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THE ROLE OF STAKEHOLDER THEORY IN ADDRESSING BIODIVERSITY: A LITERATURE REVIEW

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INTRODUCTION

This paper focuses on biodiversity loss, which is a phenomenon of concern for all individuals and organizations. Biodiversity can be defined as the variability among living organisms from all sources, including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; and includes diversity within species, between species and ecosystems (Convention on Biological Diversity, 2006). In addition to the global perspective, biodiversity is a local and place-specific phenomenon, emphasizing that engaging with local stakeholders is essential in biodiversity protection (Sterling et al., 2017), where business organizations play a great role.

We acknowledge that addressing biodiversity is challenging and identify biodiversity loss as a ‘wicked problem’ (Sharman & Mlambo, 2012; Bäckstrand, 2003). Wicked problems are highly complex, ambiguously formulated and interconnected (Rittel & Webber, 1973). Solving wicked problems requires collaboration among stakeholders with different values, perceptions of the issue and conflicting interests (Sharman & Mlambo, 2012). The inclusion of several stakeholders explicitly points to the relevance of stakeholder theory (Freeman, 1984; Freeman, Harison, Wicks, Parmar, & de Colle, 2010). While the participation of stakeholders is necessary to tackle biodiversity loss, we are also interested in the potential of business organizations for addressing it. Although the role of businesses in both causing biodiversity loss and their potential for fighting it has become obvious in recent years (Panwar, Ober, & Pinkse, 2023), how companies are and could be addressing biodiversity remain under-researched topics in business and management scholarship (Gibassier, Maas, & Schaltegger, 2019). Businesses contribute to biodiversity loss through, for example, changes in land use, pollution and overexploitation, regardless of their sector and industry (Panwar et al., 2023). Thus, businesses need a deeper understanding and concrete tools to address biodiversity.

Although the importance of stakeholder collaboration in biodiversity management is well established (Young, Jordan, Searle, Butler, Simmons, & Watt, 2013; Boiral & Heras-Saizarbitoria, 2017a; Sterling et al., 2017), many studies adopt a fairly loose idea of stakeholder theory, use it in a commonsense meaning, or remain on a relatively descriptive level (Boiral & Heras-Saizarbitoria, 2017b). Consequently, there is a lack of a more thorough exploration of stakeholder theory and its possibilities in addressing biodiversity.

The aim of this study is to explore the current state of biodiversity research and identify how stakeholder theory could address biodiversity. For that purpose, we, first, build our

theoretical framework on the discussions on biodiversity as a wicked problem, and stakeholder theory especially in relation to sustainability management. Then, we carry out an interpretive literature review on the extant research on biodiversity in various fields, such as conservation biology, natural resources management, as well as in business and management. Finally, we provide a synthesis of stakeholder research in addressing biodiversity as a wicked problem.

THEORETICAL FRAMEWORK

Conceptualizing Biodiversity

Biodiversity makes Earth a habitable place (WWF, 2022) and also almost half of the global GDP is at least moderately dependent on nature according to The Future of Nature and Business report (World Economic Forum, 2020). Many nature-dependent industries and businesses are at risk of disruption due to biodiversity loss (World Economic Forum, 2020). In addition to a direct dependence from nature, businesses in many industries have significant, yet hidden dependencies on nature in their supply chains. Thus, the ongoing sixth mass extinction can be considered the most severe threat to our planet (Ceballos, Ehrlich, Barnosky, Garcia, Pringle, & Palmer, 2015).

Biodiversity loss is an example of a wicked problem (Sharman & Mlambo, 2012). According to Dentoni, Bitzer, and Schouten (2018), wicked problems are characterized by three key features: knowledge uncertainty, value conflicts and dynamic complexity. Knowledge uncertainty refers to the difficulties in formulating the problems and gaps in both understanding and scientific knowledge of the topic. Value conflict refers to the existence of conflicting values, interests, and frames related to the topic. Thus, there may not be a consensus on the goals or means of addressing the problem. Dynamic complexity refers to complex interdependencies and to the dynamic and unpredictable nature of biodiversity as a phenomenon.

