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In search of social sustainability in marine spatial planning: A review of scientific literature published 2005–2020

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ABSTRACT

A number of commentators have argued that up until now marine/maritime spatial planning (MSP) research and practice have been dominated by blue economy and environmental concerns and have tended to neglect what might be regarded as social sustainability concerns. To gain more insight into the character and extent of such a gap, as well as how to address it, this article examines how social sustainability has been addressed in peer reviewed scientific articles on MSP between 2005 and 2020. Using search terms such as participation, democracy, social inclusion, social cohesion, equity we systematically identify and review 310 scientific articles that address diverse social sustainability concerns within MSP and marine governance. The review showed that very few papers systematically conceptualised or developed a coherent framework for engaging with social sustainability. Instead, they mostly addressed particular social concerns including participation and engagement, equity and social justice, socio-cultural values and preferences. Marine management and planning efficiency, as well as related instrumental framings of the merits of participation were the key arguments for including these dimensions of social sustainability in MSP. In terms of how to better include social sustainability in MSP, most attention was given to social-cultural mapping and ways to improve social inclusion/participation while also redressing exclusion and maldistribution of outcomes in MSP practice. We conclude that there is a need to deepen and diversify MSP inquiry with respect to social sustainability. In particular, scholars would do well to delve deeper and more broadly in social science literature to find inspiration on ways to understand and elucidate social issues. Here, the enormous body of relevant work on justice, power, critical institutionalism, political ecology and terrestrial planning literatures has hardly been tapped. It is also evident from this review that there is a need for both the academic and practice-based communities to more comprehensively address how the multidimensions of social sustainability interact with each other, as well as with economic and environmental aspects of marine planning and governance. Based on these observations, we highlight a set of suggestions on how to develop MSP research and practice on social sustainability. Most importantly, we argue that more in-depth co-production, linking scholars, practitioners and society actors, is needed.

1. Introduction

Marine/Maritime Spatial Planning (MSP) has been widely acclaimed as a form of marine governance that can balance various objectives, interests and aspirations (e.g., Ehler et al., 2019; Jay et al., 2016; Morf

et al., 2019). As a framework for more integrated spatial governance, MSP has long been entwined with wider ocean sustainability issues, expressed for instance in the EU's Integrated Marine Policy (European Commission, 2007) or more recently, in the connection of ocean governance and the Sustainable Development Goals (SDGs) (Singh et al.,

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2018). The EU Directive describes the aim of MSP as “promoting the sustainable growth of maritime economies, the sustainable development of marine areas and the sustainable use of marine resources” (European Commission, 2014).

Scholars have engaged with the sustainability aspirations of MSP from various perspectives. A key discourse has emerged around the relationship between the environmental pillar of MSP and blue growth, leading to a debate on the degree to which the environment should set the limits within which maritime activities must be undertaken (Hassler et al., 2018). Accordingly, authors have critically assessed the links between MSP and the ecosystem approach to marine management (Crowder and Norse, 2008; Gilbert et al., 2015; Jones et al., 2016; Manea et al., 2020), considered possibilities of linking MSP to systematic conservation planning (e.g., Kirkman et al., 2019) and addressed the potential of MSP to encourage a sustainable blue economy (e.g., European Commission, 2020; Schultz-Zehden et al., 2019; Young, 2015).

