

Chapter 3

Earth System Governance in Indonesia: An Initial Investigation



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Abstract Despite a growing scholarly interest internationally in the notion of earth system governance (ESG), the state-of-the-art of how the notion interacts in and with Indonesian academia has not been reviewed. The ESG notion is a paradigm that warrants the broader context of the Anthropocene and human-induced transformations of the entire earth system. Considering that Indonesia is one of the most important scholarly and empirical sites of investigation in Asia-Pacific, understanding the existing development of environmental governance with ESG can inform the corpus theory of sustainable futures. What does the notion mean in Indonesian academia? Which fields, disciplines, and networks have engaged with the notion? What are the alternative practices and directions of ESG emerging from and within the

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A. Triyanti et al. (eds.), *Environmental Governance in Indonesia*, Environment & Policy 61, https://doi.org/10.1007/978-3-031-15904-6_3

33

Indonesian academia? The chapter aims to offer an initial investigation by conducting a literature review with the following objectives: (1) to trace and evaluate the intellectual progression of the field of ESG from and within Indonesian academia, (2) to contextualize the theory and framework of ESG in the context of Indonesian academia, and (3) to identify gaps and offer reflections for future research. The chapter will review academic literature from the international database of Scopus and the Indonesian recognized national database of Garuda of the conceptual debates and discussion of ESG in the context of Indonesia. The chapter ultimately provides a summary, synthesis, and critical evaluation of the current body of knowledge about the ESG, within the broader context of environmental governance, in Indonesian academia and suggests future research.

Keywords Earth system governance · Anthropocene · Environmental governance · Literature review · Indonesia

3.1 Introduction

Despite growing scholarly interest in developing research, networks, and knowledge production with the notion of earth system governance (ESG), the state-of-the-art of how the notion interacts in and with Indonesian academia has not been reviewed. The notion of ESG is a paradigm that warrants the broader context of the Anthropocene and human-induced transformations of the entire earth system (Biermann, 2007; Burch et al., 2019). The current analysis with the “accumulation of knowledge” or “knowledge cumulation” (Newig & Rose, 2020) suggests the majority of knowledge production of ESG is produced in the global North, especially Europe and North America (Newig & Rose, 2021). Newig and Rose (2021) also indicate that even though East Asia and the Pacific region represent a significant body of knowledge production (considering the number of presentations, papers, and publication rate), they mainly originate from Australia and Japan.

Considering Indonesia is one of the most vulnerable regions in Asia-Pacific affected by climate emergency, disasters, and environmental degradation coupled with widening inequality, injustice, and weakening democracy (Dahiya & Das, 2020), an effort in evaluating the existing development of environmental governance with ESG will inform the corpus theory of sustainable development and future(s). What does the notion mean in Indonesian academia? Which fields, disciplines, and networks have engaged with the notion? What are the alternative practices and directions of ESG emerging from and within Indonesian academia?

This chapter offers an initial evaluation and reflection on the literature review and conceptual debates of ESG in the context of Indonesia and Indonesian academia. This chapter aims to present a reflective qualitative analysis with the following objectives: (1) to trace and evaluate the intellectual progression of the field of ESG from and within Indonesian academia, (2) to contextualize the theory and framework of ESG in the context of Indonesia and/or Indonesian academia, and (3) to identify

gaps and offer reflections for future research. The significance of the study is to offer an intellectual map of the interaction of ESG in the context of Indonesia and Indonesian academia and initial indications of ESG in influencing debates and knowledge production in the context of Indonesia and Indonesian academia.

The chapter reviewed academic literature from the international database of Scopus and the Indonesian recognized national database of Garuda.¹ The methodology used in this chapter is mainly based on literature review, especially looking at (combination of) general and specific keywords based on the contextual conditions and research lenses covered in the ESG framework with Indonesia as an empirical focus. The authors also used the term “environmental governance” in Indonesia to check an assumption that the concept is more familiar to Indonesian scholars. Two recognized scientific electronic databases were selected: (1) Scopus for the English language literature and (2) Garuda Portal for the literature in the Indonesian language (Bahasa Indonesia), with the search procedure combining the search terms in the titles, abstracts, and keywords. Search queries include “inequal” or “Anthropo*” or “Democra*” and “Power” or “Justice” and “Allocat*” or “Anticipat*” and “Imagina*” or “Climate change” combined with “Earth System Governance” or “Environmental Governance” or “governance” in Scopus and “Earth System Governance” or “Struktur Tata Kelola Lingkungan” or “Struktur Lingkungan” or “Politik Lingkungan” or “Antisipasi Perubahan Iklim” or “Skenario Perubahan Iklim” or “Keadilan Lingkungan” or “Transformasi Lingkungan” or “Keadilan Sumber Daya Alam” or “Transformasi Lingkungan” or “Antroposen” or “Tata Kelola Lingkungan” and “Environmental Governance” in Garuda Portal. Deductive analysis of the literature was then applied with the purpose of providing a general overview or scanning of the status of the ESG in Indonesia and/or Indonesian academia.

The authors designed the procedure with the bibliographic portfolio, which involved inclusion and exclusion criteria, to the results retrieved with the intended subject for knowledge development. Two criteria were selected: relevance to the study and availability, with no time-period limitation. Manual screening of the titles and abstracts was conducted to check the alignment with the subject of interest. On the relevance to the study, it was limited to studies addressing ESG/environmental governance and excluded, for example, articles reporting on corporate governance, which has limited relations with underlying environmental problems. The screenings yielded a total of 55 and 55 articles in Scopus and Garuda, respectively. Purposive sampling was performed for full-text analysis, selecting representative articles from each research lens and excluding remaining articles with similar topics. Whenever possible, highly cited articles were included in the review. Finally, as a result, 20 articles from each database were reviewed using the ESG framework to analyze the contextual conditions and research lenses as well as the intellectual progression of ESG in Indonesia and/or Indonesian academia.

