levels of governance to tackle transboundary haze and restore the peatland (Mufarida, 2019)— proposing collaboration between government, business, academics, civil society, the public, and the media (Anwar, 2020; Violetta & Malaha, 2020). This approach encapsulated formal ideas about multilevel governance. The central government played a crucial role in creating rules for the operation of governance in different sites, with regional and local governments being more involved in, and responsible for, field implementation due to their proximity to peat locations. In this case, the penta-helix acted as an organising principle through which the senior figures sought to frame a formal system of multilevel governance and enrol other actors in support of its implementation.

2.2 Actor-Network Theory (ANT)

Multilevel governance provides a heuristic to view the Indonesian state's efforts to "govern" peatland restoration. However, it provides only a limited understanding of how these governance arrangements work in practice. There is, for example, no a priori reason why actors located at different levels and with different associations with BRGM should comply with the distribution of power and resources proposed by the central government via the penta helix model. Indeed, the broader literature on rural and environmental policy projects provide considerable evidence that both human and non-human actors resist such models, metaphors and formal roles, bringing their own analysis to bear and pursuing strategies based on their own analysis of a programme and their interests (See for example Long 2003, Can Der Ploeg 2012) Thus while multilevel approaches tell us how policies are constructed in formal terms. Understanding how a programme is worked out in practice requires an examination of how actors "respond" to this construct. Informed by the work of Bruno Latour (1987) and Michel Callon (1984), Actor-network theory (ANT) focuses on understanding how complex social materialities are worked out and the role of knowledge and meaning in this process. Within ANT, such materialities are constantly being created and maintained through complex interactions between actors and objects. Crucially, ANT "centres the social" (Umans & Arce, 2014) while at the same time also giving recognition to the capacity of nonhuman actors to shape events and realities. Latour, for example, initially explored scientific practices, describing the "social work" that goes into generating scientific knowledge. In doing so, he demonstrated how networks of human and nonhuman entities, laboratory equipment, funding agencies, scientific journals, and universities comprise elements of a network generating scientific knowledge. Crucially, this is a contingent process that includes both formal, predictable, and visible elements of practice and knowledge and informal, hidden, and "loose" elements (Knorr-Cetina, 1999).

By treating the social world as a network of human and nonhuman entities, ANT broadens analysis of institutions and organisations beyond formal structures and actions to include an exploration of the wider range of factors shaping outcomes. ANT has been widely applied to different fields of social sciences, including but not limited to sociology, public policy, politics, international relations, and economics (Latour, 2005; Potvin & Clavier, 2013; Barry, 2013; Best and Walters, 2013; Montsion, 2018; Braun et al., 2019; Sarker et al., 2006). The concept has also been adopted and developed as an analytical framework in agrarian and development studies to explore how rural policy interventions are made and shaped via encounters between different

actors and objects during policymaking and implementation processes where it offers a way of understanding policy interventions as networks of actors, humans, technological artefacts, and natural biotic and abiotic materials which interact, form, and reform relationships, thus shaping the policy process. The approach emphasises the importance of qualitative methods and "thick" description and is particularly useful for understanding "the microphysics of power" (Rivera-Núñez et al., 2020), by shedding light on how specific actors gain the capacity to exercise power (by enrolling others in line with their projects). A crucial feature of ANT is the concept of translation and of moments of translation. According to Callon, translation involves human and non-human actors coming into alignment in a network, allowing their representation as a single entity. This involves a series of stages through which a particular definition of the network and its purpose are agreed upon (problematisation), leading to certain roles being defined within the network (interessement), followed by actors accepting/assuming these roles (enrolment), enabling certain actors to speak for and direct the network (mobilisation) (Callon 1984). Those actors who succeed in having networks problematised in line with their interests are capable of locking other actors into roles which allow them to mobilise networks in line with their interests. Crucially, this way of understanding power rejects the idea that formal discourse concerning the definition of problems and distributions of influence can be taken as indicative of how power is actually distributed. Rather, it turns its attention to how certain actors are able to mobilise a range of resources in order to establish the dominance of a particular definition of a problem, have this accepted by other actors, and lock those actors into roles and relationships that support their projects. The powerful actors in a network are not necessarily the ones named in policy documents; rather, they are the ones who are able to effect a translation that enrols others in their project. Crucially, this approach avoids a priori assumptions about which actors and entities are the most powerful. Rather, it treats power as an effect distributed across a network of actors being worked out and expressed in heterogeneous ways (Bueger & Bethke, 2013).

Translation is a useful concept for exploring the chaos, complexity, and heterogeneity of policy as it happens (Jessen & Jessen, 2014) and generating insights into the ad hoc and contingent ways policy is made at different sites. We can employ the approach to observe the formal and informal practices of those involved. It implies that attention should not be paid solely to formal declarations and regulatory actions. Rather, this approach opens investigation of the ongoing process of policymaking to encompass both formal components, as well as the informal, concealed, and challenging-to-study aspects (Nuitjen, 2003; O'Reilly, 2012). In the case of BRGM, employing ANT, we perceive the "formal" multilevel approach as merely one iteration of peatland policy, presented as a rational exercise in multilevel governance distributed between national, provincial, regional and lower levels of governance. The implementation of this policy involves attempts by its authors to "lock in" other actors by generating a translation that aligns with the position taken in this document. Crucially, translation is always contingent and often partial. Over time, new problematisations emerge as interests shift, perceptions of an issue change, and actors' interests change. In addition, efforts to effect a translation are not all successful. In policy, we find that while some actors may have a specific role and an interest in having others incorporated into a specific "policy translation", these definitions can often be rejected, subverted, or undermined (O'Reilly 2012). Indeed, it is possible that unsuccessful or incomplete translations are more common than exceptional ones. Thus, rather than a definitive statement of where power lies and how it is governed, in the case of BRGM, the penta helix and multilevel governance are metaphors that support a particular translation of the peatland policy network. In this context, the

formal arrangements of a multi-level governance hierarchy cannot be assumed to describe the actual relationships between the different governance entities. Rather, the question of how power is distributed between national, provincial and other layers of governance is an empirical one.

Fatimah et al. (2023) previously employed an ANT approach to peatland policy in Indonesia. Employing the approach to explore how new interventions come to be adopted, retained, and/or abandoned. They focused on the cycling of sociotechnical regimes. They argue that the introduction of new methods and technologies in peatland areas is a "distortion" during which innovations disrupt existing networks before replacing them (Fatimah et al., 2023). Ours is a different approach. Rather than questions of structural distortion, we regard policy interventions as problematic new social objects that are introduced into inherently unstable social contexts. The responses to the arrival of these objects are unpredictable and heterogeneous and result in a diversity of effects distributed along networks, which tend to cause instability. Policy-inspired efforts at translation involve complex processes of negotiation between competing networks in which the capacity for local agents to resist, subvert, and incorporate objects into their pre-existing networks and livelihoods is significant.

