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## Methodology

### Research setting

This study employed inductive reasoning to elicit premises obtained from empirical evidence obtained through in-depth case studies. An interpretive position was applied to gain a holistic view of complex settings and processes of the cases. This approach was deemed suitable because it allowed our exploration into “how” and “why” questions (Yin, 2014), which supported an inductive investigation of a causal network between conservation decisions by private businesses and the attitudes, perceptions and norms that drive these decisions. It allowed a discovery for recurrent phenomena in the stream of local experience and to find recurrent relations among them (Miles & Huberman, 1994). Also, given that little is known about the topic under investigation, an exploratory approach has been adopted for this study (Creswell, 2007). Along with the inductive process of data generation, this methodology provided a richer description of process, meaning and understanding of the conservation decision process.

### Cases selection

The study sample consists of Malaysian businesses that operate close to mangrove areas and/or have mentioned a commitment to mangroves restoration in their sustainability disclosures. A 2-tiered sampling approach of snowball and purposive sampling was used. In the first stage of snowball sampling, the researchers relied on the recommendations of NGOs and project partners and searched through relevant networks to identify and connect to an initial pool of business contacts. In the second stage of purposive sampling, the researchers sourced a list of participants from companies listed in FTSE4Good Bursa Malaysia Index, and that had publicly disclosed their involvement in mangrove areas from 2015 to 2020. Within these two groups that consist of 25 business contacts, a broad questionnaire survey was used to identify responsive respondents who are willing to be interviewed and serve as a case study in this study. Cases selection occurred across those businesses and organizations where respondents had direct oversight of the mangrove replanting projects and were experienced with the decision-making for a conservation project.

This screening process resulted in a small but defined group of participants with experience and knowledge of mangrove restoration, and who were subsequently invited to participate in a face-to-face, online meeting on Zoom. Eventually, seven businesses were confirmed as the case study, that is, the unit of analysis for this study. Indeed, this study is exploratory in nature, and it attempts to obtain field experience and lessons learnt from businesses to provide narratives, empirical evidence, and insights to inform researchers and policy makers.

### Data collection and analysis

The research collected both primary and secondary data related to mangrove rehabilitation efforts. Secondary information was mainly gained through industry reports, sustainability disclosures, annual report filings and news articles from various media outlets.

To collect primary data, this study used open-ended interviews that allowed stakeholders to provide as much details as they wanted to express their views and experiences. The direction of the interviews was principally guided by the key elements established in the conceptual framework (Fig. 2) and specific interview questions. Interview data has been anonymized to protect respondent confidentiality.

**Figure 2**

Conceptual model

Diagram

Description automatically generated

*Source: Extended version of the TRA from Hauslbauer et al., 2022*

Interview questions were grouped into four main sections. In Section 1, questions explored stakeholder roles in mangrove rehabilitation, the challenges they face in fulfilling these roles, their motivations and objectives for rehabilitation, and their understanding of the value being created for the business. In Section 2, questions discussed the type and quality of investment into mangrove protection, their deployment of resources, and the opinions of past rehabilitation attempts (generally over the last five years), including how decisions were made and by whom. Section 3 sought to uncover barriers and obstacles faced during implementation of the mangrove projects, and how these were fed back to senior management and/or regulatory authorities as an iterative process in decision-making. Finally, in Section 4 attention turned to the continuity of the project and how indicators of success were identified. These questions sought to ascertain the inception of buy-in and commitment to the replanting project, its implementation, and desired outcomes. The interview protocol included the same questions for all the respondents and allowed for potential follow-up questions.

All interviews were conducted separately between March and June 2021. Besides the seven Businesses (B) as case studies, researchers also interviewed two environmental consulting firms (CF) and one non-governmental organisation (NGO). Both consulting firms and NGO were expected to validate the preliminary findings obtained from the interviews with businesses as well as provide justification and reasons to the identified patterns and issues. These respondents were initially contacted via email or telephone. Those who responded and showed an interest in the research were provided with an information sheet, and then formally invited to take part in an online interview with a consent form to be signed.

Respondents included key personnel from local businesses having premises or operations in mangrove areas in Selangor, Malaysia, as well as consulting firms and NGOs that closely supported businesses at the local level. Interviews took place at the most convenient date, time, and location for each respondent, invariably with two researchers in attendance. All interviews were conducted face-to-face over Zoom and lasted approximately 45–60 minutes. With consent of the respondents, audio recordings were taken and then transcribed verbatim for data interpretation and future reference.

ATLAS.ti version 22 (ATLAS.ti Scientific Software Development GmbH, 2020) was used to organize the qualitative data in its transcribed form. Primary data were analyzed through an inductive content analysis. Structural, descriptive, eclectic, and pattern coding strategies were used (Saldaña, 2016). Structural coding was used to code the materials based on the interview schedule and descriptive coding was used to assign labels to theoretical constructs discussed in the data. Subcodes were then added to these primary codes to detail the entries. For example, the primary code named ‘Internally Oriented Attitudes’ was made up of smaller codes of ‘concern for community’, ‘sustainable goals’ and ‘environmental concern’. Next, eclectic coding was used to refine, recode, and synthesize primary codes, and pattern coding was used to group the previously identified summaries. Data was then organized and re-organized multiple times according to emerging themes and concepts, as well as more abstract and theoretically informed categories of attitudes and motivation to comply. Additional phases of coding aimed to refine the contents of each code.