¹ Garba Rujukan Digital, or known as Garuda Portal, is a database of 1.7 million articles collected from 2546 publishers, 13,532 journals, and 170 conferences as of January 2022, managed by Indonesian Ministry of Education, Culture, Research and Technology. The portal is accessible via <https://garuda.kemdikbud.go.id/>

In the following sections, the chapter provides a summary of the background and research framework with ESG focusing on the framework, specifically on contextual conditions and research lenses. It is followed by the results of the analysis on the initial indication of ESG in Indonesia and Indonesian academia. Following this, the chapter discusses the reflections, gaps, and suggestions for future research. As an initial qualitative evaluation and reflection, the chapter offers a summary, synthesis, and critical evaluation of the current body of knowledge with ESG within the broader context of environmental governance in Indonesia and Indonesian academia.

3.2 Earth System Governance in a Nutshell

The ESG project is a global initiative launched in 2009 by a global alliance of social scientists to advance understanding of the governance to address the current transition of the earth system (Biermann et al., 2009). The project defines ESG as the interrelated system of formal and informal rules, rule-making mechanisms, and actor-networks at all levels of human society (from local to global) that are set up to prevent, mitigate, and adapt to environmental change and earth system transformation (Biermann et al., 2009).

3.2.1 Research Framework

After 10 years of implementing the previous framework, since 2018, the ESG scholars have recently published new directions and reformulated the framework of earth system governance research.² This new ESG research framework is composed of both “the contextual conditions, which captures what is being observed, and research lenses, which offer analytical power by engaging with these conditions that fundamentally shape earth system governance scholarship” (Burch et al., 2019, p. 3). These two analytical procedures are the main analytical inquiry that this chapter will analyze when tracing and evaluating ESG from and within Indonesian academia and contextualizing ESG in the context of Indonesia and/or Indonesian academia.

3.2.2 Contextual Conditions

The new direction will be attributed to four key contextual conditions: (1) transformations, (2) inequality, (3) Anthropocene, and (4) diversity.

² See <https://www.earthsystemgovernance.org/people/new-directions/>

Transformations Burch et al. (2019, p. 3) define transformations as “shifts that involve fundamental changes in structural, functional, relational and cognitive dimensions of linked socio-technical-ecological systems.” The study of transformations can be approached in several ways: analytically, normatively, or critically (Burch et al., 2019). Crucially, transformations imply changes in power relations. The new research directions recommend three different angles to comprehend the role of governance concerning sustainability transformation: governance for transformation, governance of transformation, and transformation in governance (Burch et al., 2019).

Inequality The new direction of ESG argues that the increasing and multifaceted inequalities across and within countries and socio-economic groups result from unjust procedural and distributive justice systems at multilevel governance. The research challenge is to discover “how inequality is embedded in the complex interactions of governance (actors, sectors, interests, forums, scales, technologies, etc.); within unpredictable natural systems; and in the context of competing economic (Ehresman & Okereke, 2015) and political pressures to allocate limited resources” (Burch et al., 2019, p. 5). Additionally, the new direction recommends developing studies “to understand how structural inequalities, power imbalances and intersecting axes of privilege and marginalization shape vulnerabilities to global environmental change and, in turn, are shaped by them” (Burch et al., 2019, p. 5).

Anthropocene Burch et al. (2019) support the notion that human activity has rapidly transformed the earth system from Holocene to the Anthropocene epoch since the “Great Acceleration” post-World War II era. This change considerably requires understanding not only about environmental governance in general but specifically about earth system governance. The Anthropocene involves three fundamental challenges for earth system governance research: urgency, responsibility, and complexity. These three research challenges are common issues to environmental governance but have become particularly globally intensifying under the conditions of the Anthropocene (Burch et al., 2019).

Diversity The new research directions emphasize considering that “the different directions in which societies can be steered result from power struggles and diversity in worldviews, knowledge systems, values and norms, and ecosystems” (Burch et al., 2019, p. 6). The diversity in norms and knowledge systems can be viewed in two opposite ways, an asset or a danger for just and ecologically sound governance. Thus, participation of different actors with norms, worldviews, and knowledge systems diverse in governance processes is prominent. The challenge is how to create and maintain decision-making processes that are at the same time inclusive and efficient. Thus, further research needs to “analyze, theorize, and criticize how diversity affects earth system governance practice” (Burch et al., 2019, p. 6).

3.2.3 *Research Lenses*

The new direction of the ESG research framework consists of five sets of interconnected research lenses: (1) architecture and agency, (2) democracy and power, (3) justice and allocation, (4) anticipation and imagination, and (5) adaptiveness and reflexivity.

Architecture and Agency This research lens aims to understand the institutional frameworks and actors implicated in earth system governance and how these institutions and actors resist or respond to change and evolve (Burch et al., 2019). Based on Biermann et al. (2009, p. 31), governance architecture is defined as “the interlocking web of widely shared principles, institutions and practices that shape decisions at all levels in a given area of earth system governance.” Three prominent themes are fragmentation, complexity, and polycentricity. Meanwhile, agency refers to the capacity of public actors and nonstate actors (at local, national, and international levels) to respond to global change and how actors’ capacity may be changing in responding to new governance demands created by earth system transformation (Biermann, 2007). Burch et al. (2019) recommend studies on the interplay between architecture and agency to comprehend institutional dynamics, relationships, and change in governance systems.