Despite these efforts, the sustainability and MSP discourses have largely remained apart. The Ecosystem Approach and stakeholder participation, for example, have evolved in parallel in different contexts and with different objectives, and although they are increasingly brought together (Hassler et al., 2018), literature on stakeholder and community involvement in MSP rarely uses the wider sustainability discourse as a conceptual framework or analytical lens. The social dimension of sustainability is the least investigated dimension of sustainability in natural resource management more generally (Saunders et al., 2020) and in marine and coastal settings in particular (McKinley et al., 2020). By social sustainability (SS), we refer to recognitional, representational and distributive justice, which when broken down covers unarticulated concerns relating to culture, identity, gender, status, rights, lifestyles, wellbeing, ways of knowing, timely and effective participation, and the equitable distribution of access, risks, benefits, and capacities (Saunders et al., 2020). Some of these social objectives are stated in marine plans as high-level goals (e.g., an overall goal of fair and equitable ocean wealth distribution is in the draft MSP plan for central Namibia (Finke et al., 2020), and they are touched upon in a range of national and international policy documents (e.g., HELCOM-VASAB, 2010; Welsh Government, 2019; European Commission, 2014). Nevertheless, neither MSP scholarship nor MSP practice seems to address the “social gap” in MSP in a systematic and structured way (Gilek et al., 2018; McKinley et al., 2019, 2020; Saunders et al., 2020). This lack of connection and the strong scholarly focus on the economic and environmental goals of MSP not only fail to do justice to the broad and multi-dimensional sustainability promises of MSP, but also jeopardise the ability to link MSP to various SDGs and to holistic goal evaluation (Saunders et al., 2020).

To our knowledge, no comprehensive analysis has been carried out of the links that have been established between MSP and SS in the international academic literature. Our curiosity is motivated by the variety of social sustainability dimensions and conceptions that could conceivably come into play (Saunders et al., 2020), as well as the growing practical relevance of socio-cultural issues for both processes and outcomes of marine planning. This links to the social sustainability agenda outlined in the SDGs which calls for more explicit promotion of social inclusivity, democracy, equitable distribution of the goods and services derived from the sea and associated challenges to conceptualise and address strategic (national) interests beyond economic growth. In order to shed more light on the extent of this challenge, we performed a systematic review of peer-reviewed MSP articles to examine more closely how SS has been conceptualised by researchers and what insights this has generated. The resulting evidence base describes, synthesises and critically evaluates SS-related conceptions and activities in the MSP literature, as well as identifies critical research gaps. We also present insights for MSP practice, although this review explicitly focuses on scientific articles and does not include marine plans, national policy documents or experiences and views of marine planners. This will help identify different interpretations, contextual factors, shortfalls,

exclusions etc. and thus inform how to develop a more cogent and comprehensive approach to social sustainability in marine governance and MSP.

Three interconnected research questions were identified to guide our analysis: (1) How is social sustainability described – what are the key terms? (2) What key arguments are made for including social sustainability in MSP? (3) What strategies are proposed to address challenges and/or promote social sustainability in MSP? The first question aims to identify the conceptual basis of social sustainability used by the authors and their primary focus of enquiry. The second question is concerned with why social sustainability should matter in MSP. The third question is concerned with gaps in knowledge and possibilities for boosting engagement with social sustainability in MSP both in research and practice. We combine this focus with an analysis of who is writing about social sustainability, arguing that the disciplinary perspectives and their visibility within the wider body of academic MSP literature is likely to have an impact on how the three research questions are being addressed.

The paper first provides an overview of the methods employed during the literature search. We then highlight the most relevant bibliographic results and analyse the selected papers based on the three research questions. This is followed by a discussion of the results from a broader conceptual and practical perspective. Last, we present conclusions and avenues for future enquiry.

2. Methods

This literature review was organised and performed using the commonly used five steps of a systematic review process identified by Denyer and Tranfield (2009): (1) question formulation, (2) locating studies, (3) study selection and evaluation, (4) analysis and synthesis, and (5) reporting and using the results.

2.1. Selection of databases and bibliographic limitations

Three bibliographic databases were selected for the review: *Web of Science* (Core Collection), *Scopus*, and *ProQuest* (Social Science Premium Collection, ASFA: Aquatic Sciences and Fisheries Abstracts). *Web of Science* and *Scopus* were chosen because they were assumed to index a large majority of the articles published on MSP and social sustainability (SS). *ProQuest* was added to ensure that articles addressing SS from a wider social science, planning and marine science perspectives were captured if published in specialised journals not indexed in *Web of Science* or *Scopus*.

