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Conceptualizing the interaction of context, process and status in the Social License to operate: The case of marine diamond mining in Namibia

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ABSTRACT

This article explores the Social License to Operate (SLO) in relation to seabed mining operations. The SLO has grown in importance over the years, and mining companies are increasingly aware of its importance to reduce social risks. However, the SLO should not be seen as a separate entity but is instead embedded into the Legal License to Operate (LLO) and Political License to Operate (PLO). Recognising this interaction, we developed a conceptual framework in which the fundamental *process*-related factors of the SLO (trust and legitimacy) and the different levels of the SLO (*status*) are connected to the *context* provided by the LLO and PLO. This article presents this conceptual framework and applies it to the case of marine diamond mining in Namibia. The framework was found to be useful for analysing the SLO of marine diamond mining in Namibia, particularly because the inclusion of the context increases understanding of how the manner of organising stakeholder engagement and the role of the government in the LLO and PLO have repercussions for the different process-related factors of the SLO and its resulting status. However, this article presents only a first step and calls for more comparative research to advance empirical and conceptual clarity of which context factors of the PLO and LLO interact in what way with the SLO process and status.

1. Introduction

Over the last years, the Social License to Operate (SLO) has emerged as an important consideration for mining company operations. Societies have seen changes in governance with societal actors having more influence in decision-making processes. In addition, societal actors are increasingly dissatisfied with the way governments regulate industrial activities resulting in the loss of trust in governments (e.g. Cashore, 2002; Boutilier and Thomson, 2011; Smits et al., 2017; Van Putten et al., 2018). As a result, stakeholder engagement is now considered a vital element in ensuring acceptance of mining operations as lack of a societal support may lead to project discontinuation (Prno and Slocombe, 2012; Owen and Kemp, 2013). In order to reduce economic and social risks, mining companies actively seek a SLO next to the usual and obligatory Legal License to Operate (LLO) and Political License to Operate (PLO) (Owen and Kemp, 2013; Morrison, 2014; Smits et al., 2017). However, in contrast to the LLO and PLO, the SLO is not covered by official regulations nor granted by a governmental authority and as such intangible in nature (e.g. Boutilier and Thomson, 2011; Smits et al., 2017).

In general, a SLO is defined as the on-going acceptance or approval of an activity by local communities and stakeholders, which is thought to exist when societal actors perceive economic and/or societal benefits, or financial compensation of losses sufficiently outweigh ecological or socio-economic risks (Boutilier and Thomson, 2011; Prno and Slocombe, 2012; Owen and Kemp, 2013; Smits et al., 2017). SLO studies focus on how underlying processes of trust and legitimacy building - between organisations, persons or between persons and organisations - determine whether or not a SLO exists (Boutilier, 2014; Bice et al., 2017; Brueckner

Abbreviations: MFMR, Ministry of Fisheries and Marine Resources; MET, Ministry of Environment and Tourism; NAMDEB, Namibia De Beers joint-venture; Debmarine, De Beers Marine; SLO, Social License to Operate; LLO, Legal License to Operate; PLO, Political License to Operate; EIA, Environmental Impact Assessment.

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et al., 2014; Luke, 2017). Subsequently, the emphasis of scholarly attention has been on identifying the fundamental *process*-related factors (i.e. trust and legitimacy) attributing to the *status* of the SLO (e.g. Suchman, 1995; Cashore, 2002; Bitektine, 2011; Boutilier and Thomson, 2011; Boutilier et al., 2012; Prno and Slocombe, 2012; Prno, 2013; Moffat and Zhang, 2014).

More recently, contributions have emerged that explore the relevance of the broader legal and political *context* of which the SLO is part, i.e. pointing to the interaction between the SLO, LLO and PLO (Brueckner et al., 2014; Morrison, 2014; Bice et al., 2017; Smits et al., 2017). In order to understand how a SLO is based on a mix of social, political and legal demands, that deviate from what governments and mining companies may provide, we need to broaden the conceptualization of SLO (Moffat et al., 2016; Bice et al., 2017; Smits et al., 2017). SLO is more than company – community relations and dialogue to enhance trust and legitimacy, rather it is subject to negotiation between various actors, i.e. the company, community, governmental actors and society in general (Filer and Gabriel, 2017). Following these contributions, this article explores how a conceptualization of SLO that *integrates* status, process-related factors and the political and legal context is a first step in advancing our understanding of how and which legal and political context factors play a role in shaping a SLO process and status. The first aim of this article is to, based on recent insights, develop a conceptual framework and a corresponding new definition of SLO.

The second aim of this article is to illustrate the functionality of the framework, through an explorative case study (based on 7 semi-structured interviews, earlier research, newspaper articles and document analysis) of marine diamond mining in Namibia. Currently terrestrial reserves of valuable minerals and metals are becoming of lesser grade, while demand for ore is increasing due to economic development and the energy transition. This raises the interest of mining companies in nearshore and offshore seabed mining. Marine deposits have come within reach due to technological developments (Benkenstein, 2014; Reichart & de Stigter, 2014; Rozemeijer et al., 2018) and (temporary) higher commodity-prices (which justify the high investments needed for seabed mining) (Rozemeijer et al., 2018). In Namibia, commercial marine diamond mining takes place since the 1950s, was upscaled in the 1980s, and is expected to expand in the near future (Gurney et al., 1991; Corbett, 1996). Given the novelty of seabed mining, knowledge gaps exist about the actual environmental and socio-economic implications of the activity (Van Dover, 2011; Roche and Bice, 2013; Benkenstein, 2014; Kim, 2017; Clark et al., 2019). Scientific research and the implementation of regulations by the UN for the High Seas and by national governments aim to identify and address the sustainability risks of seabed mining (e.g. Van Dover, 2011; ISA, 2017; JPI Oceans, 2017). However, such governmental efforts are not enough as the societal actors in Namibia, faced with uncertainty over potential impacts and benefits, increasingly demand mining companies to engage with and take better account of their concerns.

In pursuit of these two aims, the main research questions of this article are:

1. How do *context, process* and *status* conceptually relate to each other in a SLO?
2. How does the conceptual framework provide insights into the influence of context and process on the status of the SLO of Namibian marine diamond mining operations?
3. What conceptual and practical lessons can be learned from applying this conceptual framework onto the case of the SLO of Namibian marine diamond mining operations?

This article starts with a section in which we answer our first research question by discussing existing insights and the way in which context, process and status of a SLO conceptually relate to each other. Section 3 presents the research methods that have been used to obtain the necessary data to analyse the SLO of Namibian marine diamond mining operations. Before we apply this framework, the setting of marine diamond mining operations in Namibia is introduced in section 4. In section 5, the analysis of the SLO of Namibian marine diamond mining operations using the conceptual framework is set out (to answer research question 2). We end this article with a discussion (section 6) and conclusions (section 7) about the SLO insights generated and lessons learned from this article (research question 3).

2. Conceptually integrating context, process and status in a SLO

This section introduces the SLO conceptual framework which features three different dimensions: (1) the broader LLO and PLO *context* of the SLO, (2) the fundamental *process-related factors* that are important to secure a SLO and (3) the different possible levels (*status*) of the SLO. This section therefore answers research question 1 and outlines how existing insights from SLO research define how context and process matter for the status of a SLO.