Democracy and Power Burch et al. (2019, p. 9) believe that democracy promises peaceful means to distribute “political power among citizens and transfer power to their representatives and a means of curtailing the arbitrary exercise of power.” Democracy can be understood as a quality of state institutions and as extended to nonstate actors and hybrid forms of governance at local, national, and global levels (Burch et al., 2019). Research on intersections between global, national, and local democracy is necessary because the legitimacy of national representatives in multilateralism depends on the legitimacy of domestic processes for forming collective preferences. Additionally, the relationship between democracy and sustainability has been a focal theme of environmental–political theory amidst the resurgence of populism and authoritarianism, often with anti-environmental views (Burch et al., 2019). It is urgent for “future research in earth system governance to examine whether new conceptions of democracy and power can help make sense of and craft responses” to these circumstances (Burch et al., 2019, p. 8).

Based on Barnett and Duvall (2005, p. 42), power is defined as the “production, in and through social relations, of effects that shape the capacities of actors to determine their circumstances and fate.” Research focus on power is required to illuminate how different forms of unequal power are generated and sustained in institutions for global environmental governance. This research focus raises plentiful new research questions, including: “How can interlinkages between accountability, legitimacy, and transparency as key qualities of governance arrangements be conceptualized and realized? Under what conditions does transparency contribute to more accountable and legitimate earth system governance?” (Burch et al., 2019, p. 9).

Justice and Allocation Burch et al. (2019) urgently recommend constructing a systematic analytical, philosophical, and empirical investigation on justice, and its core allocation demand, as it becomes crucial political and social concern. Hence, they consider conceptualizing justice in three dimensions: intergenerational (between generations), international (between states and regions), and intersectional (between groups/categories in society) (Jerneck et al., 2011, see in Burch et al., 2018, p. 61). For ESG, the institutions responsible for distributing such costs and benefits across different generations, nation-states, and different groups in global societies are paramount for achieving justice as allocation. Scholars contend that two other elements are essential to materialize justice as allocation: recognition and representation (Fraser, 2001, see in Burch et al., 2019).

According to Burch et al. (2019), the interplays between justice and allocation research lenses might ignite studies on “what governance types may effectively and ineffectively channel personal, regional, national and global world views towards more sustainable approaches to environmental rights and obligations? What kind of identified trade-offs may occur between the different dimensions of justice and allocation?” (Burch et al., 2019, p. 11).

Anticipation and Imagination The new ESG research directions envisage studies on anticipation and imagination as vital for examining “how to govern ... diverse anticipation processes” and “scrutinize how anticipation itself becomes a site of politics and governance” at multiple levels (Burch et al., 2018, p. 61). Based on Gupta (2001, 2011) and Guston (2010), Burch et al. (2019, p. 11) define anticipatory governance as “the evolution of steering mechanisms in the present to govern future earth system transformations in the face of extreme normative and scientific uncertainty and conflict over the very existence, nature and distributive implications of such transformations.” Scholars refer to the imagination as an essential means of governance that addresses challenges that appear to be barely solvable using traditional modes of decision-making (Rittel & Webber, 1973; see in Burch et al., 2019, p. 12).

Burch et al. (2019) propose further research on anticipating and imagining diverse futures through modeling, integrated assessments, foresight, and scenario building. An essential research niche is to analyze “how processes of anticipation relating to environmental transformations are themselves being governed, i.e. who is steering them, to what end, and through what deliberative or representative processes” (Burch et al., 2019, p. 12).

Adaptiveness and Reflexivity Burch et al. (2019) envisage studies on adaptiveness and reflexivity are paramount for understanding how societies can navigate change toward global sustainability. According to Biermann et al. (2009, p. 45), adaptiveness refers to “changes made by social groups in response to, or in anticipation of, challenges created through environmental change.” Burch et al. (2019) refer to Dryzek (2016), who mentioned ecological reflexivity as “a critical competence for reshaping institutions in the Anthropocene” that consisted of two orders: “first order reflexivity (whereby institutions generate effects that feedback on themselves)

and second-order reflexivity (whereby institutions build a capacity to critically scrutinize their own practices)” (Voß & Kemp, 2006, pp. 6–7). Moreover, the scholars recommend three future research topics related to the nexus of adaptiveness and reflexivity: navigating tensions between stability and flexibility (Biermann, 2007, p. 331), addressing globally networked risks, and reshaping governance systems at all scales within the Anthropocene (Burch et al., 2019, p. 13).

3.3 Early Indications and Development of Earth System Governance in Indonesia

This section informs the detailed context of the study and explains the results of the analysis, with two objectives: (1) to trace and evaluate the intellectual progression of the field of ESG from and within Indonesian academia (country of origins, affiliation, type of article, type of questions and methodology) and (2) to contextualize the theory and framework of ESG in the context of Indonesia and/or Indonesian academia (from four contextual conditions and five research lenses).

3.3.1 Early Indications of ESG Intellectual Progression

The initial analysis with the trace and intellectual progression of ESG from and within Indonesia is shown in Table 3.1. The authors identified that the dominant type of article covered in the Scopus database is a combination of conceptual and empirical papers that are aimed at evaluating certain governance qualities, while in Garuda Portal, they are more diverse. Furthermore, research published in Garuda Portal mainly addresses the type of question on governance through a descriptive approach. The dominant method employed in papers published both in international journals in Scopus and Indonesian journals in Garuda Portal on ESG in Indonesia is mainly the qualitative method. Furthermore, the authors also found that researchers who published articles in international journals in Scopus on ESG and Indonesia are mostly affiliated with institutions outside of Indonesia. While on the opposite, the state-of-the-art of knowledge on ESG in Indonesia is dominated by the university network affiliated to some extent within the outreach of the ESG network.