3. METHODS

Bearing the above in mind, this paper uses a qualitative research method that combines semi-structured interviews, literature reviews, and ethnographic data collection. Participants' behaviour was also observed during peatland restoration coordination meetings twice yearly, which we attended three times, twice in 2022 (September and December 2022) and once in 2023 (September 2023). Field observations (visual data collection, observation, and documentation) were undertaken to examine the implementation of the peatland restoration programme (the three Rs programme: rewetting, revegetation, and revitalisation of the economy). Triangulating all these data collected from various data collection techniques provides a more accurate and objective analysis of the topic, enhancing the understanding of multilevel peatland governance and peatland policy processes in Indonesia.

3.1 Research area

Peatlands in Riau Province cover an area of 4.9 million hectares (Jong, 2022) or equivalent to 54% of the province's total land area (Tanjung, 2020), which makes Riau the province with the largest peatland on the island of Sumatra, double the total size of peat soil in Malaysia (Wetlands International, 2010). Riau, along with Central Kalimantan province, are the two provinces that are regularly described as the most fire-prone and are reported to have the greatest frequency of forest fires in Indonesia (Sizer et al., 2014; Albar et al., 2018; Alfajri et al., 2019). Of the twelve districts/regencies in Riau Province, this research observed seven districts involved in BRGM's peatland programme: Rokan Hilir, Siak, Bengkalis, Dumai, Kepulauan Meranti, Pelalwan, and Indragiri Hilir. These districts were chosen due to being fire-prone and peat-rich areas near neighbouring countries, particularly Malaysia and Singapore. Poor handling of peatland fire occurrences in these districts is linked to the emergence of transboundary haze into these neighbouring countries, contributing to the diplomatic controversies that occurred during the transboundary haze events in 2015, 2019, and 2023.

3.2 Data collection and analysis

A total of twenty-one in-depth interviews were conducted with relevant stakeholders identified via reputational sampling. The interviewees come from government circles at the provincial and village levels and actors working on the ground, namely members of community groups involved in 3Rs BRGM programmes. To ensure a deep understanding of our research topic, the interviewees listed below have at least ten years of experience with peatland governance and fires. The interviewees requested anonymity due to the high level of sensitivity of the topic we studied in this research. We organised a snowball sampling across seven districts, successfully distributing the interview time as indicated in the table below.
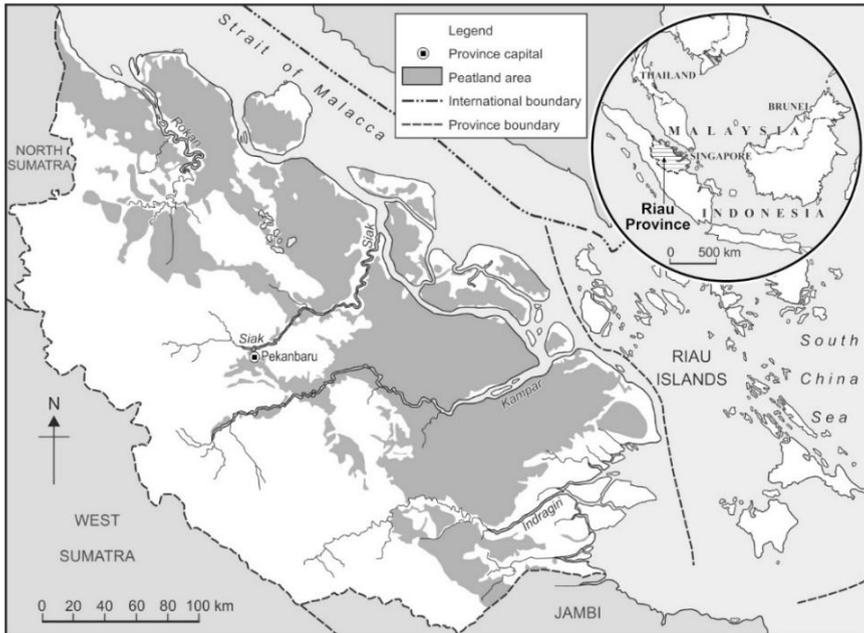

Figure 1. Peatland Map in Riau, Indonesia (Miller et al., 2021)

Table 1. Interviewees across seven districts in Riau, October, November, December 2022, February 2023 and October 2023.

No	Position	Location	Time
1	Village Government Official	Pelalawan District	October 2022
2	BRGM Community Group Member (Pokmas-Kelompok Masyarakat)	Pelalawan District	October 2022
3	BRGM Community Group Member (Pokmas-Kelompok Masyarakat)	Pelalawan District	October 2022
4	BRGM Community Group Member (Pokmas-Kelompok Masyarakat)	Siak District	Nov-22
5	BRGM Community Group Member (Pokmas-Kelompok Masyarakat)	Siak District	Nov-22
6	BRGM Community Group Member (Pokmas-Kelompok Masyarakat)	Siak District	Nov-22
7	Village Government Official	Siak District	Nov-22
8	BRGM Community Group Member (Pokmas-Kelompok Masyarakat)	Siak District	Nov-22
9	Village Government Official	Bengkalis District	Nov-22

No	Position	Location	Time
10	BRGM Community Group Member (Pokmas-Kelompok Masyarakat)	Bengkalis District	Nov-22
11	Urban Village Government Official	Dumai District	Nov-22
12	Urban Village Government Official	Dumai District	Nov-22
13	BRGM Community Group Member (Pokmas-Kelompok Masyarakat)	Rokan Hilir District	Nov-22
14	Village Government Official	Rokan Hilir District	Nov-22
15	Village Government Official	Indragiri Hilir District	December 2022
16	BRGM Community Group Member (Pokmas-Kelompok Masyarakat)	Indragiri Hilir District	December 2022
17	Village Government Official	Indragiri Hilir District	December 2022
18	BRGM Community Group Member (Pokmas-Kelompok Masyarakat)	Kepulauan Meranti District	February 2023
19	Village Government Official	Kepulauan Meranti District	February 2023
20	BRGM Community Group Member (Pokmas-Kelompok Masyarakat)	Kepulauan Meranti District	February 2023
21	Provincial Government Official	Pekanbaru City	October 2023

We also attended the three BRGM coordination meetings in September, December 2022, and September 2023, where we explored the behaviour and interests of stakeholders. The *Tim Restorasi Gambut dan Mangrove Daerah*-TRGMD (Local Peat and Mangrove Restoration Team) at the provincial level (see figure 2 below) hosted these meetings, where participants included central government officials, BRGM officials from Jakarta, provincial and district government officials, academics, environmental NGO activists, and the media. Data was recorded via field notes, photographs, and transcripts/recordings of in-depth interviews with relevant stakeholders. This research employs Miles & Huberman's (1994) interactive analysis model for data analysis. This model of data analysis involves the following activities: (1) data gathering/collection, (2) data reduction, (3) data display, and (4) verification or conclusion drawing, which is informed by the ANT framing.