In line with the aims of the study to analyse scientific research on SS in MSP and to obtain a manageable number of sources, a decision was made to focus on peer-reviewed scientific articles published in English between 2005 and June 2020. There is an additional body of literature, consisting of mainly books and some grey literature, addressing various aspects of SS in connection with, for example, coastal small-scale fisheries in the Global South, marine and coastal governance, ocean sustainability, marine natural resources management and land-sea interactions (e.g., Bavinck et al., 2013; Carr, 2019a; 2019b; Chuenpagdee and Jentoft, 2018; Govan, 2016; Halpern, 2016; HELCOM, 2018; Jentoft and Chuenpagdee, 2015; Jentoft and Eide, 2011; Jerzak et al., 2019; Jones, 2014; Kidd et al., 2020; Minde et al., 2008; Urquhart et al., 2014; Zauha and Gee, 2019). While some of this material provided useful background reading, a decision was made to strictly focus on MSP and to not include any other material for reasons of relevance and feasibility (see section 2.5 on limitations of the study).

2.2. Choice of search term

Search terms were identified through discussions among the authors in line with the aims of the study. First, a general search was made using the search string (“marine spatial plan*” OR “maritime spatial plan*” OR (MSP AND (marine OR coastal))) AND (social OR cultural OR

societal OR society) (Search #1). This search generated a total of 850 hits (duplicates included), see Table 1. Analysis of the results of this search revealed that several important articles on topics of relevance to SS in MSP were not included. For example, several seminal papers by Flannery were not identified by this search string (Clarke and Flannery, 2020; Flannery et al., 2016, 2018).

Second, to better capture all relevant articles, a wider set of search terms were identified based on what discussions among the authors determined to be key components of SS or themes that cover one or several dimensions of SS (see also Saunders et al., 2020). The resulting search string was: (("marine spatial plan*" OR "maritime spatial plan*") OR (MSP AND (marine OR coastal))) AND ("social inclusion" OR participation OR deliberation OR self-organisation OR self-organization OR diversity OR health OR wellbeing OR "quality of life" OR equity OR "social justice" OR "environmental justice" OR power OR cohesion OR trust OR democracy OR "social capital" OR learning OR socio-cultural OR "good governance" OR "human rights" OR accountability OR ethic* OR "rule of law" OR openness OR transparency OR responsiveness OR governability) (Search #2). This search generated a total of 1163 hits (duplicates included), see Table 1.

2.3. Selection of articles

All articles obtained through the literature search were checked by one of the authors to ensure that they conformed with basic search criteria (i.e., peer reviewed scientific articles, English language). Any duplicates were also removed. The 981 articles that passed this screening were subsequently saved and imported to the Zotero reference management program.

In a second screening step the titles and abstracts of the imported articles were reviewed for their relevance to this study, identifying articles focusing explicitly on SS in MSP or on components/themes of key importance to SS in MSP. Specifically, the screening was performed by checking the relevance of each abstract based on the criteria: i) specific mention/engagement with SS in MSP; ii) mention/engagement with issue(s) that could be judged as key components/themes of SS in MSP as identified through the used search terms (or closely related terms/issues). It should be noted that these screening criteria were applied in a careful and allowing way meaning that articles were retained even if

Table 1
Number of hits for each search string and database.

	Date	Database	Hits
Search #1		Search string: (("marine spatial plan*" OR "maritime spatial plan*") OR (MSP AND (marine OR coastal))) AND (social OR cultural OR societal OR society)	
	June 3, 2020	Web of Science: Core Collection (Topic; Limit to "Article")	399
	June 3, 2020	Scopus (TITLE-ABS-KEY; Limit to "Article" or "Article in Press")	280
	June 3, 2020	ProQuest: Social Science Premium Collection; ASFA (Abstracts; limit to "Article" and "Peer review")	171
Search #2		Search string: (("marine spatial plan*" OR "maritime spatial plan*") OR (MSP AND (marine OR coastal))) AND ("social inclusion" OR participation OR deliberation OR self-organisation OR self-organization OR diversity OR health OR wellbeing OR "quality of life" OR equity OR "social justice" OR "environmental justice" OR power OR cohesion OR trust OR democracy OR "social capital" OR learning OR socio-cultural OR "good governance" OR "human rights" OR accountability OR ethic* OR "rule of law" OR openness OR transparency OR responsiveness OR governability)	
	June 3, 2020	Web of Science: Social Science (Topic; Limit to "Article")	373
	June 3, 2020	Scopus (TITLE-ABS-KEY; Limit to "Article" or "Article in Press")	323
	June 3, 2020	ProQuest: Social Science Premium Collection; ASFA (Abstracts; limit to "Article" and "Peer review")	467