3.3.2 Contextual Conditions

In this section, the way contextual conditions of ESG are perceived in the existing literature from both Scopus and Garuda Portal databases was analyzed. Four ESG contextual conditions are explained below: transformation, inequality, Anthropocene, and diversity.

Table 3.1 The landscape of early indications of ESG research

	Scopus	Garuda portal
Number of articles	20	20
Country of origin of the first author	Indonesia: 1 Others: 19	Indonesia: 19 Others: 1
Type of affiliation of the first author	University: 17 Other institutions: 3	University: 19 Other institutions: 1
Type of article	Combination of empirical and conceptual: 18 Combination of conceptual and literature review: 2	Empirical: 7 Combination of methodological and conceptual: 1 Literature review: 6 Agenda-setting: 2 Perspective: 8
Type of questions on governance	Evaluation: 8 Descriptive: 12	Descriptive: 20
Methodology	Qualitative: 19 Mixed: 1	Qualitative: 13 Mixed: 1 Theoretical: 4

Transformations Transformations were generally mentioned to contextualize, describe, and explain approaches relevant to the study the authors were reporting on (Dharmawan, 2007; Putri et al., 2013). This includes local environmental governance, community-based environmental management, and socio-human-ecology approach. In one article, the authors attempted to juxtapose the ESG concept in the education sector (Wulandari et al., 2019). The term transformations is described as both a driver of and response to environmental governance challenges in Indonesia. For example, socio-economic transformation as a driver is explained in the case of expansion of mining, which causes resources conflict between mining and forest sector in East Kalimantan (Thaler & Anandi, 2017) and land grabbing in Kapuas River, which transforms the area “from a space of life and livelihood to one of illness and ecological collapse” (Pye et al., 2017, p. 378). As a response to these types of anthropogenic transformations, the effort to deal with the problems should also be transformative. A case in point is the intensified flood hazards in Jakarta, which need “deeper societal debate” to define the desired flood risk reduction pathways combined with development planning. It may require transformative actions such as a planned retreat strategy (Garschagen et al., 2018). In general, there is a lack of in-depth attention to fundamental changes related to the combination of socio-technical-ecological systems defined by transformations in ESG. Most articles approached the concept in a normative way and less analytically nor critically. Specific to findings from the Indonesian Garuda database, the role of governance in sustainable transformations from multiple angles remains underexplored and underdeveloped.

Inequality Based on the existing literature from both the Indonesian Garuda Portal and the International Scopus databases, inequality is perceived as a contextual, underlying condition that exacerbates environmental governance problems in

Indonesia. Since the decentralization era, inequality problems became more accentuated, local governmental capacity was reduced, which faltered the delivery of local government services (Butler et al., 2014). Many underlying inequality problems are related to poverty and unequal distribution of benefits to the disadvantaged, including women, land-less, and poor female-headed families (Butler et al., 2014). The issue of inequality is prominent, especially in the case of natural resources management, inherited by the socio-cultural and political system in Indonesia. In articles retrieved from Garuda Portal, there is a distinctive legal perspective in approaching and contextualizing inequality issues. These articles generally characterize inequality as a product of unjust procedural and distributional justice. For example, environmental inequality is deemed as a result of impartial and lack of transparency in legal processes and contradictory forces and outcomes of national and local politics (Pigome, 2011). The majority of articles addressed inequality in terms of unequal access to resources and unequal share of burdens from environmental harms, especially looking at local communities (Aguw, 2013; Harahap, 2018).

Anthropocene Furthermore, the concept of Anthropocene is fairly new and has not been frequently utilized in the current literature, especially specific to the Indonesian case. In general, there is a lack of multifaceted discussion and empirical research that contextualizes the main challenges of environmental governance under the conditions of the Anthropocene as well as links them with potential dilemmas aside from justice, such as democracy and institutional reforms. To some extent, there is awareness of the concept among scholars working on the case of Indonesia, but they are limited. One of the examined articles discusses the concept of Anthropocene from the lens of climate change, in which the paper highlights the positionality of Indonesia as one of the largest emitters of greenhouse gas and therefore driving the Anthropocene (Höhne et al., 2018). Through our search within the Indonesian Garuda Portal, although the term Anthropocene is not literally adopted, some studies have touched upon the potential conflicts between the political-economic system in Indonesia and the transformation embodied by the Anthropocene, for example, the existing application of socio-ecological approaches in environmental governance, such as the green and blue economy (Purwendah et al., 2020).

Diversity Diversity is interpreted in different ways in the literature. It relates not only to the diversity of systems (social, ecological, economic, cultural, and institutional) but also to responses to deal with environmental problems. Observed articles present prominence to diversity from the perspective of desired governance strategies that influence outcomes, particularly on the inclusiveness of actors, knowledge, and traditional values that are often excluded (Guarnacci, 2012; Kubo et al., 2019; Syafi'i, 2018). There is a need for more empirical research that identifies, understands, and contextualizes normative diversity in different ecological contexts. Notably missing is an emphasis on diversity from an ontological standpoint, including embracing diversity as a more nuanced approach outside of social diversity.

3.3.3 *Research Lenses*

The ESG research lenses comprise five lenses: architecture and agency, democracy and power, justice and allocation, anticipation and imagination, and adaptiveness and reflexivity. This section outlines how observed papers from Scopus and Garuda Portal utilized these research lenses.