2.1. Context of a SLO

Although the SLO is increasingly becoming important for mining companies, the LLO and PLO still form the basic requirements for projects to become operational (Owen and Kemp, 2013; Morrison, 2014; Smits et al., 2017). The LLO is a license required by legislation and often focuses on operational aspects. An LLO is granted by a governmental authority based on predetermined legal procedures in which obligatory stakeholder interactions often play a role (Smits et al., 2017). Examples are mining permits and environmental permits that prescribe how the activity should be performed. A PLO is an organisational license related to formal political procedures. The PLO is an indication of the authority or political support given by the government to another organization to perform an activity (Morrison, 2014; Smits et al., 2017). Examples of a PLO are joint-ventures and legal arrangements regarding competencies between ministries (i.e. who is responsible for legal aspects of the activity). Finally, SLO refers to the broad and on-going acceptance or approval of societal stakeholders to conduct an activity. Contrary to the LLO and PLO, the SLO is not officially issued (with e.g. a registered document and procedure) by governmental authorities making it intangible in nature (Boutilier and Thomson, 2011; Prno and Slocombe, 2012; Smits et al., 2017). A SLO is a social contract meant to ensure the meaningful inclusion of stakeholders and their concerns in decision-making, as legislative frameworks may fall short (Luke, 2017). Examples of tools used to generate acceptance or approval are sharing of financial revenues with local communities or closer cooperation for broader societal development (e.g. promoting education and healthcare services) (Boutilier and Thomson, 2011; Filer and Gabriel, 2017).

Some authors have explored the interaction between the different licenses arguing they influence and complement each other (Brueckner et al., 2014; Morrison, 2014; Bice et al., 2017; Smits et al., 2017; Van Putten et al., 2018). They point to the need to broaden the conceptualization of SLO to capture how the SLO is a result of responding to social, political and legal demands rather than social demands alone (Moffat et al., 2016; Bice et al., 2017; Smits et al., 2017). The PLO, LLO and SLO together should satisfy the - crucial and/or decisive - needs of multiple stakeholders that could encompass e.g. information, protection of (personal) financial, religious or environmental interests, investments in society, sharing in profits, qualities of living, etc. It is through the interaction of the PLO, LLO and SLO in fulfilling these decisive needs that trust and legitimacy of societal stakeholders develop in granting a certain SLO status to mining operations. This also means that in SLO processes it is not only the corporate-community relations that matter, it is within the negotiation space between corporations, communities, government and other stakeholders that trust and legitimacy develops (Bice et al., 2017; Filer and Gabriel, 2017; Van Putten et al., 2018).

One end of the spectrum in the interaction between SLO, PLO and LLO is put forward by Van Putten et al. (2018) who argue that a more

systematic and regulatory base for trust and legitimacy can be created using good governance principles. Only when formal processes and requirements (in the LLO and PLO) do not suffice in protecting (decisive) community interests, expectations and needs, an additional, informal, path to creating trust and legitimacy is needed (Van Putten et al., 2018). Indeed, a full application of the generally obligatory stakeholder participation, for example during the EIA development and evaluation, can have an important contribution to achieving more acceptance of the initiative and therefore contribute to the SLO (Smart et al., 2014; Van Putten et al., 2018). Research has also shown how a strong demand by societal stakeholders for more engagement in decision-making procedures can lead to the implementation of stricter regulations for stakeholder engagement as part of the LLO, which in turn strengthens the base for the SLO (Smits et al., 2017).

However, at the other end of the spectrum, we note how distrust and legitimacy concerns in a SLO originate from the LLO and PLO, for instance by incorrectly applying EIA procedures and/or through a lack of participation opportunities (Smart et al., 2014; Bice et al., 2017, Durden et al., 2018). Such lack of meaningful engagement with stakeholders and their concerns in the LLO and PLO, might provide additional pressure for the company to engage with stakeholders and their concerns to protect their SLO. The SLO then becomes the negotiation space in which stakeholder concerns are deliberated within informal engagement processes between project proponents and stakeholder groups. Associated challenges can be that a narrowly defined PLO, with heavy emphasis on e.g. economic legitimacy, may lead to an equally narrowly defined SLO in which Corporate Social Responsibility (CSR) activities become limited to acquiring economic legitimacy (Brueckner et al., 2014; Roche et al., 2019). This in turn limits the ability of companies to reconcile differences with stakeholders (Brueckner et al., 2014). In such cases, pressure on the SLO of project proponents and activities is at least in part caused by stakeholders' dissatisfaction with the LLO and/or PLO. There are indeed examples of seabed mining cases where the EIA was not accepted (partly) due to inadequate and insufficient stakeholder processes required within the LLO (Filer and Gabriel, 2017; Deep Sea Mining Campaign, 2020; Environment guide, 2020; Kiwis against seabed mining, 2020). In these cases stakeholders continued their protesting and attempts to delay exploitation.

Both sides of the extremes point to the way in which especially stakeholder engagement and the negotiation space around various societal, environmental and economic concerns dealt with in the LLO and PLO, can positively or negatively influence the SLO. We explore this influence of the political and legal context further by discussing the role of stakeholder engagement in building trust and legitimacy in the next section.

2.2. Process of a SLO

Since the SLO is not an actual document granted by governmental authorities or embedded in legislation it is not only an outcome (status), but also a process (Boutilier and Thomson, 2011; Boutilier et al., 2012; Owen and Kemp, 2013; Smits et al., 2017). In existing literature, building trust and gaining legitimacy are identified as fundamental process-related factors to obtain a SLO. This section discusses how, in exploring how the legal and political context might influence a SLO process, we differentiate between different types of trust and legitimacy (see e.g. Cashore, 2002; Bitektine, 2011; Boutilier and Thomson, 2011; Boutilier et al., 2012; Smits et al., 2017) and how they relate to stakeholder engagement and the negotiation space for various concerns.

2.2.1. Types of trust

A central factor of the SLO is trust, which can be operationalized in two types, i.e. trust gained during the initial and short-term phases of the engagement process (interactional trust) and trust proven on the long run (potentially formalised) (institutionalised trust) (Boutilier and Thomson, 2011; Smits et al., 2017). Trust can be between persons or between institutions (Smits et al., 2017).

Interactional trust emphasises reciprocity and is concerned with the interaction and relationships between societal stakeholders and a project proponent or governmental authority. The knowledge a societal stakeholder obtains about the behaviour of a project proponent or governmental authority is important for interactional trust to be established. To facilitate this, it is important to ensure societal stakeholders and a project proponent share a set of expectations. In practice, this means that stakeholder engagement processes should focus on identifying stakeholder expectations and think of ways to manage these (Smits et al., 2017; Van Putten et al., 2018). Another important aspect for interactional trust for project proponents is to keep promises made to societal stakeholders. This should be done consistently and promises that cannot be made true should be prevented (Boutilier and Thomson, 2011; Boutilier et al., 2012). Lastly, for interactional trust it is vital that societal stakeholders have the opportunity to be heard by the project proponent, including poorer and marginalized stakeholder groups (Boutilier and Thomson, 2011; Owen and Kemp, 2013; Prno, 2013). Prno (2013) reports about different mining cases where societal stakeholders of successful cases praised the project proponent for listening to and sometimes learning from their input. In the less successful cases, not all relevant societal stakeholders were meaningfully involved or were marginalized from participating, leading to distrust in the project proponents.

Institutionalised trust in turn, denotes the confidence in an institution, with "institution" referring to a governmental authority or a project proponent. It is about stakeholder interactions governed by procedures, implemented by the institution in question. Relevant elements are enduring regard for each other's interests, openness, transparency, order and predictability (Boutilier and Thomson, 2011; Smits et al., 2017). Institutionalised trust is long lasting, long term proven, mutual interactional trust that can be eventually formalised in procedures between project proponents and societal and governmental stakeholders. Institutionalised trust can be further operationalized into integrity-based trust and competence-based trust (Moffat and Zhang, 2014; Smits et al., 2017). Integrity-based trust is about stakeholders being familiar with the objectives, values and principles of an institution (e.g. company or government) and mutually that of stakeholders and the certainty that the institution adheres to them (Moffat and Zhang, 2014; Smits et al., 2017). Competence-based trust refers to how stakeholders feel that the institution is capable (possesses the skills and knowledge) of managing their particular issues of interest (Moffat and Zhang, 2014; Smits et al., 2017).