4. RESULTS AND DISCUSSIONS

This results and discussions section elaborates on the main findings of the paper. The first section is about multilevel peatland governance in Indonesia. The formal multilevel peatland governance describes the depiction of BRGM as a multilevel governance entity and how this was reflected in its implementation. The second section examines the implementation of the BRGM's 3Rs programme and how the programme was shaped by activities in specific localities and interactions between human and nonhuman actors.

4.1 The formal multilevel system

After the in-depth examination of the BRGM projects at the local level, we constructed a descriptive overview of the BRGM structure based on documents reviewed, field observation, and interviews with administrators at multiple levels. The Indonesian Regional (Local) Government Law No. 23 of 2014 states that the environment is one of the government's mandatory responsibilities, which is shared between different levels of government, encompassing the national, provincial, and district governments as mentioned in the law (Kedeputian Bidang Polhukam, 2021). However, the responsibility to protect the environment extends not only to the district level of government but also

to lower levels of government, including the village government (Permatasari & Dakhi, 2017). The governance of this sector is shared between different governance entities at the national, provincial, and district levels, making its governance complicated. This reflects the broader complexity of Indonesia's multi-tiered governance system. Fatimah et al. (2023) may describe BRGM as a distortion in the network that surrounds peatland governance. Formally, the organisation of Indonesia's BRGM as an environmental governance arrangement is depicted as a multilevel system (Figure 2). The system identifies and distributes various actors at various levels of governance, from the central to the village. There is a Ministry of Environment and Forestry in the central government, which has branches named the Environment and Forestry Agency, both at the provincial and district levels. Below the national governance level, the Indonesian government is arranged in a series of levels ranging from the province, district, sub-district, and village levels.

As Figure 2 suggests, BRGM sits as a temporary and ad-hoc agency. It was established by President Jokowi's administration in 2016 and sits alongside and in parallel to the country's established formal government bodies. As opposed to the separate government entities situated in a fixed and sharply defined spatial hierarchy. The BRGM is presented as working in collaboration with the Ministry of Environment and Forestry at all levels, from central to district, and with the lowest government level, the village governments. While not included in the diagram, non-government actors (business entities, civil society organisations, academics, and the media) are incorporated via the penta-helix arrangement.

Crucially for how the BRGM operates in practice, the discourse surrounding its establishment implies some "coordinating" function. These arrangements install BRGM alongside existing government actors and entities. The extent to which this arrangement facilitates BRGM's coordination capacity is debatable. Rather than coordinating, BRGM and its provincial officers retain significant control of independent functions and budgets (Interview, 21; Coordination meeting Sept 2023). Furthermore, to facilitate implementation, BRGM has created two additional types of entities: the local peatland restoration teams, which oversee activities at the provincial level, and village community groups (Interview, 21), while the BRGM claims to lead in coordinating and strengthening policies to restore Indonesia's degraded peatland (BRGM, 2024a). It is thus reasonable to question the extent to which the form of BRGM's administrative setup delivers a coordinating function for existing actors. Numerous studies on multilevel governance in Indonesia (especially as related to environmental governance and climate change mitigation) have repeatedly shown that coordination and collaboration present serious challenges resulting in low levels of coordination and suboptimal performance (Marquardt, 2014; Myers et al., 2016; Goib et al., 2019; Martin et al., 2020 Fossati, 2016). A similar observation emerged from a systematic review of multilevel governance aimed at supporting effective climate policy (Nahruddin et al., 2023). This study also stressed the importance of incorporating NGO and private actors in such networks. While others have argued that poorly conceived and executed multilevel governance in Indonesia, Singapore, and Malaysia has embedded misgovernance (Hamilton-Hart, 2014), the effective implementation of multilevel governance in climate change mitigation has been identified as both vital and difficult in multiple locations and contexts, with challenges including conflicts in problem framing, benefit sharing, and capacity building (Xu, 2021). Our observations indicate that BRGM has struggled to overcome these challenges, suggesting instead that the BRGM has tended to establish parallel entities. Rather than enhance coordination with existing entities, we see the emergence of a new and distinct network containing new actors and bodies.
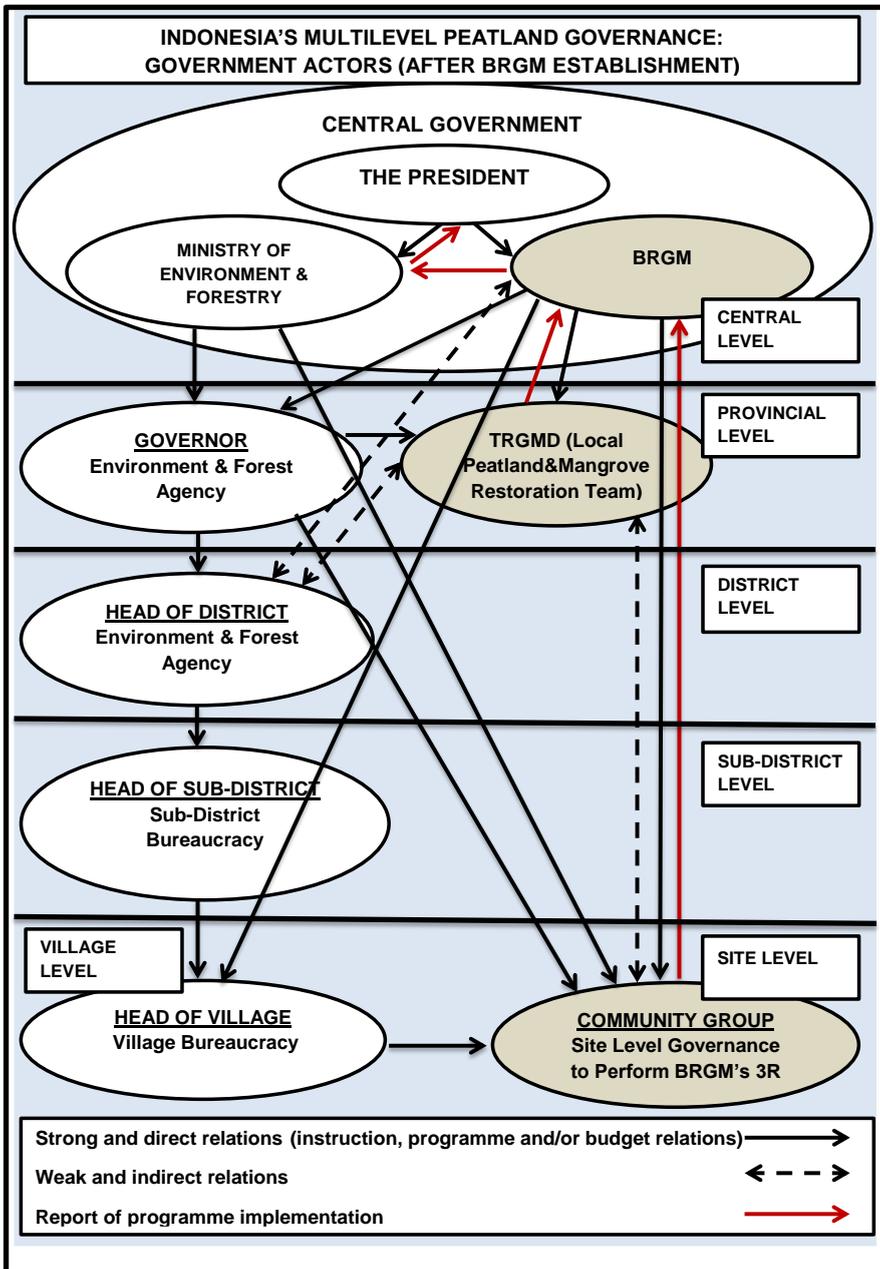
Figure 2. Indonesia Multilevel Peatland Restoration Governance (Government Actors and BRGM Initiative)