Architecture and Agency Across observed articles from Garuda Portal and Scopus on architecture and agency, hierarchical systems characterized governance modes and legal systems. In articles addressing newly decentralized countries, authors have pointed out the issue of fragmentation and capacity (Kubo et al., 2019), for example, inadequate and inappropriate legal framework and institutional arrangement (Sahri et al., 2020) and legal disconnects due to decentralization of resource management and its implementation (Kusumawati & Visser, 2014). Findings also suggest that new actors are introduced into governance systems, including nongovernmental organizations (NGOs), international organizations, grassroots communities, and youth. This does not necessarily lead to more research focusing on architecture and agency. In practice, instead of focusing on architecture, more emphasis is given to discussing the agency, particularly of those nonstate actors in influencing environmental decision-making processes, such as NGOs (Wibisana, 2017) and youth (Astuti, 2019). Moreover, despite the fragmented and complex system currently in place identified as one of the major issues in governing the environment in Indonesia and increasing participation of new actors, the authors noted a lack of discussion on polycentricity on the governance systems.

Democracy and Power Articles analyzing the environmental governance from democracy and power uncovered the strong influence from the local elites that is prevalent in Indonesia. Some of those articles identify the increasing effort of democratization permeating the environmental governance system. It is worth noting that from the Garuda Portal database, several articles have utilized democracy and power lens to describe empirically the struggles between democracy and sustainability, particularly on public involvement in environmental decision-making (Putri et al., 2013; Kamim, 2017; Astuti, 2019). There is consensus among these articles that public participation, especially among those who are often marginalized, such as the community, is key to improving the quality of decisions by harnessing the knowledge of communities. Meanwhile, in the Scopus database, several articles have also discussed democracy and power. In general, the concept is well accepted but hard to implement in the case of environmental governance. A case in point is the study conducted by Kooy and Walter (2019) on urban drinking water supply in Jakarta, the capital city of Indonesia. Through the lens of political ecology, the paper concluded that the regional trend for privileging large capital, foreign firms, and cronies while maintaining a tightly controlled, top-down style of governance is a major hurdle for broadening the distribution of growth and opportunity, especially in the water sector. The argument was also supported by Rahayu et al. (2019) through a study in the same sector, urban water governance. They revealed

that significant inequality and unilateral control of water resources are inherited from a strong authoritarian, centralized government political culture.

Justice and Allocation Justice and allocation are quite common in the observed articles from the Garuda Portal database, especially from the perspective of corrective (Wibisana, 2017; Said & Nurhayati, 2020) and procedural justice (Aguw, 2013; Sagama, 2016). Across both databases, findings suggest that the discussion on justice in Indonesia is more focused on the legal culture, such as democratic and responsive legal politics and legal norms, rather than the overall systemic analysis of justice and allocation practices. Allocation and access complexity are associated with power relations within the hierarchical systems, implying the challenges facing equitable redistribution of power prevalent in the country (McCarthy, 2014), especially at the local level (Djalante, 2012). Observed articles also point out that the conflicting views of the role and domination of the state and the ecological justice system are nuanced in the context of the Indonesian legal system, which affects the fair compensation of environmental damage (Purwendah et al., 2020). Existing studies have attempted to explore the complex interactions and dynamics of a resource through what is considered legitimate and fair by users, for example, in the case of outsider small-scale fishers' access to Berau waters, which is legal based on the national law. However, it is seen as "illegitimate and illicit" by the local fishers' community and the international NGO that aims to create marine conservation areas and curb the overexploitation of fish in Berau coastal areas (Gunawan & Visser, 2012). Conflicting and contradicting perspectives on international, intergenerational, and intersectional dimensions still appear to have little influence on the research environment in Indonesia. Among the analyzed articles, one article examines how public-private partnerships can play an essential role in implementing intergenerational equity (Wibisana, 2017).

Anticipation and Imagination There is a lack of studies foregrounding anticipation and imagination in Scopus databases. Some studies under the topic of climate change discussed only on a theoretical level or related them with anticipation and imagination to respond to physical system dynamics. None of the observed articles retrieved from Garuda Portal use anticipation and imagination as a research lens.

Adaptiveness and Reflexivity Concerning adaptiveness and reflexivity, there is a similar state of lacking studies, especially those focusing on reflexivity. Among available articles using the adaptiveness perspective, they are discussed to some extent under climate change and disaster risk reduction topics. This is despite abundant research focusing on climate change adaptation. Adaptiveness is also generally studied from the social learning angle, such as integrating community-based environmental management into early childhood education (Wulandari et al., 2019). Moreover, in Indonesia, especially in the case of disaster risk reduction, adaptive capacity improvement seems to be driven by nongovernment organizations. These organizations have been involved in various pressing issues such as poverty alleviation, environmental management, gender strengthening, and governance. These

experiences equip organizations to be flexible yet robust enough to respond to changes and uncertainties. Interviews with these organizations revealed strong collaboration and coordination at the local and national levels (Djalante, 2012). In forest management, the use of adaptive management is highlighted to increase effective forest governance, which requires flexible and multiple policy approaches (Kubo et al., 2019). Maladaptation and critical scrutiny of prevailing values and practices remain underexplored topics, along with studies on the reflexivity of Indonesian environmental governing systems.

3.4 Reflections, Gaps, and Future Research Agenda

In the previous section, the authors have traced and evaluated the intellectual progression of the field of ESG from and within Indonesian academia as well as contextualized the theory and framework of ESG in the context of Indonesia and/or Indonesian academia. This section, thus, focuses on how these initial investigations and findings reflect and offer implicit insights for current research and policy in Indonesia and/or Indonesian academia as well as future research agenda. Two key areas are highlighted on reflections and gaps of ESG and further outline future research agenda to inform scholars, academia, practitioners, and policymakers working across the field. This is particularly critical to recognize the importance and dynamics of how ESG interacts, intertwines, or is in conversation with scholars working in Indonesia and/or Indonesian academia to revisit and reorient environmental governance in Indonesia.