2.2.2. Types of legitimacy

Another fundamental process related factor of the SLO is legitimacy (Boutilier and Thomson, 2011; Morrison, 2014; Smits et al., 2017). Legitimacy refers to stakeholder perceptions of fairness and justice associated with processes and their outcomes (Van Putten et al., 2018). Legitimacy is often further operationalized in different types. One of the distinctions made is between input-, throughput- and output legitimacy (Boutilier and Thomson, 2011; Van Tatenhove, 2011; Smits et al., 2017).

Input legitimacy focusses on the extent of stakeholder inclusion in the decision-making process (Risse and Kleine, 2007; Boutilier and Thomson, 2011). Traditionally, SLO literature focussed in particular on "local communities" but this has been amply criticized as being too narrow in scope (e.g. Owen and Kemp, 2013; Filer and Gabriel, 2017; Voyer and van Leeuwen, 2019; Meesters et al., 2021). Instead, Boutilier and Thomson (2011) propose to use the term "stakeholders" rather than local communities. Stakeholders are understood to be those who are affected by the operations. Some of these stakeholders are – given their position and resources – capable to affect the operations of a project proponent. Input legitimacy, however, is also about inclusive stakeholder engagement, i.e. ensuring that alternative and marginalized voices can meaningfully participate (Owen and Kemp, 2013; Demajorovic et al., 2019; Roche et al., 2019). Moreover, stakeholders do not

necessarily have to be part of local communities (Boutilier and Thomson, 2011; Filer and Gabriel, 2017; Voyer and van Leeuwen, 2019). Boutilier and Thomson (2011) argue that stakeholders should be seen as part of larger "stakeholder networks", which also requires considering possible relationships between different stakeholders. In practice, this may mean that project proponents will have to deal with stakeholder coalitions (groups of like-minded stakeholders) and thereby increased leverage rather than individual stakeholders.

Throughput legitimacy is concerned with the actual stakeholder engagement process (Risse and Kleine, 2007; Van Tatenhove, 2011; Boutilier et al., 2012; Smits et al., 2017). Since the SLO entails the on-going acceptance or approval of an activity during the entire lifetime of a project, stakeholder engagement is a continuous process (Owen and Kemp, 2013; Smits et al., 2017). To properly acknowledge this, project proponents should develop a common future vision together with societal stakeholders containing objectives for long-term development (Goldstuck and Hughes, 2010; Boutilier and Thomson, 2011; Owen and Kemp, 2013; Moffat and Zhang, 2014). In addition, drawing a shared future vision will also contribute to trust building as it allows for the identification of stakeholder expectations (Smits et al., 2017). Also important for throughput legitimacy is that the stakeholder engagement process is transparent and meaningful (Mercer-Mapstone et al., 2017). The process should allow stakeholders to learn about project risks and raise their own concerns and to discuss these with a project proponent in order to find common solutions that are agreed upon and will be followed up in practice (Boutilier et al., 2012; Van Putten et al., 2018).

Output legitimacy is the predominant form of legitimacy referred to in SLO literature (see e.g. Cashore, 2002; Bitektine, 2011; Smits et al., 2017; Meesters et al., 2021) with a distinction made between economic output legitimacy and socio-political output legitimacy (Boutilier and Thomson, 2011; Smits et al., 2017). Economic output legitimacy is achieved when an activity offers economic benefits or financial compensation to societal stakeholders (Boutilier and Thomson, 2011; Prno and Slocombe, 2012; Smits et al., 2017). Socio-political output legitimacy is achieved when a project contributes to the larger well-being of a region, while strong relationships are built up. Important are the local (cultural) norms embedded within society. The project proponent and his actions will be subjected to these norms and their social acceptability are judged (Bitektine, 2011; Boutilier and Thomson, 2011). Cashore (2002, as adapted from Suchman, 1995) further refined socio-political output legitimacy into moral and cognitive legitimacy. Moral legitimacy focusses on the rightness of an activity as compared to moral values and whether it is believed an activity will promote social welfare (Cashore, 2002; Bitektine, 2011). Such moral values can relate to general societal values and to the values and ideals of individual stakeholders. Thus, on-going cooperation and identifying different expectations (social learning) is very important (Boutilier and Thomson, 2011). In contrast, cognitive legitimacy is based on rational considerations around an activity, e.g. because within a certain socio-political context, it is perceived things cannot be done differently and the actions of a project proponent are understood against this background (Cashore, 2002; Bitektine, 2011), or because an activity has over time become an integral part of the economy. This may spare project proponents from scrutiny and distrust by societal stakeholders (Bitektine, 2011).

2.3. SLO process and status

Boutilier and Thomson (2011) have developed a framework (Fig. 1) which not only summarizes the different possible levels (status) of a SLO, but also how they relate to the broader process-related factors of legitimacy and trust. Following their framework, the status of a SLO can have four levels: *withheld, acceptance, approval* and *psychological identification*. Moreover, and as detailed below, project proponents will need to follow a process of trust building and obtaining legitimacy to reach higher levels of acceptance and association (identification). Their

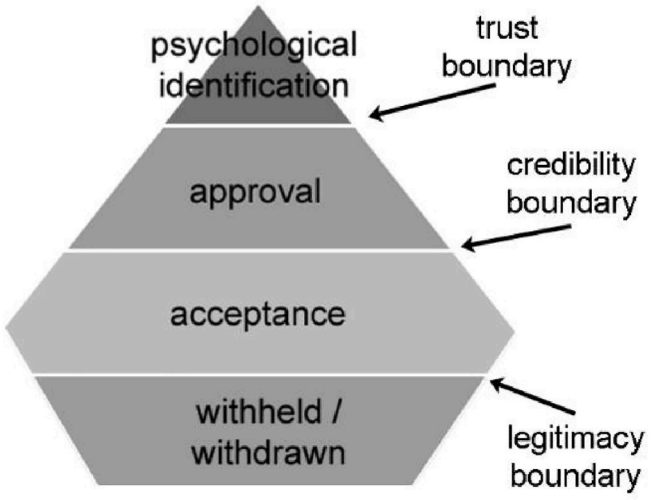

Fig. 1. The SLO levels as defined by Boutilier and Thomson (2011).

definitions of status levels and approach will be explained while we construct our conceptual framework as visualized in Fig. 2.

We depart from the framework of Boutilier and Thomson (2011) when further developing the conceptual framework that integrates the triptych of context, process and status of a SLO (see Fig. 2). Following Boutilier and Thomson (2011) a basic level of *acceptance* can be obtained by providing for economic benefits or financial compensation, referred to as economic output legitimacy. Consequently, when societal stakeholders perceive economic benefits (or financial compensation for losses) are lacking they will likely *withhold* a SLO.

With regard to the *approval* level, Boutilier and Thomson (2011) originally added a credibility boundary in their figure (see Fig. 1). Gehman et al. (2017), however, concluded that credibility is not a distinctive factor for legitimacy and trust. Instead, they identify socio-political legitimacy and interactional trust as connecting agents between economic legitimacy and higher levels of the SLO (Boutilier and Thomson, 2011; Gehman et al., 2017). Moreover, throughput legitimacy is essential to ensure that cooperation and engagement processes are perceived as fair, transparent and reciprocal. Cognitive legitimacy in turn is secured when an activity is accepted on more rational grounds within a socio-political context. We assume no specific hierarchy for these factors, but hypothesize that the more of these factors have been secured by a project proponent, the stronger the level of approval will likely be.