search words were not explicitly mentioned in the abstracts – but important SS themes were still being addressed. Similarly, while the initial 981 articles included also papers that focus on specific marine planning related fields such as integrated coastal zone management, marine protected areas etc., rather than on MSP as such, these were only removed if they did not meet the relevance criteria. Still, quite a large number of articles were found to not meet the relevance criteria and were not retained for analysis. For example, we found a substantial number of articles that focus purely on natural science perspectives, technical tools, sectoral issues (such as fisheries) and legal aspects etc. without explicitly mentioning MSP and SS themes and components. While each article was screened by one of the authors, in less obvious cases the decision to exclude an article was made in consultation with the other authors. This resulted in a final list of 310 papers.

2.4. Method of analysis

Information about author, year of publication, title, journal, and first author affiliation was put into a word file together with brief notes or quotes for the three research questions outlined in the introduction (i.e., How is social sustainability described? What key arguments are made for including social sustainability in MSP? What strategies are proposed to address challenges and/or promote social sustainability in MSP?). The review file is accessible as supplementary material on the journal website. The summarising notes were then analysed, question for question, in order to find specific themes, patterns, and where possible, typologies in the material, as reported below in the results section. Although the 310 articles were initially divided between the four authors responsible for reading and analysing the articles, in many cases one and the same article was read by more than one person. The findings were presented and discussed at recurrent project meetings involving all authors.

2.5. Limitations of the study

As explained above a number of choices (with associated limitations) were made when conducting the review. First, we decided to review only scientific articles published during the last 15 years (2005–2020). While we acknowledge that any specific restriction on how far back the literature is reviewed is somewhat arbitrary and may involve missing some insights in the earlier literature, we are confident that this choice was justified by the aims of the study. In scoping the study, we made a conscious choice to focus on the period when MSP moved away from its predominant marine conservation focus (such as early zoning plans created for the Great Barrier Reef) and became more multi-objective and mainstream, following the first international workshop on MSP organised by the Intergovernmental Oceanographic Commission (IOC) of the United Nations Educational, Scientific and Cultural Organization's (UNESCO) in 2006 (Ehler et al., 2019). This allows the study to focus on the more contemporary descriptions, arguments, strategies and challenges in MSP research. Conceptually, it would certainly be interesting to look at the early understanding of MSP to track any changes the concept might have undergone in its relation to sustainability, but practically, this would need to be a separate study. We also consciously excluded ICZM as an explicit search term which would have given yet another and possibly quite different perspective on social sustainability. A final note on this issue is that the 310 articles reviewed in this study build and refer to previously published articles and books – meaning that indirectly these earlier developments in the academic discourse are also covered to some extent.

Second, in line with our ambition to focus on mainstream academic MSP literature, we limited the analysis to articles published in peer reviewed academic journals. Reports, plans and many books are not peer reviewed and often chapters are published in anthologies that are difficult to identify through systematic literature selection strategies. However, while the wider grey literature could potentially introduce some additional insights, it is argued that the large set of analysed peer

reviewed articles (310 articles) is sufficiently comprehensive to generate a thorough understanding of academic research on SS in MSP. Also, it is not uncommon for chapter content (or grey literature for that matter) to be published or referred to in article forms.