4.2 Rewetting, Revegetation, and Revitalisation of Economy (3Rs Program of BRGM)

The three key elements of BRGM's peatland restoration programmes are rewetting, revegetation, and revitalisation of the economy (livelihood) of peatland communities,

described in BRGM terminology as the 3Rs (BRGM, 2024b). The objectives of this three-pronged approach were to deliver a programme for peat restoration that could be sustained over the longer term by simultaneously addressing the physical and biological problems contributing to peatland degradation and, hence, greater fire risk and simultaneously addressing socio-economic issues that were causing people to adopt practices that contributed to fire risk encouraging them to support prevention and mitigation measures. In doing so, the hope was for the measures to be sustainable over the long term.

4.2.1 Rewetting

Rewetting is an effort to re-wet peatland through the construction of peat-wetting infrastructure, namely canal-blocking dams, drilled wells to access water, and canal filling. These three infrastructure measures are built in various locations. Canal-blocking dams are constructed on protected peatlands with canals. Drilled wells are built on burned or fire-prone peatlands. Finally, canal filling is conducted in Conservation Areas (BRGM, 2024b). Of these rewetting measures, BRG rewetting tends to rely primarily on canal blocking and drilled wells (deep wells). The canal-blocking dams are built to raise water levels in the peatlands, while deep wells are built to ensure the availability of water to extinguish fires when land and forest fires occur (Interview, 2; BRGM, 2024b).

Members of community groups established by BRGM are employed to do this work. While a formal letter is required from the village to establish these groups, additional village government involvement is minimal. The groups operate with limited engineering knowledge and resources and in challenging work environments, as shown in Figure 3 (Interview, 2).

Figure 3. Local Pokmas (Community Group) building canal blockings in Pelalawan District

Interviewees stated that these projects enjoyed some support from the community groups during the process of construction (while locals were paid to participate). However, the end of the three-year contract for rewetting programmes led to projects being abandoned. Participants attributed this to a lack of sustained interest, which was in turn due to the end of financial support and limited involvement of local actors like the district and village governments (Interviews, 6, 13). This lack of coordination between these actors and the local community groups established by BRGM resulted in minimal local guidance and supervision of the programme's implementation or provision for ongoing maintenance (Interviews, 7, 9, 14, 15, 19). This was borne out of the annual coordination meetings at which the district government complained that BRGM relied heavily on the provincial government and did not involve the district

government, which is much closer to the programme location. (Interviews, 1, 6, 7, 9, 14, 16, 18, 19). Despite being much nearer to the programme locations, district governments had little authority over programmes and no resources to support rewetting activities. By contrast, the provincial supervisors who did have funds and authority found it challenging to reach the project sites, which can take 8-9 hours (Interviews, 2 and 21).

Our observations in seven districts in Riau confirmed these statements; we found that canal blockings were not functioning in some cases and remained improperly functioning in others because community members had adapted them to other purposes. One example of the latter is included in Figure 4, which shows that in one case, the canal-blocking had been maintained in modified form after the project because it had been adapted as a bathing place.

Figure 4. Non-functional canal blocking turns into bathrooms and toilets by the residents in Siak Regency

Far from enrolling all locals in restoration efforts, the BRGM Community groups appear to have become divisive. While group members complained that canal-blocking dams were destroyed by residents, residents complained about their limited involvement and believed better coordination was needed (Interviews, 2, 19), particularly since blockings caused significant problems of flooding during rainy seasons and hindered irrigation and agricultural activities (Interviews, 2, 18, 19). This evidence of poor coordination and communication is consistent with previous research findings (Martin et al., 2020; Baskoro et al., 2018; Robertua, 2022).
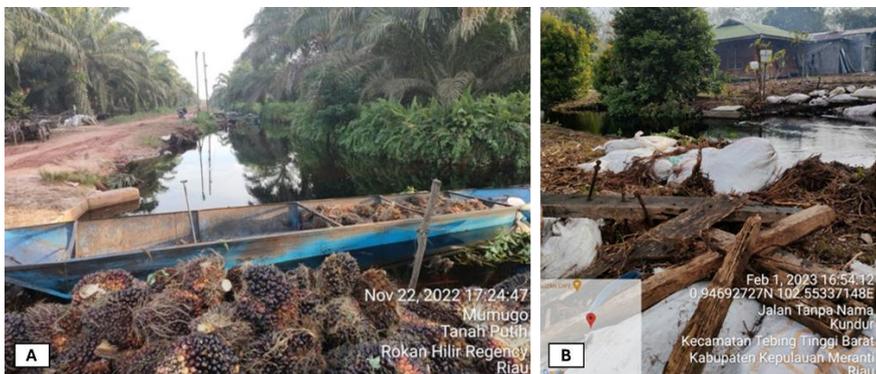

Figure 5. Canal blockings have been demolished for agricultural transportation (left: A) in Rokan Hilir District and due to floods (right: B) in Kepulauan Meranti District, Riau.