Extending this cumulative nature of trust and legitimacy within a SLO, the next level of a SLO is psychological identification. Psychological identification only exists when over time, and in addition to legitimacy, institutionalised trust has developed. Through this institutionalised trust, relationships between a company and societal stakeholders are perceived to be based on a deeper awareness and understanding of each other's interest and contribution to society: *psychological identification*. Naturally, reaching this highest level requires time to allow for relationships to develop and societal stakeholders to become fully acquainted with the project proponent and vice versa (Boutilier and Thomson, 2011).

2.4. A new SLO definition

The most widely used definition (albeit with some variation) is that a SLO is 'the ongoing acceptance and approval from local communities and other stakeholders' (Boutilier and Thomson, 2011; Prno, 2013; Parsons et al., 2014). This article calls for widening the scope of SLO research by linking the SLO process and status to the legal and political context in which the SLO is embedded. This in turn warrants a different

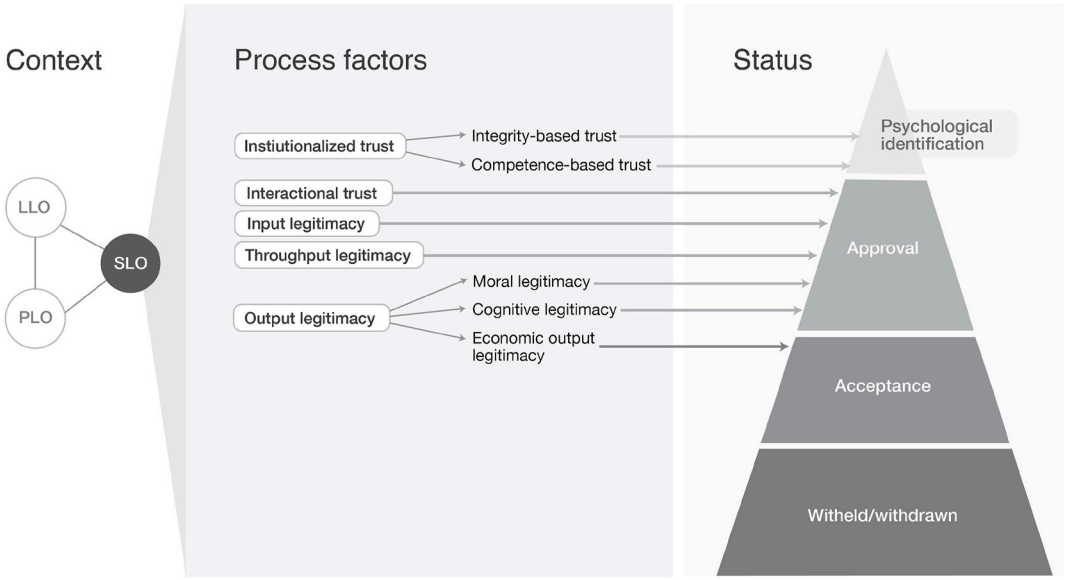

Fig. 2. Conceptual framework with on the left side context (LLO and PLO); middle: process related factors of trust and legitimacy; right side the four different levels of status of a SLO. Note the diamond-shaped model from Boutilier and Thomson (2011) under status has been transformed in a pyramid for uniformity.

definition of the SLO that reflects this broader scope of including context, process and status, while taking into account how this can further develop and change over time. The definition of a SLO used in this article is therefore: "*the continuous engagement process, taking place within a legal and political context, between project proponent, government and societal stakeholders to build trust and obtain legitimacy, leading to dynamic levels of consent or rejection (status) of a resource extraction operation.*"

3. Case analysis: research method

This article uses an explorative case study to illustrate what insights the developed SLO conceptual framework is able to provide. A case study allows for an in-depth analysis (Yin, 2009; Verschuren et al., 2010) and responds to the research objective to obtain exploratory insights in understanding how within a certain legal and political context, a SLO process leads to a certain (temporary) SLO status. What is more, the single case study method is chosen to allow for analytical generalization, i.e. to draw conceptual and theoretical lessons that can be applied to other cases too (Yin, 2009). We chose the case of marine diamond mining in Namibia, because it is a well-established sector in Namibia, starting as early as 1958, and is considered an important economic lifeline for Namibia (e.g. Gurney et al., 1991; Claasen and Roloff, 2012; RBS, 2015). Meanwhile, more developments concerning seabed mining in Namibia are anticipated, as marine diamond mining is likely to expand and marine phosphate mining operations are being planned (Benkenstein, 2014). As this article shows, these (heavily contested) developments are impacting the legal and political context for seabed mining, allowing us to explore the effects of this changing context for a type of mining that Namibia's society is already familiar with.

The primary method of data collection for the marine diamond mining case consists of 7 semi-structured interviews with representatives from: various civil society organisations (n = 2), governmental authorities (n = 3), the fisheries industry (n = 1), and seabed mining industry (the project proponent). This broad range of stakeholders was selected based on criteria of interest and influence in the development of seabed mining (in different degrees of intensity). However, due to the legal and political sensitivity of seabed mining expansion in Namibia, only a limited number of stakeholders responded positively to our request. For the same reason, interviewees are treated as anonymous as possible in this article. The results from the interviews are in line with the research of Claasen and Roloff (2012), who conducted interviews with 41 governmental, business and civil society stakeholders and who provide a further basis for this case study.

During the interviews we enquired about perceptions of stakeholder engagement processes and concerns about impacts of seabed mining (see supplementary material for the interview guide). The interviews were conducted by telephone, Skype or e-mail, depending on the preference of the interviewee. Interviews were recorded and a transcript was developed reporting on the information provided by the interviewees. This transcript was shared with the interviewee for confirmation.

Apart from interviews, another vital source of data were organizational and company documents and scientific publications recommended or supplied by interviewees (see supplementary material for the list of documents analysed), as well as websites and newspaper articles (see reference list). These were used to explore which stakeholders were involved in, and to identify the environmental and socio-economic concerns put forward, during decision making around Namibian marine diamond mining. In particular, the environmental- and socio-economic risks of sea bed mining were identified through the analysis of the most recent EIA report (supplied by the project proponent). Apart from insights in the assessed impacts and risks, the EIA report has also provided information about the consultation of stakeholders. To illustrate, the assessment of potential impacts from seabed mining on rock lobster fisheries allowed for the identification of this group as relevant stakeholders.

For the analysis of the data (both interviews and documents), no advanced coding tools were required. Instead, a list of topics was determined based on the theoretical framework and was used to mark relevant sections in the transcribed interviews and documents. For illustration, a stakeholder response on the extent of possibilities for stakeholder engagement in the EIA process was marked as dealing with input legitimacy, and discussions on estimated economic benefits (e.g. employment, tax benefits) were marked as economic output legitimacy. Similarly, contemporary discussions on the joint-venture between the Namibian government and De Beers were marked as part of the PLO, whereas debates on the adequacy of EIA legislation and EIA renewals were marked as part of the LLO. Markings were either made using the Word functions "comments" or through marking parts of texts in other documents in a specific predefined colour corresponding to the topic at hand.

4. Namibian marine diamond mining operations

Diamonds were brought to the surface by volcanic action in the inlands of southern Africa after they were crystallised underground, at high temperature and pressures, in molten lava. Erosion by wind and rain caused release of diamonds that were subsequently fluvially transported to the Atlantic Ocean. For example, at Kimberley Mine (in South Africa), it is estimated that 34 times the amount of diamonds mined have been released through rock erosion and transported to rivers and oceans (Gurney et al., 1991). Diamonds are light enough to be taken up by the vigorous hydrodynamic conditions at the Namibian coast line. In addition, they are heavy enough to be deposited and concentrated in sheltered places like paleo coastlines, riverbeds and other marine geological features (like e.g. potholes). Due to the differences in weight of the particular diamonds and their sensitivity to hydrodynamics conditions, the heavier diamonds are concentrated near river mouths while the lighter ones were taken northward and further offshore by shore currents (Corbett, 1996; Garnett, 2000). In addition, on their way to and in the ocean, gemstones were exposed to strong forces, with poorly shaped and fractured gemstones being destroyed. As a result, over 90% of diamonds from offshore reserves are of gem quality (Gurney et al., 1991; Schneider, 2020).