In terms of reflection and gaps from ESG, this chapter discusses these from the perspective of knowledge production, our positionality as researchers working on ESG and international actors to influence the ESG debates and development in Indonesia as well as the progress of the field from Indonesia and/or Indonesian academia. *First*, the authors recognize that the cumulative knowledge of ESG is currently widely imbalanced and produced mainly by international scholars. While Indonesian scholars started to engage with both the contextual conditions and research lens of ESG, they have yet further asked how knowledge is produced, who set up the research agenda and how networks developed. A clear example of the term Anthropocene and how it is “translated” has not been embedded within Indonesian academia to inform its application and context. *Second*, the authorship positionality as scholars working across the field of ESG, from justice, water governance, and sustainable development to climate change adaptation, who are based in the Global North institutions or research centers, necessitates further investigation. There are at least eight Indonesian scholars³ who have ties with the ESG network and engage either as research fellows or in the working groups, but how these

³These eight Indonesian scholars with ties to the ESG network are Riyanti Djalante, Jonatan A. Lassa, Erwin Nugraha, Mahesti Okitasari, Abidah Setyowati, Annisa Triyanti, Ahmad Rizki Mardhatillah Umar, and Yanuardi Yanuardi.

scholars work and interact with Indonesian academia will require more in-depth research. These gaps include how training and capacity development are available and expand beyond the current scholars, and the connection is made and maintained between Indonesian scholars who are based in the global and national or local level. *Third*, there are significant gaps in the current ESG debate and discussion, mainly informed by environmental policy or management instead of environmental governance; for example, lack of debate on the combination of socio-technical-ecological systems in transformations or a narrow focus on inequality on unequal access to resources. With regard to public participation in environmental governance, there is a significant observation of “pseudo”-participation, which is mainly procedural without deepening reflection and tends to be centered around centralized control.

The authors also want to emphasize scholars, academia, practitioners, and policymakers concerning ESG with further research agenda and invite them to reiterate the importance and significance of realizing this research agenda in order to foreground ESG in a more diverse, in-depth, and critical manner to inform policy and practice. However, the authors are aware that this chapter is an initial investigation of the field and does not cover the whole landscape of the field and literature, and they want to highlight the agenda as potential future work. *First*, the authors encourage expanding the “accumulation of knowledge” (Newig & Rose, 2020, 2021) to be more representative and engage in inclusive co-production of knowledge. This agenda would mean re-thinking the “co” as reflected by Howarth et al. (2022), in producing ESG knowledge to inform and influence environmental governance in Indonesia and Indonesian academia and create an equal global partnership in research and policy development. *Second*, the authors invite more critical knowledge production and production of indigenous knowledge and representation, for example, storytelling, narrative, and everyday life. This agenda is also to reiterate our attendance and focus on societal transformations and inter-/transdisciplinary research, especially concerning Indonesia’s current state of progress, that to a certain extent, shifting from decentralization to re-centralization in environmental governance across different sectors (forest, natural resources, disaster). It is to inform more critical research toward ontological, epistemological, and critical ways of knowing ESG in Indonesia and/or Indonesian academia, for example, lack of understanding with diversity, justice and allocation, anticipation and imagination, and adaptiveness and reflexivity. *Third*, the authors suggest paying more attention to future thinking by exploring the concept of the Anthropocene as a contextual condition and incorporating anticipatory and transformative types of governance approaches as research lenses for the ESG framework and the environmental governance field. These are important concepts and lenses to deal with more complex and uncertain earth systems and environmental challenges in the future. *Fourth*, the authors suggest galvanizing connection, network, and research partnerships across the ESG community to shape and create equal and inclusive research settings and implementation. Engagement with ESG Asia Pacific Working Group is an important channel to facilitate this process to bridge the science-policy-practice to Indonesian research communities and vice versa, for example, U-INSPIRE Indonesia, Resilience Development Initiative, and Universitas Negeri Yogyakarta.

Finally, seeing these research agendas materialize in expanding research in ESG and/or informing research in environmental governance in Indonesia and Indonesian academia would be a significant step to further advance the field toward a just and inclusive planetary future.

Acknowledgments The authors are grateful for the generous comments and constructive suggestions from reviewers.