Some locals proposed improvements to the canal-blocking project. They argue that the current approach needs to be revised and that there is no need to build as many canal blockings as previously suggested by BRGM. The focus should be on improving the canal blockings' functionality, durability, and quality (Interview, 20). They believe building quality and long-lasting blocking canals is better than building many, but they must be in the right place (interview, 18 and 19). A model proposed by the village government and some residents is the introduction of semi-permanent canal blocks that can be opened and closed during high tides, preventing floods, and blocking agricultural product flow (Interviews, 18, 19, 20).

Another rewetting intervention in Riau that appears to have suffered from poor coordination is the construction of deep wells. Only one community group in Sengkemang Village, Koto Gasib District, Siak Regency, successfully maintained drilled wells for over three years, as shown in Figure 6(B) below. However, the group leader needed help with supporting facilities, such as borehole pumps. The survival of the wells was attributed to the group leader's good micro-leadership and the ability to establish a network of stakeholders, including the central government (Interviews, 4, 21). In his case, micro leadership inspired success in environmental governance (Diver et al., 2024). However, overall, the drilled wells programme in Riau Province has been discontinued due to poor planning and coordination with locals (Interview, 21). In the case of one programme in the Pelalawan district, the residents claim wells were built after a fire incident, but the road to the sites is poor and now overgrown, and the wells are difficult to locate, as shown in Figure 6(A). Even locals living 500 meters from the location did not know the exact location of the drilled well, let alone its role and function.

Figure 6. The path to the drilled well programme and the approximate location of the drilled well in Pelalawan District, Riau (Left: A). Pretty well-maintained drilled well in Siak Regency, Riau (Right: B).

The failure of this method was confirmed by one of the BRGM officials from the central government during the annual coordination meeting held by Tim Restorasi Gambut dan Mangrove Daerah-TRGMD (Local Peat and Mangrove Restoration Team), in Pekanbaru in September 2022, who said that he hadn't recommended the drilled-well programme in Riau since 2020: "Since 2020, I have not recommended the drilled well programme in Riau as the drilled wells were built in rich farmers palm oil fields, while accesses to burnt areas were far away from expected designated area, not

effective". The above-mentioned situation reflects poor coordination and collaboration among the involved actors. Taking into account the MLG model, which aimed to involve all parties in an integrated manner, the situation above reflected a failure in the implementation of the BRGM programme between and across levels.

Our interviews also revealed the impact of formal and informal power struggles on the shape that the programme took and the impact of these on the distribution of control, costs and benefits linked to the project. A critical issue here again relates to the status of BRGM community groups and their relationships with formal government entities, and in particular, lower levels of government. Some community group members expressed concerns that the involvement of district governments in managing the budget of BRGM 3Rs programmes (Interviews, 1, 2) would increase bureaucracy and reduce budgets for canal blocking. However, community group members agreed that the local district government should be involved in supporting sustainable rewetting programmes and needed budgets to support canal-blocking programmes and other 3Rs activities (Interviews, 2, 4, 8, 10, 13, 14, 16, 18). These mixed opinions once again illustrate that far from coordination the introduction of the BRGM approach added further complexity to the challenges of implementing restoration programmes.

The study reveals unequal power struggles occurred concerning BRGM. Community group members working on the canal-blocking programmes felt disempowered with little involvement in decision-making. They reported that this hindered performance. They referred to miscalculations in the project budgets and dissatisfaction with the limited involvement of community groups in budgetary decisions (Interviews, 2, 3). They claimed that allocated budgets were not aligned with field requirements, and some of the canal-blocking locations they were assigned were far from settlements, causing unpredictable additional expenses (Interviews, 2, 3). Community group members also expressed reluctance to maintain small, allocated funds (Interviews, 2, 14, 18). They also highlighted local dissent and concerns that canal-blocking efforts had stirred up conflict in the wider community. However, community group members wanted the rewetting programme to continue, believing it would keep peat moist and provide temporary jobs for community members. (Interviews, 6, 13).

4.2.2 Revegetation

As stated by the BRGM official website, revegetation is an effort to restore land cover in peat ecosystems through planting native plant species with ecosystem benefits or other types of plants that are adaptive to wetlands and have potential economic value. There are several ways to conduct revegetation, such as 1) Planting endemic and adaptive seeds in open peatlands; 2) Enrichment planting in degraded peat forest areas; 3) Improvement and application of seed dispersal techniques to encourage the regeneration of peat vegetation (BRGM, 2024a).

Across all our interviews, when compared to rewetting and economic revitalisation programmes, the revegetation programme was described as the least popular of the three BRGM programmes. Since the founding of BRG in 2016, it has been recorded that the revegetation programme had not been implemented at all in the three years, 2017, 2020, and 2022 (BRGM, 2023). In contrast, rewetting and economic revitalisation programmes have been undertaken every year since the founding of BRGM until 2023 (Figure 7). Despite the emphasis on BRGM's 3Rs integrated approach (rewetting, revegetation, and economic revitalisation), the programme is not balanced across the 3Rs approaches and might be more accurately described as a 2.5 R programme, with rewetting and economic revitalisation programmes enjoying the lion's share of support, focus, and resources.
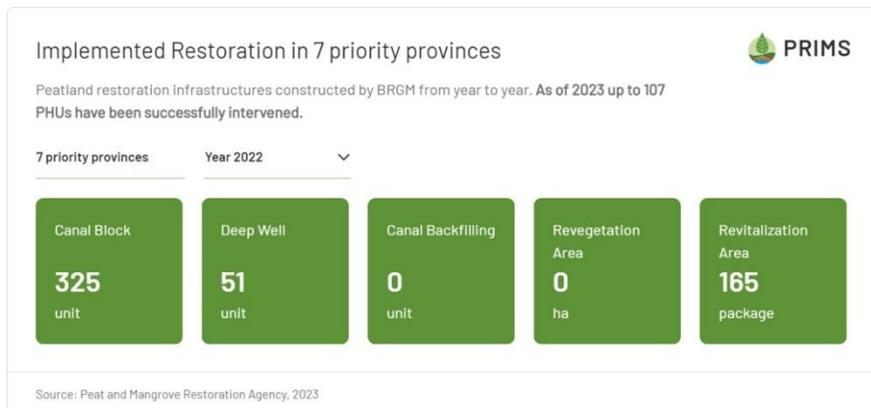
Figure 7. Numbers of implementation of restoration in the seven priority provinces. 325 units of canal blocks (rewetting), 51 units of drilled wells (rewetting), 0 (zero) units of canal filling/embankment (rewetting); 0 ha [hectares] revegetation area (revegetation); 165 packages of revitalisation (revitalisation of economy/livelihood). Source Badan Restorasi Gambut dan Mangrove, 2024 (BRGM, 2024c). https://en.prims.brgm.go.id/dashboard/restoration

From our research, the extent to which the revegetation programme is being implemented in the areas we examined is exceptionally limited after 8 years of BRGM work. Problems with coordination and collaboration in the rewetting programme also occurred during the implementation of the revegetation programme in this area. The district government's non-involvement was, in this respect, raised by district officials many times during BRGM coordination meetings. Village government officials also stated that there was no direct coordination between a district government official and village government officials. Instead, supervision was usually conducted via a BRGM supervisor who resided in the provincial capital, Pekanbaru, or by a provincial government official who also lived in the city (Interviews, 1, 2, 6, 18). The village government recognised that the district government is not involved in managing the BRGM revegetation budget. Rather, budgets were channelled from the BRGM central government to the provincial government official responsible for supervising and overseeing the programme, and some others were directly from central BRGM to community groups, which then implemented the revegetation programme. These patterns of budget allocation also applied to rewetting and revitalising the economy (Interviews, 2, 4, 13, 18).