Third, the review was limited to articles written in English and retrievable via three important bibliographic databases Web of Science, Scopus, and ProQuest. While we acknowledge that the focus on English-language articles in part is a pragmatic choice based on our own limited language skills, it is also in line with our aim to analyse mainstream academic MSP literature where the majority of the articles are in English. For example, 97% of the articles found when running search string #2 (Table 1) in Web of Science where in English, with only a few papers found in other languages, but with English abstracts (and in fact most of these would have been excluded based on our relevance criteria). Still, our analysed articles include many international teams and authors from non-English speaking countries, so we feel confident that we covered a diversity of researchers from various backgrounds even though the predominant language is English.

3. Results

3.1. Bibliographic results

3.1.1. In which journals are the articles published?

The 310 articles are published in a total of 82 different journals covering natural and social sciences as well as interdisciplinary analysis of marine/coastal, sustainability and planning issues. Many journals are only represented by one or two of the reviewed articles (i.e., 53 and 12 journals, respectively). Interestingly, this large group of journals with only few articles consist not only of sectorally and regionally specialised journals (e.g., Current Issues in Tourism, Energy Policy, European Journal of Environmental Sciences) but also include high impact journals (e.g., Science, PNAS, Journal of Cleaner Production), as well as influential environmental, sustainability and planning journals (e.g., AMBIO; Nature Sustainability; Environmental Science and Policy; Ecology and Society; Land Use Policy). Among the eleven most frequent journals two journals published by Elsevier (i.e., Marine Policy and Ocean and Coastal Management) stand out by far as the most dominant journals for publishing research on social sustainability (SS) in MSP (Table 2).

3.1.2. Who writes about social sustainability in MSP?

Unsurprisingly, a majority of the articles were authored by academics (90%). The remaining articles were mainly written by first authors affiliated with public organisations (4%) such as Ministry of Infrastructure (Netherlands), California Natural Resources Agency (USA), NOAA (USA). Finally, a few first authors were affiliated to consultant firms or private sector organisations (3%; e.g., Redstone Strategy Group, USA, Research Ltd, UK, sPro, Germany), NGOs (3%; e.g., Coastal First Nations Initiative, Canada; WWF, USA; Blue World Initiative, Croatia) or were unaffiliated. In terms of multi-actor collaborations, we found 36 articles (12%) that were jointly published by teams consisting of authors affiliated with three or more different types of organisations (i.e., universities/research institutes, NGOs, public organisations and private organisations). Looking at country affiliation of first authors, most articles were written by authors with affiliations in English-speaking countries (such as USA, Australia, Canada, UK) or European countries (i.e., 93.5% in total) (Fig. 1). While first authors came from a total of 37 countries, it is striking that very few were affiliated with organisations in Africa (2%), Asia (2%) or South America (3%). Among the academic first authors a variety of disciplines/scientific fields were represented with a predominance of planning, geography, environmental studies and marine sciences (Fig. 1). The bibliographic data showed that 9% of the first authors came from traditional social science departments such as political science and sociology – it should be noted that this figure excludes possible first

Table 2

Distribution of the 310 reviewed articles on social sustainability and MSP among peer reviewed scientific journals (eleven most frequent journals). Journal Impact Factors (IF) are, except in the case of PLOS ONE, based on information retrieved from the journal websites on August 4, 2020.

Journal	Academic Scope & Impact Factor (IF)	# of articles
Marine Policy	Ocean policy studies; IF 3.228	100
Ocean and Coastal Management	Ocean and coastal management; IF 2.482	56
Journal of Environmental Management	Managing environmental systems and improving environmental quality; IF 5.647	9
Frontiers in Marine Science	The environment, biology, ecosystem functioning and human interactions with the oceans; IF 3.661	7
Journal of Environmental Policy and Planning	Critical analysis of environmental policy and planning; IF 3.040	7
Conservation Biology	The science and practice of conserving Earth's biological diversity; IF 5.405	6
Maritime Studies	Interdisciplinary social science research on maritime and coastal matters; IF 1.540	6
Applied Geography	Research utilising geographic approaches to resolve human problems; IF 3.508	5
ICES journal of Marine Science	Marine systems and the impact of human activities on them; IF 3.188	5
PLOS ONE	Research in a wide set of subject areas across science, engineering, medicine, and the related social sciences and humanities; IF 2.870 ^a	5
Sustainability	Environmental, cultural, economic, and social sustainability of human beings; IF 2.576	5

^a <https://academic-accelerator.com/Impact-Factor-IF/PLOS-ONE>.

authors who are social scientists within other disciplines (such as geography) or social scientists affiliated with non-social science departments.