References

- Agu, Y. O. (2013). Pengaturan pemanfaatan sumber daya alam laut dan pesisir berbasis penegakan hukum dan keadilan. *Lex et Societatis*, 1(5), 144–153.
- Astuti, R. (2019). Keadilan inter-generasi, malapetaka lingkungan, dan pemuda di era Antroposen. *Jurnal Studi Pemuda*, 8(2), 167–173. <https://doi.org/10.22146/studipemudaugm.48576>
- Barnett, M., & Duvall, R. (2005). Power in international politics. *International Organisation*, 59(1), 39–75. <https://doi.org/10.1017/S0020818305050010>
- Biermann, F. (2007). ‘Earth System Governance’ as a crosscutting theme for a global research. *Global Environmental Change*, 17, 326–337. <https://doi.org/10.1016/j.gloenvcha.2006.11.010>
- Biermann, F., Betsill, M. M., Gupta, J., Kanie, N., Lebel, L., Liverman, D., Schroeder, H., & Siebenhüner, B. (2009). *Earth system governance project people, places, and the planet: Science and implementation plan of the Earth system governance project* (Earth system governance project report no.1, IHDP report no. 20). Retrieved February 4, 2022, from <https://www.earthsystemgovernance.org/wp-content/uploads/2010/03/Biermann-et-al.-2009-Earth-System-Governance-People-Places-and-the-Planet.-Science-and-Implementation-Plan-of-the-Earth-System-Gove.pdf>
- Burch, S., Gupta, A., Inoue, C. Y. A., Kalfagianni, A., & Persson, Å. (2018). *Earth system governance: Science and implementation plan of the earth system governance project*. Earth System Governance, Utrecht, the Netherlands.
- Burch, S., Gupta, A., Inoue, C. Y. A., Kalfagianni, A., Persson, A., Gerlak, A. K., Ishii, A., Patterson, J., Pickering, J., Scobie, M., Van der Heijden, J., Vervoort, J., Adler, C., Bloomfield, M., Djalante, R., Dryzek, J., Galaz, V., Gordon, C., Harmon, R., et al. (2019). New directions in earth system governance research. *Earth System Governance*, 1, 100006. <https://doi.org/10.1016/j.esg.2019.100006>
- Butler, J. R. A., Suadnya, W., Puspadi, K., Sutaryono, Y., Wise, R. M., Skewes, T. D., Kirono, D., Bohensky, E. L., Handayani, T., Habibi, P., Kisman, M., Suharto, I., Hanartani, S., Supartarningsih, S., Ripaldi, A., Fachry, A., Yanuartati, Y., Abbas, G., & Ash, A. (2014). Framing the application of adaptation pathways for rural livelihoods and global change in eastern Indonesian islands. *Global Environmental Change*, 28, 368–382. <https://doi.org/10.1016/j.gloenvcha.2013.12.004>
- Dahiya, B., & Das, A. (2020). New urban agenda in Asia-Pacific: Governance for sustainable and inclusive cities. In B. Dahiya & A. Das (Eds.), *New urban agenda in Asia-Pacific* (pp. 3–36). Springer.
- Dharmawan, A. H. (2007). Dinamika sosio-ekologi pedesaan: Perspektif dan pertautan keilmuan ekologi manusia, sosiologi lingkungan dan ekologi politik. *Sodality: Jurnal Transdisiplin Sosiologi, Komunikasi, dan Ekologi Manusia*, 1(1), 1–40.
- Djalante, R. (2012). Adaptive governance and resilience: The role of multi-stakeholder platforms in disaster risk reduction. *Natural Hazards and Earth System Sciences*, 12(9), 2923–2942. <https://doi.org/10.5194/nhess-12-2923-2012>

- Dryzek, J. S. (2016). Institutions for the Anthropocene: Governance in a changing earth system. *British Journal of Political Science*, 46(4), 937–956. <https://doi.org/10.1017/S0007123414000453>
- Ehresman, T., & Okereke, C. (2015). Environmental justice and conceptions of the green economy. *International Environmental Agreements: Politics, Law and Economics*, 15(1), 13–27. <https://doi.org/10.1007/s10784-014-9265-2>
- Fraser, N. (2001). Recognition without ethics? *Theory, Culture & Society*, 18, 21–42. <https://doi.org/10.1177/02632760122051760>
- Garschagen, M., Surtiari, G. A. K., & Harb, M. (2018). Is Jakarta's new flood risk reduction strategy transformational? *Sustainability*, 10(8), 2934. <https://doi.org/10.3390/su10082934>
- Guarnacci, U. (2012). Governance for sustainable reconstruction after disasters: Lessons from Nias, Indonesia. *Environmental Development*, 2(1), 73–85. <https://doi.org/10.1016/j.envdev.2012.03.010>
- Gunawan, B. I., & Visser, L. E. (2012). Permeable boundaries: Outsiders and access to fishing grounds in the Berau marine protected area. *Anthropological Forum*, 22(2), 187–207. <https://doi.org/10.1080/00664677.2012.694173>
- Gupta, A. (2001). *Searching for shared norms: Global anticipatory governance of biosafety*. Unpublished doctoral dissertation, Yale University, Graduate School of Arts and Sciences.
- Gupta, A. (2011). An evolving science-society contract in India: The search for legitimacy in anticipatory risk governance. *Food Policy*, 36, 736–741. <https://doi.org/10.1016/j.foodpol.2011.07.011>
- Guston, D. (2010). The anticipatory governance of emerging technologies. *Journal of the Korean Vacuum Society*, 19, 432–441. <https://doi.org/10.5757/JKVS.2010.19.6.432>
- Harahap, H. I. (2018). Peluang masyarakat pesisir di kampung nelayan dalam upaya meningkatkan kemandirian ekonomi melalui pendekatan politik lingkungan. *Jurnal Masyarakat Mandiri*, 2(2), 143–148. <https://doi.org/10.31764/jmm.v0i0.1347>
- Höhne, C., Fuhr, H., Hickmann, T., Ledere, M., & Stehle, F. (2018). REDD+ and the reconfiguration of public authority in the forest sector: A comparative case study of Indonesia and Brazil. In E. O. Nuesiri (Ed.), *Global forest governance and climate change* (Palgrave studies in natural resource management) (pp. 203–241). Palgrave Macmillan. Available from: https://doi.org/10.1007/978-3-319-71946-7_8
- Howarth, C., Lane, M., Morse-Jones, S., Brooks, K., & Viner, D. (2022). The 'co' in co-production of climate action: Challenging boundaries with and between science, policy and practice. *Global Environmental Change*, 72, 102445. <https://doi.org/10.1016/j.gloenvcha.2021.102445>
- Jerneck, A., Olsson, L., Ness, B., Anderberg, S., Baier, M., Clark, E., Hickler, T., Hornborg, A., Kronsell, A., Lövbrand, E., & Persson, J. (2011). Structuring sustainability science. *Sustainability Science*, 6(1), 69–82. <https://doi.org/10.1007/s11625-010-0117-x>
- Kamim, A. B. M. (2017). Perwujudan sistem politik intrakomunitas dan sinergi pengelolaan lingkungan: Studi kasus bank sampah *Gardu Action*, Mancingan XI, Parangtritis, Bantul. *Political*, 8(1), 20–37.
- Kooy, M., & Walter, C. T. (2019). Towards a situated urban political ecology analysis of packaged drinking water supply. *Water*, 11(2), 225. <https://doi.org/10.3390/w11020225>
- Kubo, H., Wibawanto, A., & Rossanda, D. (2019). Toward a policy mix in conservation governance: A case of Gunung Palung National Park, West Kalimantan, Indonesia. *Land Use Policy*, 88, 104108. <https://doi.org/10.1016/j.landusepol.2019.104108>
- Kusumawati, R., & Visser, L. E. (2014). Collaboration or contention? Decentralized marine governance in Berau. *Anthropological Forum*, 24(1), 21–46. <https://doi.org/10.1080/00664677.2014.868783>
- McCarthy, S. (2014). Norm diffusion and the limits to forestry governance reform in Southeast Asia's new democracies. *Pacific Review*, 27(5), 755–778. <https://doi.org/10.1080/09512748.2014.948565>