Stakeholder Theory

We use stakeholder theory that embraces the interconnected relationship between businesses, their stakeholders and society to integrate business organizations as core societal actors in addressing biodiversity. We use the stakeholder framework introduced by R. Edward Freeman (1984) consisting of rational, process and transactional levels with the respective “who”, “what” and “how” questions. We build on these three levels to provide an integrative framework to address biodiversity loss with stakeholder theory. The rational level consists of stakeholder mapping and responds to the “who” question: Who are those groups and individuals who can affect and are affected by the achievement of an organization’s purpose (ibid., p. 54)? Constructing a stakeholder map of an organization, or of an issue, is not an easy task in terms of identifying specific groups and the stakes of each group, and often simplification is needed (ibid., p. 57). Stakeholder mapping has been found useful and offers a good starting point for understanding the complex processes that addressing biodiversity loss requires.

The process level consists of scanning the operational environment, and responds to the “what” question: What are the processes that are used to manage stakeholder relationships (Freeman, 1984, p. 64)? Different processes can be used for this purpose and recently the focus has shifted from stakeholder management to stakeholder engagement (Kujala, Sachs, Leinonen, Heikkinen, & Laude, 2022; Nair, 2020). Stakeholder management process consists of a

systematic identification, analysis, planning and implementation of actions, while stakeholder engagement is the process of communicating, involving and developing relationships with stakeholders (Nair, 2020, p. 286) and it covers a wide variety of practical processes, such as communication and learning (Sachs & Kujala, 2021).

The transactional level consists of interacting with stakeholders, and responds to the “how” question: How do organizations interact with stakeholders (Freeman, 1984, p. 69)? This level pays close attention to how we can move from responsiveness to relationship building approach and understand the jointness of interests, collaborative efforts and trust building in stakeholder relationships (Kujala, Lehtimäki, & Freeman, 2019). Focusing on stakeholder interaction allows us to move from a business-centric view to a relational view where both economic and non-economic value is created in complex stakeholder relationships (Tapaninaho & Kujala, 2020). Stakeholder theory explicitly acknowledges that joint value creation necessitates not just stakeholder engagement but stakeholder engagement in the face of complex problems in which stakeholders’ short-term interests may conflict with collective, long-term interests (Bridoux & Stoelhorst, 2022).

Stakeholder theory has been increasingly applied to sustainability research (Freudenreich, Lüdecke-Freund, & Schaltegger, 2020; Hörisch, Freeman, & Schaltegger, 2014). Hörisch et al. (2014) suggest that both stakeholder theory and sustainability literature build on a view of companies as contributing towards sustainable development. Sustainability perspective, however, highlights social and environmental criteria in all operations, while stakeholder approach can be an important means of educating stakeholders about critical sustainability questions, gaining practical and multivoiced knowledge of the environment, as well as building relationships where sustainability issues can be tackled together (Freudenreich et al., 2020).

Although stakeholder theory has been studied in addressing sustainability challenges, there is a lack of exploration of how stakeholder theory could be used to address biodiversity loss, particularly when it is conceptualized as a wicked problem. Addressing biodiversity loss with stakeholder theory necessitates a closer examination regarding three levels of stakeholder management: (1) the rational level of stakeholder mapping, (2) the process level of operational environment, and (3) the interaction level of stakeholder relationships. Addressing biodiversity research with this framework allows for understanding who the important stakeholders in addressing biodiversity are, what kind of processes support addressing biodiversity, and how stakeholders can and should be engaged in biodiversity protection.

METHOD

To identify how stakeholder theory could be used in addressing biodiversity loss, we first attempted a systematic approach to literature review (Kolk, Rivera-Santos, & Rufin, 2014) with limited results. Due to the lack of relevant articles, we followed an approach suggested by Kaufman, Saeri, Raven, Malekpour and Smith (2021) and leaned on a recently published bibliometric analysis defining the most cited publications on stakeholder theory as the core stakeholder theory literature (Johnson-Cramer, Phillips, Fadlallah, Berman, & Elms, 2022). We conducted a search on articles that included the concept of “biodiversity” and referred to the core stakeholder theory literature, resulting in 67 articles. After closer examination, we noticed that the literature does not address stakeholder theory in the context of biodiversity but rather uses the stakeholder concept in a commonsense meaning. We used this body of literature, however, as the starting point for our exploration, complementing it with snowballing and finding relevant

articles based on the reference lists of the 67 articles. Due to the limited use of stakeholder theory in most of the articles, we chose an interpretive review approach, which is appropriate when there is little commonality between the studies (Suddaby, Bitektine, & Haak, 2017).

STAKEHOLDER THEORY IN BIODIVERSITY RESEARCH

Rational Level: Who Are the Stakeholders?