In addition, community group members and village government officials also believed that poor coordination and collaboration had resulted in a lack of guidance, supervision, and maintenance, which had negatively impacted the revegetation programme (Interviews, 1, 5, 19). Again, community groups questioned the logic underpinning the implementation of the programme, suggesting smaller pilot projects of two hectares would have been better than the large and failed effort to revegetate twenty hectares (Interview, 20). The lack of popularity of revegetation programmes is also related to a lack of knowledge about the importance of revegetation programmes, planting indigenous trees and restoring the function of peatlands. At the same time, BRGM developed a technical guide for the peat revegetation programme (Wibisono & Dohong, 2017). Covering nursery establishment, peat swamp forest, plant germination, field preparation, transplantation, and maintenance. During interviews, community group members and others stated that they were unsure what revegetation involved, what types of plants were to be planted, and the benefits and purposes associated with planting them. This lack of knowledge concerning the importance of the revegetation

programme resulted in a programme in which areas were planted when funds were available to pay locals to do so without provision for proper and continuous maintenance activities, and insufficient supervision and guidance (Interviews, 2, 19, 21). The interviews revealed that the provincial supervisor could not provide adequate support due to his distance from the sites (Interviews, 2, 17). Village government officials emphasised the importance of appropriate guidance and supervision for any programme, including revegetation (Interviews, 15, 17).

We found that community groups recognised the short-term benefits of revegetation as a source of seasonal work while the programme was running (Interviews, 18, 19, 20, 21). However, our observations indicate that the programme failed rapidly. The failure is linked to the land contract system under which it operated. Participants received payment to undertake revegetation activities in designated areas for a fixed period. Observation and interviews indicated that when these contracts ended, the land was no longer appropriately managed (Interview, 21). Of the twenty hectares of land revegetated in the Meranti Islands district, only a small number of the plants were still visible, while most of them no longer exist. We also observed that the infrastructure built to facilitate revegetation activities had been abandoned (Figure 8 (A and B)). The power to execute the programme is closely related to the delivery of direct short-term benefits on the part of local participants without consideration of the programme's longer-term sustainability.

Figure 8. Unsustainable Revegetation in Kepulauan Meranti District (20 hectares)

Interviews again indicated that the more active involvement of the local district government may have created a more sustainable programme (Interviews, 1, 7, 9, 10, 17). Again, interviews with the local district governments conveyed their frustration that they were not provided with a budget to fill this role. Interviews also again confirmed that the necessary collaboration with multiple bodies, including plantation corporations, NGOs as well as communities, a crucial component of the multilevel ideas underpinning BRGM, failed to materialise (Interviews, 7, 9, 17).

4.2.3 Revitalisation of the economy

Revitalising community livelihood involves activities to improve the welfare of communities in and around the target area for restoration. BRGM supports livelihood activities which align with the concept of peat restoration, including fisheries, animal husbandry, fire-free agriculture, paludiculture, and the development of local commodities. BRGM encourages strengthening local commodity supply chain

strategies in regional, national, and international markets. In other words, the economic revitalisation programme is expected to improve the surrounding community's livelihoods, so they are not tempted to burn peatlands but instead assume a stewardship role in caring for them. According to BRGM, the development of adaptive agricultural technology on peatlands is a priority. Though poorly defined, the concept tends to support the idea that agriculture in peatlands can be continued via new methods, approaches, and crops that do not inflict the levels of damage associated with current agricultural activities. Critical to this is the question of water table and the identification and promotion of activities which allow water table levels to rise to levels approaching those found historically in natural peatland. While this idea firmly embodies the thinking of many of those from research and policy communities linked to peatland restoration, it is worth noting that there are no formal links between BRGM and the Ministry of Agriculture, and limited efforts to tap into sources of expertise in agriculture have taken place (Interview, 21).

Various revitalisation programmes have been attempted. These include producing various animal products: bees, shrimp, duck, catfish, goat, cattle, and quail, as well as new crops: pineapple, ginger, and watermelon (Interviews, 2, 7, 8, 13, 16, 18). Interviews indicate that while revitalisation activities were popular, the extent to which these activities were linked to and achieved BRGM objectives was poorly understood by the implementers. Shrimp production, for example, is known to have significant negative environmental impacts. More generally, the impact of aquaculture ponds on the hydrology of peatlands has been flagged as a concern (Budiman et al., 2020). The positive impact of some of the proposed alternative crops on the water table has also raised eyebrows. Ginger, for example, requires a certain level of drainage, and it fails in several districts due to floods (Pelalawan and Rokan Hilir districts) (Interviews, 2, 14). Again, this is in part due to the implementation process, with problems linked to a failure to consult locally on-site selection, the lack of knowledge of community groups concerning proposed activities (Figure 9 (A and B) and the lack of proper guidance and supervision (Interviews, 15, 16, 11, 12).

Figure 9. Unsustainable practice of the economic revitalisation program. Failed pineapple farms due to floods in Indragiri Hilir district (left: A), and failed quail egg farms with only cages left behind in Dumai district (right: B).

Interviews and observations indicated that the revitalisation component of the programme resulted in unsustainable practices. In the field and as borne out in Figure 9, this included instances of failed and abandoned projects. Similar examples of failed and unsustainable practices were seen to impact the revitalisation of economic programmes, specifically livelihood development, in other districts under research, including Rokan Hilir, Meranti Island, and Pelalawan (Interviews 1, 9, 13, 14, and 19).