3.1.3. When (between 2005 and 2020) are the articles published?

Fig. 2 shows the number of reviewed scientific articles published per year between 2005 and June 2020. The data shows that there has been a steady increase in publications over the analysed years.

3.1.4. Geographical areas and issues focused

While a large percentage of the articles have a cross-national perspective or discuss marine governance/MSP on a general/theoretical level (around 24% of the articles in the review), a majority of the articles have an Anglo-American perspective and focus on MSP in e.g., USA, UK, Australia or Canada (around 36%). Analyses of European MSP and marine governance (i.e., 28% - not counting UK) were also common (e.g., related to the EU MSP Directive and MSP in specific regional seas such as the Baltic Sea). Several studies also focus on MSP processes in individual European countries such as Ireland, Germany and Portugal, with a total of 14 European countries being studied in at least one of the reviewed articles. On top of this a quite large set of countries and regions across the world (i.e., 50 in total) were the focus of individual articles (i.e., 1–3 articles). This included case studies from South America (e.g., Chile, Columbia, Brazil), Africa (Zanzibar, South Africa), Asia (e.g., China, Indonesia, Philippines) and Oceania (e.g., Fiji, Pitcairn Island, Solomon Islands), and the Middle East (Lebanon, Israel).

Thematically, the reviewed articles focused on a wide set of specific MSP topics that have a connection to SS (see further results on the first research question in section 3.2). Accordingly, they also employed a plurality of analytical perspectives. The most prevalent of these are presented in Table 3.