In Namibia, small-scale, near shore marine diamond mining takes place from as early as the 1950's, peaking in the 1960's and declining in the 1970's. Technological improvements as well as the gradual depletion of terrestrial and shallow water diamond reserves (terrestrial reserves may run out within 15 years) made deeper waters potential mining sites. This has already led to an increase in produced carats, but large amounts of diamond reserves are within mining reach. Therefore, in 1994, De Beers began with the first legal preparations for marine diamond mining in an area now known as "Atlantic 1", covering 5.987 square kilometres, ranging between 20 and 180 m in depth and situated in the south-eastern part of Namibia's EEZ (see Fig. 3) (RBS, 2015). During this time, onshore diamond production was declining and offshore diamond production rose to equal quantities. Since 1994, De Beers has partnered with the Namibian government in the NAMDEB joint-venture (Namibia De Beers), with the Namibian government having a 50% stake since 2011. NAMDEB holdings consists of the NAMDEB

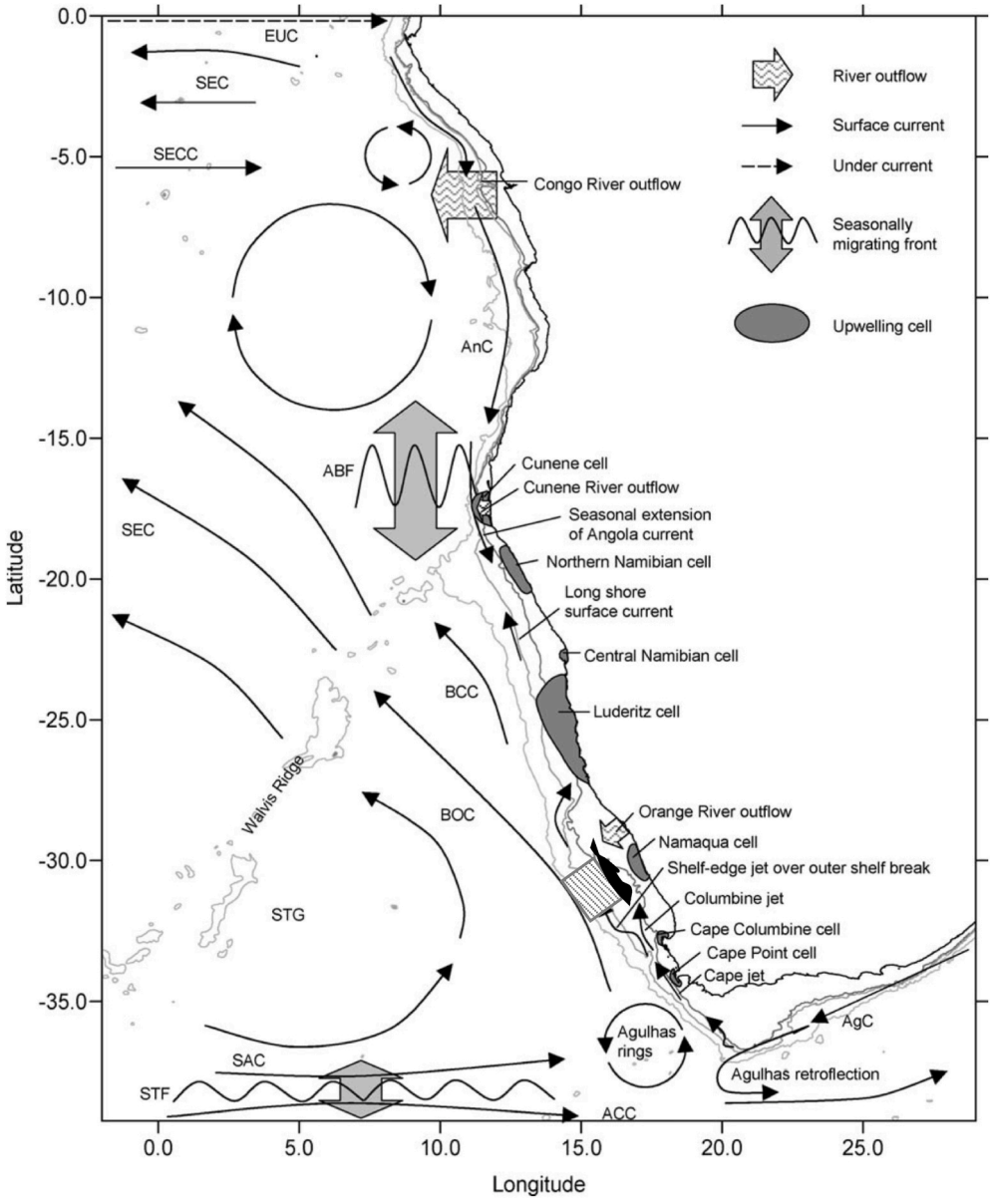

Fig. 3. Location of the Atlantic 1 concession area (arched square) along the Namibian coast. The coastal zone facing Atlantic 1 hosts rock-lobster fisheries that extend into the mining area outer border (see black area stretching along coastline) adapted from: Hardman-Mountford et al. (2003).

Diamond Corporation (Pty) Ltd for land-based mining operations and De Beers Marine Namibia (Pty) Ltd (Debmarine) for marine diamond mining operations (RBS, 2015; De Beers Group, 2017a; NAMDEB, 2019).

The Atlantic 1 concession area is located south of the Lüderitz upwelling cell, which is the largest upwelling cell of the Benguela Current. High rates of primary production along the Namibian coast support a wide variety and enormous production of marine life such as various (commercial) fish species, seabirds and marine mammals (J Midgley and Associates, 2012). Some areas, predominantly in the south, have seasonal upwelling whereas Lüderitz and areas further north have semi-permanent upwelling induced by southerly winds (RBS, 2015). Stocks of shallow- and deep-water hake, monkfish and Atlantic horse mackerel support the fisheries industry creating around 15.000 direct jobs, providing about 4.5% of the GDP (J Midgley and Associates, 2012; RBS, 2015; Finke et al., 2020). This fishing industry is particularly concentrated in the town of Walvis Bay which has 18 processing factories. Economically important demersal fisheries, using bottom-trawling and longlines, are only allowed in waters deeper than 200 m, deeper than the Atlantic 1 area. Consequently, no demersal fisheries take place in the mining area while the area is also not used by pelagic fisheries due to its large distance from main fishing ports. Moreover, artisanal and small-scale fisheries never developed in Namibia, due to the large areas of uninhabited land and inhospitable coast. More generally, these geographical characteristics make that the marine space, apart from marine diamond mining, is largely dominated by industrial fisheries (Carver, 2019, 2020). Small-scale seasonal rock lobster fisheries from Oranjemund and operating along the shoreline down to 40 m depth are an exception (arced black in Fig. 3) (J Midgley and Associates, 2012; RBS, 2015).

Following De Beers intentions to mine in the Atlantic 1 area, the Namibian government requested an Environmental Management Programme Report (EMPR), consisting of an EIA and Environmental Management Plan (EMP). Due to a lack of specific legal requirements on what the EIA process should look like (Husselmann, 2016; Interviewee 4, 2018), De Beers formulated the terms of reference in consultation with the government and external stakeholders in 1994. In 1998, the EMPR was approved and has since been used as base for operations that formally started in 2002. In 2008, 2015, the EMPR has been revised and updated successfully as required by the provisions of the Minerals Agreement, the environmental Management Act 2007 and the Environmental Impact Assessment (EIA) Regulations 2012 (RBS, 2015; Husselmann, 2016). The main assessed impacts in brief were i) local damage and loss of benthic habitat and benthic biomass; ii) the risk of sediment plumes from seabed disturbance and tailings resulting in smothering and reduced primary production (and secondary production); iii) disturbance of fish, cetaceans, larger animals and birds by (underwater) sound, light, vibration and presence. None of these impacts were assessed to result in large-scale irreversible damage (RBS, 2015).