- Newig, J., & Rose, M. (2020). Cumulating evidence in environmental governance, policy and planning research: Towards a research reform agenda. *Journal Environmental Policy & Planning*, 22(5), 667–681. <https://doi.org/10.1080/1523908X.2020.1767551>
- Newig, J., & Rose, M. (2021). *Evidence-orientation in earth system governance research*. Presentation at 2021 Bratislava conference earth system governance, Panel ID 509 Inter-/trans-disciplinary and reflexivity in research, Thursday, 9 Sept 2021.
- Pigome, M. (2011). Politik hukum pertambangan Indonesia dan pengaruhnya pada pengelolaan lingkungan hidup di era otonomi daerah. *Masalah-Masalah Hukum*, 40(2), 215–219.
- Purwendah, E. K., Djatmiko, A., & Pudyastiwi, E. (2020). Keadilan ekologi dan keadilan sosial sebagai dasar perlindungan dan pelestarian lingkungan laut dalam sistem hukum Indonesia. *Jurnal Pendidikan Kewarganegaraan Undiksha*, 8(2), 1–14.
- Putri, C. D., Mindarti, L. I., & Nurani, F. (2013). Peran pemerintah daerah dalam mengelola ruang terbuka hijau dengan perspektif good environmental governance (studi di kota Madiun). *Jurnal Administrasi Publik (JAP)*, 1(3), 42–50.
- Pye, O., Radjawali, I., & Julia. (2017). Land grabs and the river: Eco-social transformations along the Kapuas, Indonesia. *Canadian Journal of Development Studies*, 38(3), 378–394. <https://doi.org/10.1080/02255189.2017.1298518>
- Rahayu, P., Woltjer, J., & Firman, T. (2019). Water governance in decentralizing urban Indonesia. *Urban Studies*, 56(14), 2917–2934. <https://doi.org/10.1177/0042098018810306>
- Rittel, H. W., & Webber, M. M. (1973). Dilemmas in a general theory of planning. *Policy Sciences*, 4, 155–169. <https://doi.org/10.1007/BF01405730>
- Sagama, S. (2016). Analisis konsep keadilan, kepastian hukum dan kemanfaatan dalam pengelolaan lingkungan. *Mazahib*, 15(1), 20–41. <https://doi.org/10.21093/mj.v15i1.590>
- Sahri, A., Mustika, P. L. K., Dewanto, H. Y., & Murk, A. J. (2020). A critical review of marine mammal governance and protection in Indonesia. *Marine Policy*, 117, 1038893. <https://doi.org/10.1016/j.marpol.2020.103893>
- Said, M. Y., & Nurhayati, Y. (2020). Paradigma filsafat etika lingkungan dalam menentukan arah politik hukum lingkungan. *Al'Adl*, 12(1), 39–60. <https://doi.org/10.31602/al-adl.v12i1.2598>
- Syafi'i, M. (2018). Peranan masyarakat adat petalangan dalam mengamalkan nilai struktur adat berbasis kearifan lokal lingkungan. *Dinamika Lingkungan Indonesia*, 5(2), 97–207.
- Thaler, G. M., & Anandi, C. A. M. (2017). Shifting cultivation, contentious land change and forest governance: The politics of swidden in East Kalimantan. *Journal of Peasant Studies*, 44(4), 791–812. <https://doi.org/10.1080/03066150.2016.1243531>
- Voß, J.-P., & Kemp, R. (2006). Sustainability and reflexive governance: Introduction. In J.-P. Voß, D. Bauknecht, & R. Kemp (Eds.), *Reflexive governance for sustainable development* (pp. 3–28). Edward Elgar.
- Wibisana, A. G. (2017). Keadilan dalam satu (intra) generasi: Sebuah pengantar berdasarkan taksonomi keadilan sosial. *Mimbar Hukum*, 29(2), 292–307. <https://doi.org/10.22146/jmh.19143>
- Wulandari, Y. P., Putri, N. S., & Farahdita, D. (2019). Transformasi peran PAUD sebagai pendekatan pengelolaan lingkungan hidup berbasis masyarakat. *Jurnal CARE*, 4(1), 11–22.

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