Similarly, interviewees complained that the revitalisation of the Siak district's economic programme has not resulted in a sustained project due to obstacles, which include product marketing and market access (interview, 5). Crucially, locals complained that proposed livelihood innovations lacked technical support and were not commercially viable. Local actors, particularly members of BRGM community groups and the public, were widely aware of these failures. Interviewees revealed that numerous people were aware that some BRGM revitalisation projects have been undertaken in different locations. The perception was that these have not been sustained over time. Interviewees from the provincial government who had participated in supervision confirmed that most of the programmes mentioned by all interviewees, including raising catfish, ducks, goats, cows, pineapples, and ginger farms, were considered failures (interviews, 21). If fortunate, programmes typically last the initial 1-2 years, during which BRGM support is most prevalent. However, the programme usually is rapidly discounted (Interviews 1, 11, 12, 14, 16).

Again, local encounters and disputes contributed to problems coordinating the BRGM's activities. A unique case was found in the Indragiri Hilir district, where the failure of a pineapple venture was associated with problems in overcoming the influence of the head of the village government, who pushed the selection of an unsuitable location (Interview, 16). By contrast, in Dumai, the village government officials felt excluded from BRGM revitalisation efforts. They thus felt no responsibility towards their success (Interviews, 11, 12), describing a lack of involvement, power and authority in monitoring. They highlighted poor coordination between themselves, municipal-level officials and the new BRGM community groups (Interview 11, 12). When asked whether the economic revitalisation programme was successful in Dumai, they answered bluntly, "We don't know, we only issued a formal letter for the formation of the community group that would implement the BRG programme, after that we never got any further progress updates" (Interviews, 11, 12). This situation was also confirmed by another interviewee (Interviews, 21).

Another finding is that, although these economic revitalisation programmes are varied, the same programme meets with failure in separate locations. For example, the ginger cultivation programme was adopted by community groups in several places due to perceptions that it would bring benefits in yield and income terms (Interviews, 1, 2, 13, 18). The three districts that chose to implement the ginger cultivation programme in our study all failed due to flooding, with designated locations abandoned and overgrown. This situation suggests a systemic failure, the choice of the wrong crop in the wrong place, rather than failures due to implementation in specific locations. In this context, measures to increase agronomic knowledge and the input of the Ministry of Agriculture in future rounds of livelihood programmes may be worth considering.

However, while many of the economic revitalisation efforts are considered failures, they remain popular. An interviewee stated that economic revitalisation was seen as being easier to implement than rewetting and revegetation programmes, especially for livestock and crops such as ginger and pineapple (Interviews, 21). There is a very widespread impression that economic revitalisation programmes are more profitable than rewetting and revegetation programmes (Interviews, 21). Local actors in community groups and local village government officials still want to be given the power and authority to run livelihood programmes in the future (Interview, 5, 13, 14, 16, 17, 18, 19). In the main, this enthusiasm appeared to stem from the short-term benefits accrued to individuals from these programmes. There was little, if any, great enthusiasm for revitalisation's environmental benefits. Similarly to the rewetting programme and revegetation programmes, short-term benefits such as temporary employment were the key to short-term support. However, others expressed concerns

that this should be accompanied by measures to support accountability and responsibility for the programme's success (Interview, 21).

4.3 Peatland MLG and local actors: A case of failed translation

Our research identified significant weaknesses in the planning and implementation of the 3Rs BRGM programme. Interventions have suffered failures due to a range of causes, however, it is evident that in the locations we examined, enhanced coordination and collaboration between different entities, the very things that the MLG model was intended to deliver via the BRGM programme, have not been achieved, and that this is a major factor contributing to the programmes poor results. This is reflected in the factors that have contributed to the project's failure before, during, and after implementation. Our interviews reveal a lack of adequate preparation, which led to practical problems; the selection of the wrong sites, plant species and products, problems with establishing and accessing markets for alternative products, inadequate advice and technical support and problems with budgets. At times, relatively basic pieces of advice and/or suggestions could have reduced the scale of the challenges facing the programme. Information concerning the best locations for plot sites, the scale and extent of which programmes could have been undertaken viably, the actual market potential of crops, and the realistic scale of budgets needed over time might have contributed to making specific interventions more robust and resilient. Conversely, the provision of better information and access to genuine participation in the form of control over budgets and genuine devolution of responsibility might have resulted in a wider understanding of the aims and objectives of BRGM in general and, in the case of specific elements in the programme, a greater degree of support over time.

While BRGM projects rapidly attracted positive evaluations during and after the initial period of operation, in the areas where we conducted research, we found that following an initial period in which take-up was widespread, the projects rapidly lost support - leading to the question of why? A crucial issue concerns how different actors' perceived interests informed their responses to the initiative. Many activities and programmes were soon either abandoned or, in some cases, modified for different purposes. Undoubtedly, this was linked to local issues concerning ownership and responsibility for the programme. However, based on the observations that we made, it is almost impossible to avoid concluding that a significant aspect of the rapid failure of the programmes after an initial period was strongly associated with actors' assessments of the benefits they could secure from the programme in the short term. Simply put, for many people in BRGM-targeted communities, the primary benefit and motivation for programme participation lay in its direct impact on income. Equally, for those charged with the development of BRGM and its delivery, success is defined in terms of a relatively small number of quantifiable statistics: the number of canal-blockings produced, the hectarage of revegetation, and the enterprises established. This appears to have informed a drive to be active rather than to necessarily be effective. This is consistent with tendencies observed elsewhere in which complex policy aims are reduced to measurable outputs to make them manageable (Varkkey & O'Reilly, 2019). At the same time, many of those we interviewed in district and village government failed to engage with the programme at all, concluding that it did not offer them much in the way of resources, power, or opportunity.

We can understand the development of BRGM in terms of an attempt to establish a new network arranged around the peatland restoration project. The development of this network required the introduction of new organisational forms and principles, and the enrolment of a number of actors into this network. This involved efforts to effect new

translations, during which some actors attempted to create and impose roles on others. In BRGM, we see the introduction of a new problematisation of the peatlands as vulnerable carbon sinks, in which the key problem to be addressed is that of degradation leading to fires and haze events. The problem thus defined suggests the primacy of specific solutions and policies encapsulated in relatively simple prescriptions linked to "raising the water table". Following from this, we can interpret the development of BRGM as a network involving efforts to define roles for different actors about this restoration problematisation (interessement) informed by ideas drawn from discourses on multilevel governance and environmental science. Separate roles and functions are mapped out for actors drawn from different layers of government and nongovernmental entities from the national to local levels, as well as for different non-human biotic and non-biotic actors, with specific expectations as to what constitutes a "good" species or client and how entities are expected to respond under the stimulus of interventions. We see in the administrative setup and operating procedures of BRGM efforts to "fix" relationships between actors in the new roles, not least via the means of control employed, such as formal decision-making mechanisms, control of finance and lines of communication, and access to information (enrolment). Finally, we see specific forms of mobilisation. A particular feature here is BRGM's representations of project performance via a limited range of quantitative indicators of short-term results.