Since 2006, De Beers Marine (Debmarine) has annually produced around 1 million carats (with a value between $ 1 and 5 billion per year) from the Atlantic 1 area, from a total area of 8 km^2 mined since the actual start of operations in 2002 (~0.5 km^2 per year, Debmarine Namibia, 2018). In 2005, marine diamond mining operations surpassed production from terrestrial deposits for the first time, making Debmarine the leading diamond miner in the country (Schneider, 2020). Mining remains confined to target zones in the 100–150 m depth zone in the Atlantic 1 area and within this zone particularly the area close to the Orange River mouth (RBS, 2015). These target areas have been chosen to avoid spatial conflicts with seasonal rock lobster fisheries taking place from the town of Lüderitz. Moreover, valuable wetlands and the Orange River mouth can be found along the shore, largely undisturbed as part of the Sperrgebiet National Park (protected area) and exploitation taking place in deeper waters. The seabed in the shallower zones of the concession area is less suitable for current mining equipment as thick mud belts have accumulated there historically (RBS, 2015).

5. The SLO of marine diamond mining in Namibia

With background information provided about marine diamond mining in Namibia, the conceptual framework will be applied to the case to be able to answer research question 2. The triptych structure that was introduced in this article will be used for this analysis, i.e. starting with the context and continuing with the process and status of the SLO.

5.1. SLO context of marine diamond mining

In this section the results of the analysis of the context – encompassing the LLO and PLO in relation to the SLO – will be described for marine diamond mining.

5.1.1. LLO of marine diamond mining

In order to obtain an environmental clearance (environmental permit), an EIA has been completed successfully in 1998 and has been renewed twice (2008, 2015), thus securing and maintaining a LLO for marine diamond mining operations in the Atlantic 1 area (RBS, 2015; Debmarine Namibia, 2017). However, there have been differences in stakeholder engagement for securing and maintaining the environmental clearance. While during the first EIA and its first revision (in 2008) stakeholder participation was emphasized, the 2015 revision was not made available to stakeholders (even though stakeholder participation was legally obligatory at that time as laid down in the Environmental Impact Assessment (EIA) Regulations 2012) (RBS, 2015; Husselmann, 2016). This is striking as public attention for seabed mining is growing as a result of the plans for marine phosphate mining and the publication of its EIA in 2012 (Benkenstein, 2014; Interviewee 3, 2018). Only an update of the so-called “register of stakeholders” was done, because “no fundamental changes in mining operations have taken place since the 2008 revision” (RBS, 2015). This register contains the list of stakeholders that submitted comments on scoping reports or attended meetings during earlier consultation processes, and registration is required to provide comments on written submissions of scoping or assessment reports (RBS, 2015; Husselmann, 2016).

Multiple interviewees have commented on their experiences of secrecy concerning information about diamond mining operations (Interviewee 1, 2017; Interviewee 5, 2018; Interviewee 7, 2018). These perceptions of secrecy were also identified by Claasen and Roloff (2012), who found that many stakeholders do not have a clear view on diamond mining operations and impacts nor on rehabilitation efforts. It is hard for external stakeholders to access information, because entering diamond mining areas (onshore and offshore) is prohibited (Claasen and Roloff, 2012; Interviewee 1, 2017; Interviewee 5, 2018; Interviewee 3, 2018). Moreover, environmental reports and monitoring reports are generally directly submitted by the project proponent to the MET (Ministry of Environment and Tourism), because information about diamonds is - for security reasons - classified as confidential (Interviewee 1, 2017; Interviewee 5, 2018).

Another aspect relevant for the LLO (which implications will be addressed when further analysing the moral legitimacy of marine diamond mining) is the lack of CSR provisions in Namibian legislation, i.e. the Namibian government does not specify requirements for CSR activities (something that is for example done in South Africa). According to some interviewees (University of Cape Town, 2017; Interviewee 1, 2017; Interviewee 5, 2018) this prevents the Namibian government from ensuring that companies undertake CSR initiatives to actively contribute to societal development, rather than solely protecting the reputation of a company.

In conclusion, a LLO exists because of the environmental clearance from the government. However, the lack of sufficient legally required stakeholder participation in the EIA, general perceptions of secrecy, and a lack of CSR provisions in Namibian legislation pinpoint to weaknesses

in the LLO that have consequences for the legitimacy and trust in marine diamond mining and therefore weaken its SLO. As we will discuss in section 5.2 these weaknesses are especially relevant for interactional and institutionalised trust as well as for moral, input and throughput legitimacy of the SLO.

5.1.2. PLO of marine diamond mining

The presence of a PLO for marine diamond mining can be clearly seen through the NAMDEB joint-venture, in which the Namibian government has a 50% stake (RBS, 2015; De Beers Group, 2017a). Despite the significant societal benefits generated through NAMDEB (which will be detailed in 5.2 when analysing the SLO), stakeholders are critical about the double role of the Namibian government as both legislative authority and mining partner. Claasen and Roloff (2012) found that 19% of interviewed stakeholders (N = 41) were concerned that this cooperation is too close, something that is confirmed by our interviewees (Interviewee 1, 2017; Interviewee 5, 2018; Interviewee 3, 2018).

In addition, Claasen and Roloff (2012) report on stakeholder concerns about the uneven spread of technical and strategic expertise of marine diamond mining within NAMDEB, with the expertise of industry representatives of De Beers being superior. This situation may result in power differences and hence a beneficial position in negotiations for industry representatives of De Beers. These concerns become even more relevant when considering the debate between the MET and MFMR about who should have the final say in decision-making procedures on environmental clearances for offshore projects in general. The MFMR questions whether the MET should be granting environmental clearances for offshore projects. While the MFMR currently has a consultative role (as officially laid down in the Environmental Management Act, completely implemented as of 2012), the MFMR wishes to have a stronger role as it believes to possess more expertise than the MET to adequately assess offshore projects. In addition, the MFMR is critical about the use of their input by MET in the final decision-making on environmental clearances (Esau, 2016; Interviewee 1, 2017; Interviewee 5, 2018; Interviewee 4, 2018; Carver, 2019).

For marine issues, the Marine Scientific Advisory Committee with NAMDEB representatives and external scientists may help to alleviate such concerns (Project proponent, interview, 2017). However, its credibility is questioned, because (even though this is in line with existing Namibian legislation) the members are contracted by NAMDEB (Claasen and Roloff, 2012; Husselmann, 2016; Interviewee 1, 2017; Interviewee 5, 2018).

In conclusion, the PLO is present but also under tension. Especially the intertwining of the government being both the legal authority and a project partner is considered problematic. Apart from conflicting interests, stakeholders express uncertainty about differences in expertise between governmental agencies and private actors. The following section will further detail how these tensions within the PLO compromise especially the moral and throughput legitimacy of Namibian marine diamond mining operations.

5.2. SLO process and status of marine diamond mining

In this section, the process-related factors of the SLO and how they are influenced by the LLO and PLO will be addressed. This, in turn, allows to assess the SLO level (status) of marine diamond mining. In doing so, we follow the different SLO levels of our framework (Fig. 2), starting at the level of acceptance (the lowest level being withheld).