3.2. How is social sustainability described – what are the key terms?

In the literature analysed, it is notable that only a small proportion of

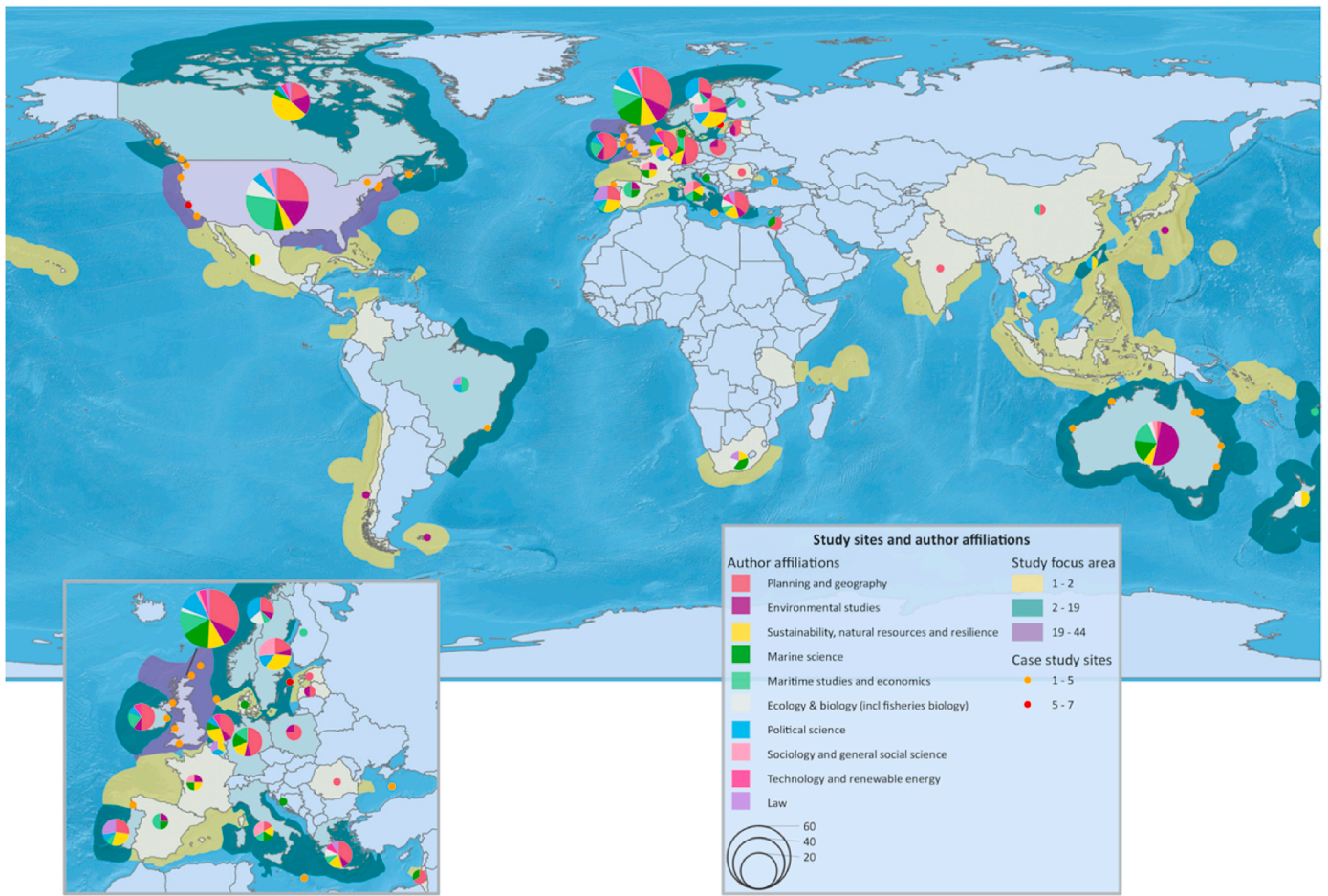


Fig. 1. Geographical distribution of studied sites by country and specific case study locations (excluding articles with a general/theoretical focus); and academic and non-academic first author country affiliations as well as the scientific research fields of the articles first-authored by academics.

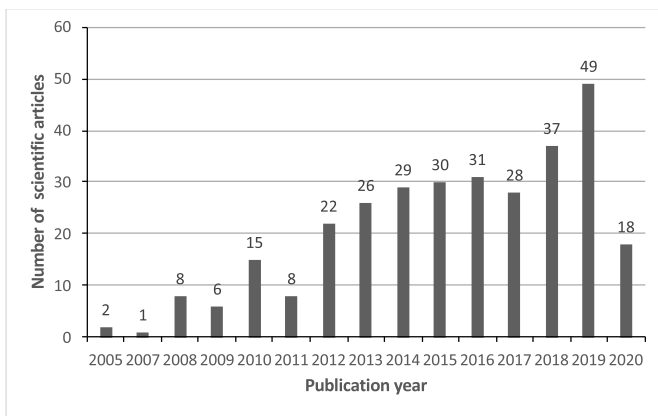


Fig. 2. The number of scientific articles found in the literature review on social sustainability in MSP and their publication year (2005–2020). Note that the data for 2020 only includes the first five months.

articles (about 3%) contain an explicit definition of SS (Fig. 3). Saunders et al. (2020) stand out with an attempt at theorising SS for the MSP context and making available analytical categories. In that paper, SS is defined as coterminous with social justice, which is further elaborated through the dimensions of equity, democratic engagement and social inclusion/cohesion (p.5). The authors then suggest three analytical categories for analysing SS, which are recognition of socio-cultural diversity, representation in decision-making, and distribution of goods

Table 3

Most prevalent MSP topics centred in the 310 reviewed articles on social sustainability and MSP. Note that individual papers in some cases address several topics.