The rational level is the most prevalently used level of stakeholder theory in literature using stakeholder approach in addressing biodiversity. Some studies discuss stakeholder characteristics in defining stakeholders who are relevant in addressing biodiversity. The characteristics include, for example, power and capacity to influence (Fedele, Locatelli, & Djoudi, 2017), identity and values (Fischer & Eastwood, 2016), attitudes and perceptions (Zhang et al., 2019) in relation to biodiversity protection initiatives and policies. Studies on biodiversity conservation simply acknowledge stakeholders as those who have the power and capacity to influence ecosystems (Fedele et al., 2017). Reed et al. (2009) emphasize the need to identify those stakeholders who have an interest in decisions related to environmental management, but also those who have the power and resources to influence what happens. Customers, employees and the public are named as stakeholders who are able to drive businesses' biodiversity conservation efforts (Krause, Droste, & Matzdorf, 2021).

However, many studies use the concept of stakeholder in a commonsense meaning, without explicating who the stakeholders are. Relevant stakeholders are assumed and simply mentioned, while the criterion of relevance is not provided (Pelyukh, Lavnyy, Paletto, & Troxler, 2021). In more collaboratively oriented research, Boiral and Heras-Saizarbitoria (2017a) explicitly asked which stakeholders companies engage and for what biodiversity initiatives and noticed that only few papers explicitly focus on the details of such involvement. They concluded that the most important stakeholders in companies' biodiversity initiatives are NGOs, experts and universities, public authorities and company networks. According to Gaia and Jones (2017), relevant stakeholders in the context of local biodiversity action plan include landowners, residents, visitors, businesses and industries.

Process Level: What Is Done to Address Biodiversity with Stakeholders?

Among the reviewed articles, the process level of stakeholder theory was touched upon, yet not thoroughly. The identification and analysis of relevant stakeholders was the most prominent theme, while also approaches for stakeholder participation, potential benefits of engaging stakeholders and the role stakeholders can play in biodiversity conservation were discussed. Various processes can be used in engaging stakeholders, and both issue-based and company-centric approaches can be identified in the existing literature. After interviewing institutional stakeholders to identify different stakeholder groups, Kermagoret, Levrel, and Carlier (2014) suggest that focusing on stakeholder groups seems to be more relevant in understanding stakeholder interests than focusing on institutional stakeholders. However, the identification of these groups can be challenging without first consulting institutional stakeholders.

Regarding biodiversity, it is crucial to define boundaries for the issue to ensure successful involvement of key stakeholders. Setting clear boundaries keeps stakeholder expectations about

the issue realistic (Young et al., 2013). Reed (2008) emphasizes the need to set clear objectives for stakeholder engagement process to avoid stakeholders' disappointment. Young et al. (2013) found that setting the company's management plan around the biodiversity issue allows comprehensive engagement of all key stakeholders. High degrees of stakeholder engagement and better stakeholder relationships have been found to lead to more satisfaction in relation to voluntary biodiversity conservation and wildlife protection efforts on corporate lands (Carskadden & Lober, 1998). Similarly, the inclusion of multiple stakeholders into these efforts benefitted a voluntary conservation program by providing wildlife management expertise and enabling increased monitoring and exchange of ideas (ibid.). Wolff, Gondran, and Brodhag (2018) found that companies engage multiple stakeholders in biodiversity-oriented practices internally and externally, also in the value chains and institutional systems. Stakeholders were involved in biodiversity-oriented actions as executors, supporters or targets (ibid.). In addition, stakeholder engagement can be used to handle opposing interests (Shackleton et al., 2019).

However, the focus is sometimes only on stakeholders who pressure and motivate organizations to address biodiversity issues (Atupola & Gunarathne, 2023; Sluka & Peck, 2015). Badola, Hussain, Dobriyal, Manral, Barthwal, Rastogi and Gill (2018) suggest that market control and powerful stakeholders may form an obstacle to conserve biodiversity in tourism industry. Similarly, Coppa et al. (2021) found that stakeholders' noncompliance of the rules may result to overexploitation of natural resources, thus making dominant stakeholders a source of biodiversity loss. To overcome this, utilizing the strengths of public bodies, professionals, and local capacities synergistically helps overcome collective weaknesses and address biodiversity (Badola et al., 2018). In addition, Butler, Skewes, Mitchell, Pontio and Hills (2014) argue that regional stakeholders may predict declines in biodiversity and ecosystem related questions. They conclude that to better develop stakeholder engagement for biodiversity, further research on the integration of local and regional stakeholders needs to be done.