However, the results of BRGM's work in the areas we examined suggest that efforts to achieve this translation were only ever partially attempted. Despite its claims to enhance collaboration and coordination via multilevel governance, BRGM opted to work primarily via provincially based and oriented officials in the organisation itself or the provincial government. By opting to establish its own separate and ad hoc BRGM community groups (albeit rubber-stamped by a formal letter from the village government), BRGM effectively excluded sub-provincial governance bodies from the operation of the programme from the district through to the neighbourhood level. With no stake in the programme, such organisations had a limited incentive to show interest in the programme's implementation or ongoing maintenance. In some cases, they might even have pushed to steer its implementation in ways that diminished the likelihood of success (by, for example, having the programme work on unsuitable and very marginal land). Ironically, BRGM emphasised the importance of multilevel inputs and a multisectoral approach. By establishing parallel bodies and structures, BRGM diminished local accountability and failed to enrol the established and permanent governance bodies, which could have played a role in sustaining the project over time. Instead, ad hoc bodies that could help deliver on its short-term programme aims in exchange for the income generated during the initial period of the programme implementation were brought into being. Financial concerns and the duration of this support were key factors. A lack of budget discouraged district officials from becoming involved. At the community level, however, it is the availability and duration of financial support that determines programme participation. Meanwhile, members of community groups and others received payments and other benefits by participating in programme activities. These activities occurred. However, little or no provision was made for the longer-term (and, from a political perspective, less eye-catching) tasks of maintaining these activities over time. Consequently, locals lost interest in the programme, and they were, in some cases, abandoned and, in others, adapted to different purposes.

In the case of the BRGM programmes, we studied, we do not see a change from one socio-technical regime to another, as hinted by Fatimah et al. (2023). The outcome was the partial enrolment of some actors in the BRGM network. Among governance actors, sectoral egoism and turf-marking behaviours undermined BRGM's ability to generate

collaboration and achieve synergies. There is little evidence that a sense of collective responsibility to save the peatlands was created. Equally, by primarily defining the peatland issues in its environmental terms, BRGM limited the input of potentially valuable partners such as the Ministry of Agriculture and village and district governments. While policy and scientific discussions of environmental affairs, including peatland ecosystem governance, often call for coordination and collaboration to generate "synergies" in policy (Violeta & Malaha, 2020). Several scholars have discussed the negative role of sectoral egoism and organisational rivalry in reducing the impact of policies aimed at peatland restoration in Indonesia (Baskoro et al., 2018; Martin et al., 2020; Robertua, 2022). By using multiple data collection techniques, this research yields similar findings. What this research adds to this is a greater understanding of how local actors and events shape policies at the local level.

We found that while local actors, especially community groups working at the site level, certainly wanted programmes to run smoothly and be successful. Their criteria for success vary widely from those of BRGM. Much as the latter may have been interested in water tables, we found that local actors were not enrolled in this project; rather, they incorporated elements of BRGM programmes into their projects instead. Community group members appreciated the 3Rs programme as far as it provided them with short-term benefits (Interviews, 2, 6, 13, 18). However, there is less evidence that they are invested in the programme's environmental aims. Critical questions here thus concern how we can enrol locals to commit to such programmes in the longer term. Given the capacity of such actors to deconstruct such interventions and ask extremely sharp questions concerning their costs and benefits, this is not simply a challenge of education and/or awareness raising. It requires tying environmental objectives to long-term, sustainable social and economic developmental benefits.

5. CONCLUSION

Multilevel governance is crucial in Indonesia's peat governance. The success of peatland MLG requires coordination and collaboration from all parties (Violeta & Malaha, 2020). However, poor multilevel governance and multilevel politics or policy implementation in Indonesia are familiar phenomena (Marquardt, 2014; Fossati, 2016; Myers et al., 2016). The BRGM's 3Rs programme in peatland represents an effort to create an ANT informed by multilevel governance principles and organised around the solution of peat-related environmental issues. However, the network has only been partially successful in securing the active involvement of those who are able to support the delivery of these objectives. This has contributed to poor coordination and power struggles among involved actors. This results in limited involvement of local actors, such as district and village governments. District governments, for example, are not engaged in the BRGM programme and do not have a similar programme to support the kind of activities BRGM undertakes. This is unfortunate, given that BRGM is a temporary and ad hoc arrangement while the district governments are permanent. District governments conveyed their disappointment at not being involved in managing the BRGM funds on multiple occasions during this study. Providing district-level actors with budget allocations from BRGM or other sources would give them some responsibility for the programme and engagement and foster their enrolment in the BRGM network.

However, despite challenges, BRGM programmes enjoy local support, and community groups hope the programme will continue providing them with temporary jobs. This research cannot be taken as evidence that the 3Rs BRGM programme has failed. What we can say is that the findings of our field observations in seven districts in Riau confirm that the BRGM 3Rs programme has not been running effectively in these

areas. We believe that a re-examination of several factors could make these programmes more effective. These include:

1. A reassessment of the scale of funding and duration of programmes. We believe our evidence demonstrates that both the duration and scale of funding need to be revised and increased.

2. Greater engagement with district governments. As we have seen, district governments are close to the villages and the public while retaining the resources to engage in significant policy action across multiple sectors. Making a sustainable political and budgetary commitment to support the involvement of district government in restoration activities could positively impact the lower levels of implementation. The Indonesian government is continuing to evolve its multilevel governance approach, involving multiple stakeholders in the development of its environmental policies. Currently, the government is encouraging the seven peat priority provinces in Indonesia, including Riau, to complete the Peat Ecosystem Protection and Management Plan (RPPEG) document. Riau is one of the priority provinces that had completed this document at the provincial level for the period of 2021-2049 (RPPEG Riau, 2021), and each district/city government in Riau is also working on this RPPEG document. These documents offer an opportunity to involve district government actors in peat governance.

3. An exploration as to whether a greater, genuine devolution of power to established and permanent governance bodies could support the long-term success of these projects. Inevitably, this must include a consideration of whether control and provision of finance should be shared with district and village governments.

4. A more explicit linkage between ongoing environmental measures and questions of economic and social development and justice. It is the case that the most popular element of the 3Rs programme is its measures linked to income. This requires further reflection. Local buy-in and support are critical for the long-term success of these interventions. Given that local people can exercise a considerable degree of agency in their response to such programmes, a means of ensuring a genuine, adequately funded economic dimension to such interventions is essential.

5. Greater, not lesser, integration should be explored. The problems and issues we observed in our research areas do not represent a failure of multilevel governance. Rather, what we see are flaws in how the approach is implemented. We believe that greater meaningful intervention could solve this problem by creating incentives for multiple actors to support the BRGM network.

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