5.2.1. Acceptance of marine diamond mining

As shown by the conceptual framework, to secure economic output legitimacy is key to achieving the level of acceptance. Debmarine has indeed effectively secured economic output legitimacy leading to acceptance of the activity at the national and local level. Important means through which this is reached are tax contributions to the Namibian treasury and employment creation. Since 1990, diamond exports on average contributed to 14.5% of Namibia's GDP and the Namibian government obtains about 6.5% of total revenues from taxes and royalties on diamonds. Compared to other mining sectors (which pay 37.5%), diamond mining companies pay higher corporate profit taxes (55%), as well as royalties (10%, compared to 2–5% for other resources) (Claasen and Roloff, 2012; Chamber of Mines Namibia, 2018). To illustrate, in 2013 Debmarine earned a yearly revenue of N$ 5,000,000,000, paying N$2,300,000,000 in royalties and taxes to the Namibian government (Diamonds.net, 2014). In terms of employment, Debmarine already employs around 800 people. Future prospects are that new mining vessels will be added to the fleet. The aim is to source workforce locally as much as possible (De Beers Group, 2016; Debmarine, 2018a). These significant contributions make that marine diamond mining is an economic lifeline for Namibia, also for the future (Claasen and Roloff, 2012; Interviewee 1, 2017; Interviewee 5, 2018; Interviewee 4, 2018; Schneider, 2020).

In addition to these payments and (local) employment prospects, Debmarine has established the "Debmarine Namibia's Social Responsibility Fund". This fund is used to finance educational improvements, sustainable enterprise development and the health sector as well as providing bursaries to promising students in fields such as marine and chemical engineering (Debmarine Namibia, 2018a). Forces are further combined in the Debmarine-NAMDEB Foundation, which invested around N$80,000,000 (~1.6% of total Debmarine revenues in 2013) annually over the last years and largely focusses on contributing to the United Nations Sustainable Development Goals (SDG's) (NAMDEB, 2018). Examples of initiatives financed are the provision of educational material to schools, sponsorship of the Namibian Investment Conference, providing support to the Namibian police, and sponsorship of 3 vehicles to the Save the Rhino Trust Namibia (Chamber of Mines of Namibia, 2016; Save the Rhino Trust, 2017; Debmarine Namibia, 2018a).

In terms of furthering economic development within Namibia, NAMDEB aims to stimulate small- and medium enterprises (SME's) by procuring required goods and services locally whenever possible (i.e. of at least 39% of total expenditures) (De Beers Group, 2016). Furthermore, NAMDEB creates additional employment by means of "sightholders", which are Namibians who obtain training and can subsequently work on cutting and polishing of diamonds for beneficiation. NAMDEB currently has 11 sightholders, and makes available around US$430,000,000 of rough diamonds annually through a 10-year sales agreement with the Namibian government.

5.2.2. Approval of marine diamond mining

The case of Debmarine becomes particularly interesting when the approval level is considered. For marine diamond mining it is especially cognitive legitimacy which has played a key role in securing the SLO status of approval. In fact, marine diamond mining is a sector strongly embedded in Namibian society (Interviewee 4, 2018; Interviewee 7, 2018; Interviewee 1, 2018). While large-scale marine diamond mining officially started in the 1990s, it was not new to Namibians as it was already taking place several decades at smaller scale, in shallower zones (Gurney et al., 1991; Diamond Fields International Ltd, 2017; Schneider, 2020). In addition, environmental impacts are perceived to be limited as sediments dredged from the seabed are directly discharged after sorting on the mining vessel and resettle again in and around the mining site at limited depths, allowing quick recovery of the ecosystem (Interviewee 6, 2018; Interviewee 3, 2018; Interviewee 7, 2018; Schneider, 2020). These perceptions are being confirmed by Debmarine through statements on the natural rehabilitation of mined areas based on monitoring. In their statements, the company also points to the overall scale of impacts and mining operations (small as compared to the relevant area of consideration). These statements currently resonate stronger than concerns (The Telegraph, 2016; De Beers Group, 2017; Interviewee 6, 2017; Interviewee 1, 2017; Washington Post, 2017; Interviewee 4, 2018; Interviewee 3, 2018; Interviewee 7, 2018).

In considering the level of input- and throughput legitimacy, the following aspects are relevant: i) stakeholder perceptions of the closed EIA process and monitoring activities (LLO); ii) communication on the EIA and monitoring operations is often limited to the MET and Debmarine; and iii) uncertainty about the environmental and socio-economic impacts (Claasen and Roloff, 2012; Interviewee 1, 2017; Interviewee 2, 2018; Interviewee 5, 2018; Interviewee 7, 2018). To start with the latter, there is an unresolved question of what the impacts of marine diamond mining are on rock lobster fisheries. A temporary stop of marine diamond mining in 2008 due to the economic crisis, resulted in fishermen noticing a recovery of local rock lobster populations after years of unsuccessful quota management. Stocks were already overfished since at least the time of independence in 1990. Fisheries stakeholders started to question this coincidental correlation. However scientific research to determine whether and why populations indeed recovered, has never been conducted. Meanwhile the risks for rock lobster fisheries in the EIA are considered non-existent due to the depths at which mining currently takes place. Further adding to the uncertainties is that declining catches were not only observed near Atlantic 1 but also along the larger Namibian and South African shore. However, the fishing industry feels to have been required to give up lobster fisheries for the more valuable diamond industry (Pisces Environmental Services (Pty) Ltd., 2008; RBS, 2015; Swakopmund Matters, 2016; Interviewee 1, 2017).

These uncertainties over potential impacts should be seen in relation to the non-transparent EIA process as well as the concerns about MET's marine expertise. The MET is the authority responsible for granting environmental clearances for onshore and offshore projects, however, the MFMR as well as the fishing industry are critical about how their input is used during decision-making (Esau, 2016; Interviewee 1, 2017; Interviewee 5, 2018; Interviewee 4, 2018). These discussions are intensifying now in the broader context of the development of the "blue economy" in Namibia, potentially leading to an increased use of ocean space and the marine environment, which for now still is largely dominated by the fisheries sector (Carver, 2019, 2020). Similar concerns (as discussed under the PLO in 5.1) exist about the possibilities of disproportionate input of expertise coming from the diamond mining industry (Claasen and Roloff, 2012). As a result of these concerns, there is a lack of input- and throughput legitimacy.

The closed communication between the MET and Debmarine in (at least) the last EIA revision and monitoring reports (LLO), also has its effect on the level of interactional trust, as there are limited possibilities for providing input and building relationships with and for external stakeholders. However, the demand for more engagement from stakeholders is growing (Claasen and Roloff, 2012; Interviewee 1, 2017; Interviewee 5, 2018; Interviewee 2, 2018; Interviewee 7, 2018). Nonetheless, despite the new 2012 EIA legislation (LLO) which requires input from other "affected ministries" and external stakeholders, this requirement has not always been followed in practice (Husselmann, 2016; Interviewee 5, 2018). This was demonstrated by the 2015 EIA revision of Debmarine. Given the aforementioned issues, interactional trust has not been established.

Finally, despite Debmarine's efforts to promote social welfare, there is also a lack of moral legitimacy and institutionalised trust. Firstly, because of the lack of CSR provisions in Namibian legislation (LLO), stakeholders question whether Debmarine and the NAMDEB joint-venture invest to their full potential and contribute to societal development for the future or merely try to protect the company's reputation. Although stakeholders appreciate Debmarine and NAMDEB's CSR initiatives, they are worried whether enough people will benefit and whether it will contribute to long-term sustainable development of the Namibian society using the diamond resources that are still available (Claasen and Roloff, 2012; Swakopmund Matters, 2016; Interviewee 1, 2017; University of Cape Town, 2017).