Interaction Level: How Are Stakeholders Engaged?

The interaction level of stakeholder theory was limited among the reviewed articles, yet implicitly identifiable in some. According to Reed (2008), the interaction level requires integrating local and scientific knowledge to understand complex and dynamic socio-ecological issues, such as biodiversity. Sterling et al. (2017) emphasized the local ecological knowledge and local context in successful stakeholder engagement for biodiversity, too. Shackleton et al. (2019) argued that stakeholder engagement is recognized to incorporate knowledge and perspectives in biodiversity management. They suggest strengthening stakeholder engagement approaches to enable co-creation, social learning, interdisciplinary collaboration, and to advance practical and policy suggestions, to reach more potential from stakeholder involvement (ibid.).

DISCUSSION AND CONCLUSIONS

Our exploration of the use of stakeholder theory in addressing biodiversity shows that the concept of stakeholder is frequently used in biodiversity literature, although in varying meanings, and its content is seldom defined. Some of the reviewed studies focus on the business perspective, some more on the phenomenon of biodiversity. To organize the findings of our review, we use the idea of biodiversity loss as a wicked problem (Dentoni et al., 2018) and argue

that considering biodiversity loss as a wicked problem calls for attention to knowledge uncertainty, value conflict and dynamic complexity.

Knowledge uncertainty at the rational level requires stakeholder identification driven by expertise. Stakeholders who have relevant knowledge of the local specifics of biodiversity, such as local biodiversity experts (Wolff et al., 2018) or landowners (Gaia & Jones, 2017), are important to engage. Knowledge uncertainty at the process level is necessarily present when dealing with biodiversity, while a way of mitigating it is to define the boundaries of the issue (Young et al., 2013), for example focusing on a specific area when engaging stakeholders. Thus, the aims and outcomes of stakeholder engagement are possible to set, assess and monitor (Bell, Lindefeld, Speers, Teisl, & Leahy, 2013). The interaction level brings forth a need to increase the transparency of knowledge production (Bell et al., 2013; Bezerra et al., 2023) in relation to biodiversity.

Value conflict at the rational level highlights the inclusion of multiple stakeholders, regardless of their relevance in terms of traditional stakeholder attributes (Mitchell et al., 1997). At the process level, value conflict can be mitigated with clear objectives for the collaboration and by keeping stakeholder expectations realistic (Young et al., 2013), for instance, through ongoing negotiations. The interaction level underlines that due to conflicting views and interests, it is important to build relationships of trust and mutual respect (Myllykangas et al., 2010).

Dynamic complexity at the rational level emphasizes simultaneous consideration of the local and global aspects of biodiversity. For instance, the identification of stakeholders can happen based on local biodiversity action plans (Gaia & Jones, 2017). At the process level, adaptivity in stakeholder engagement is required, meaning that the practices of stakeholder engagement should be adaptable with what the effective biodiversity conservation necessitates. At the interaction level, it is necessary to move from business-centric to relational view and acknowledge the dynamic and changing nature of stakeholder relationships (Myllykangas et al., 2010; Onkila, 2011), and thus, be sensitive to complexities of stakeholder relationships.

Finally, stakeholder theory can help identify all relevant stakeholders to address biodiversity loss as a wicked problem (Kortetmäki et al., 2022). The wickedness of biodiversity necessitates delimiting of the issue in question and setting clear expectations. It is well-established that stakeholder relationships (Onkila, 2011) and biodiversity are dynamic by nature (Schaltegger et al., 2022). Therefore, biodiversity conservation in business-stakeholder relationships needs to be adaptable and sensitive to changes. Building on mutual interests and finding synergies is important in addressing biodiversity loss as a wicked problem, but even more central is to understand and tolerate the existing conflicting values (Blomberg et al., 2022). Similarly, while stakeholder theory tends to assume the jointness of interests, interests related to biodiversity are necessarily more divergent. Moreover, it is necessary to acknowledge the existence of stakeholders who object to the issue and may use their power to hinder biodiversity efforts (Badola et al., 2018; Corazza et al., 2024).

To conclude, we argue that understanding biodiversity loss as a wicked problem challenges stakeholder theory in terms of the knowledge uncertainty related to temporal and spatial aspects of biodiversity, the importance of understanding conflicting stakeholder views and values, as well as the complexity and unpredictability of biodiversity and its development.

REFERENCES AVAILABLE FROM THE AUTHORS