In addition, the depletion of terrestrial diamond reserves means that offshore reserves become increasingly important. These reserves will be exploited using high-tech equipment and likely require fewer and more specialized human resources. This makes employment prospects uncertain, with towns such as Oranjemund relying on the diamond mining industry potentially facing social welfare impacts as a consequence of increased unemployment rates (Claasen and Roloff, 2012; The Diamond Loupe, 2017; The Namibian, 2017). These employment and societal development concerns should be seen in the context of existing (historical) race and classes inequalities in Namibia (Carver, 2019; Finke et al., 2020). Moreover, in recent years economic recession has led to rising unemployment numbers. Following figures from 2016, unemployment was at 28% of the total labour force and nearly 18% of the population was estimated to live in poverty. This led to a Gini coefficient (estimating income inequality) of 0.57, which makes Namibia rank among the most unequal countries in the world (Carver, 2019; Finke et al., 2020). Under these difficult conditions, it is uncertain whether Debmarine, NAMDEB and the Namibian government have enough competences and the integrity to keep contributing to social welfare while employment benefits will reduce in the future. The fact that there is a strong connection between the government and marine diamond mining through the NAMDEB joint-venture, leading to the prevalence of industry input in the independent EIA review committee and MET's decision making, contributes to these competence and integrity concerns.

5.2.3. *Conclusion on SLO for marine diamond mining*

The analysis of the different SLO process factors shows that the Namibian marine diamond mining has effectively secured a SLO at the "acceptance" level by achieving economic output legitimacy. This can be attributed to significant socio-economic benefits, including tax payments (contributing to the national treasury), employment creation and various CSR initiatives both by Debmarine and through the NAMDEB joint-venture. Moreover, Namibian marine diamond mining also secured the approval level through achieving cognitive legitimacy. This is a result of the long presence of the activity and the large economic value the industry represents in Namibia. Many Namibians consider diamond mining as a vital part of their economy and society. At the same time, concerns about transparency and degree of stakeholder engagement in environmental monitoring and EIA's, the precise nature of environmental impacts and future social and economic benefits, the secrecy and role of the government in the NAMDEB joint-venture affect the input- and throughput legitimacy as well as moral legitimacy, and therefore a stronger sense of acceptance.

6. Discussion

This article presents a conceptual framework that aims to improve SLO analyses through a triptych approach of context, process and status. It serves as a first step in framing, understanding and analysing how the SLO is shaped by the LLO and PLO. Through this framework, the scope of SLO analysis is expanded considerably, from company – community relations in a local context to the complex relationship between stakeholder engagement in a negotiation space between the project proponent, the government and stakeholders. Moreover, we proposed a different definition, one that reflects this broader scope as well as the dynamic nature of a SLO. It should come as no surprise that more research and conceptual development is needed to further demarcate which processes and aspects are central to how the LLO and PLO interact with the SLO. Especially since the LLO and PLO differ from country to country, more comparative research is needed to understand ways in which the LLO and PLO shape the SLO. In this section, we reflect on two of such processes and aspects in particular: the role of meaningful stakeholder engagement and the facilitating role of the government.

Stakeholder engagement can have both positive and negative effects on trust and legitimacy building as part of the SLO (Mercer-Mapstone et al., 2017; Smits et al., 2017; Van Putten et al., 2018). However, the case of Namibian marine diamond mining confirms that the way in

which stakeholder engagement is organized during legal and political decision-making processes has effects on the levels of trust and legitimacy in mining decisions and operations. In the case of Namibia diamond mining, this was especially about to extent to which stakeholder engagement took place at all. Other research suggests there are more issues to consider, including who is able to participate (cf. Owen and Kemp, 2013; Demajorovic et al., 2019), when and how stakeholders are engaged (cf. Mercer-Mapstone et al., 2017; Voyer and van Leeuwen, 2019) and what room there is to voice (opposing) issues (Owen and Kemp, 2013; Brueckner et al., 2014; Roche et al., 2019; Voyer and van Leeuwen, 2019). In addition, in the case of Namibia, the EIA was an important and formal site of negotiation where the project proponent, governmental authorities and societal stakeholders came together to assess potential impacts and think of ways for prevention, mitigation and compensation. However, it is certainly not the only negotiation site that matters in SLO engagement processes, given for example the role that social media increasingly plays in providing a platform for protection, campaign and value-sharing (Cullen-Knox et al., 2017).

The case of Namibian diamond mining also confirms that the way in which the government is legally, politically and socially involved in mining decisions influences the level of trust and legitimacy in mining operations. Based on this and other research, we propose three ways in which this can be the case. First, the relationship and interdependency between a government and the mining company, for example through a joint venture as in Namibian diamond mining, might influence trust and legitimacy in resource extractive operations. But more in general, a strong pro-development focus from the government can lead to certain biases in the SLO, e.g. towards seeking economic output legitimacy only (Brueckner et al., 2014), while concerns might exist that this economic development does not directly contribute to improve local livelihoods and well-being where this is most needed. Second, the type of requirements governments pose for businesses to mandatorily or voluntarily include social and environmental concerns as well as stakeholder engagement could have repercussions for the SLO. Governments can facilitate stakeholder engagement actively and through that provide a better base for a SLO (Smits et al., 2017). Finally, different positions within the government over decision making authority and expertise can indicate how there is conflict over the way in which certain issues, expertise and stakeholders are included in mining decisions. Such conflicts – in Namibian diamond mining this conflict exists between the MET and MFMR – can undermine trust and legitimacy in decision making about resources extractive operations.

7. Conclusions

The aim of this article was to advance the conceptual understanding of how a SLO is embedded in a legal and political context and how this influences the process and status of a SLO. Three research questions guided us in doing so. The first was answered in section 2 where a conceptual framework was developed, and the second in section 5 where the conceptual framework was applied to the case of Namibian marine diamond mining. This concluding section will therefore focus on the third research question, i.e. *what conceptual and practical lessons can be learned from applying this conceptual framework onto the case of the SLO of Namibian marine diamond mining operations?*

In answering this research question, we firstly conclude that including the PLO and LLO in the analysis provides a better explanation of how certain process-related factors, and therefore also the status of the SLO, are shaped by legal and political context factors. The attention and need for SLO is a result of waning trust of stakeholders in how governments protect their interest and level their concerns. Building stakeholders trust and legitimacy in a mining operation is therefore not limited to company and stakeholder dialogue, but also encompasses stakeholder processes and the role of the government in legal and political decision making for mining. While the conceptual framework used existing insights to make a first step in conceptually linking the LLO and PLO to the process and status of the SLO, the case of Namibian marine diamond mining confirmed that especially stakeholder engagement processes and the role of the government in mining decisions as part of the LLO and PLO have implications for the process and status of a SLO. Building on these insights, more comparative research is needed to confirm and understand in more detail how these two aspects shape the interaction between the LLO, PLO and SLO.

We secondly conclude that not only the conceptual advancement but also the practical implications of a SLO case study analysis are enhanced through the use of this framework. Based on the observation that there is demand for more transparency and stakeholder engagement in mining decisions in Namibia, we note the relevance of a proper implementation of the relatively new EIA legislation which explicitly requires stakeholder consultation, also in cases where diamond mining operations remain the same. Moreover, more transparency in the level of regulatory oversight of marine diamond mining is needed to enhance the competence- and integrity-based trust in the government. This includes the development of clearer responsibilities between the MET and the MFMR. This is relevant also for the ongoing discussions on the development of the blue economy in Namibia. Finally, also more transparency about the CSR policy and performance of Debmarine will allow to enhance trust and legitimacy in the project proponent. Namibia is a country facing large inequalities and high numbers of unemployment, which makes societal development and the generation of jobs especially relevant. Ignoring such demands and associated societal tension with regard to marine diamond mining can have negative effects on the trust and legitimacy in the way in which the project proponent operates, potentially leading to a lower level of SLO. To conclude, the conceptual framework presented in this article offers a new starting point for SLO analyses. It offers a holistic approach incorporating how legal and political context shapes the process and status of a SLO.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.resourpol.2021.102153.

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