MSP topic addressed	# of articles	%
MPA planning, incl. relations to sectors such as fisheries, tourism, aquaculture	58	19%
MSP frameworks (legal, institutional) and practice – incl. case studies	55	18%
Planning tools, indicators and methods	49	16%
Participation and deliberation	42	14%
Social/cultural values, interests incl. heritage	28	9%
Critical perspectives on MSP and MPAs	24	8%
Ecosystem services	22	7%
Ecosystem approach to marine management	20	6%
Markets, valuation and economy	17	6%
Renewable energy: wind, tide etc.	17	6%
Use conflicts	15	5%
Monitoring and evaluation	11	4%
Integration	10	3%
Sustainability and transformation	9	3%

and bads (p.6). Grimmel et al. (2019) also mention social justice, but put forward social resilience and social acceptance as additional dimensions of SS. Elwell et al. (2018) use SS as an analytical framework; their paper has a specific focus on the special rights, livelihoods and wellbeing of indigenous communities, in particular small communities that might otherwise be overlooked in MSP and other spatial management approaches. One paper mentions socio-cultural sustainability, but does not

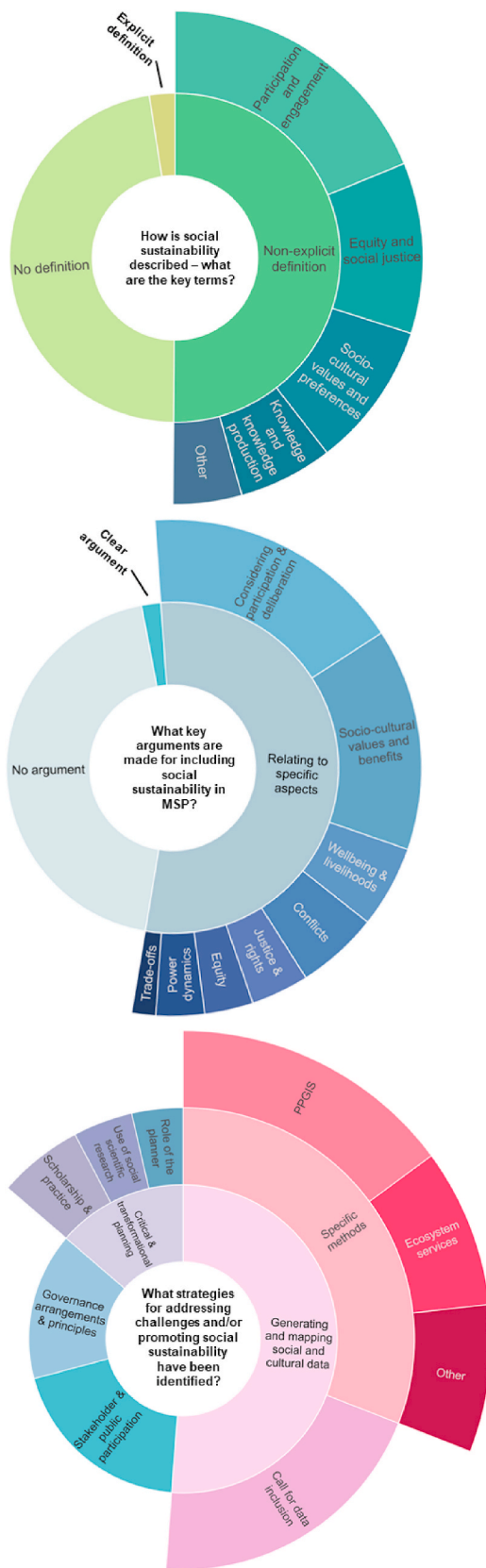


Fig. 3. Key descriptions, arguments and strategies for addressing or promoting social sustainability identified in scientific peer reviewed articles between 2005 and 2020.

provide a clear definition; key descriptive terms include livelihood, well-being, social identity, fairness and equity (Pomeroy et al., 2015). Sanguiliano (2019) also refers to social and cultural aspects of sustainability, but as separate categories; linked to these well-being, health, education and aesthetics are key terms.

Although they do not define, consider or centre SS as such (Fig. 3 and Table 3), 141 papers nonetheless explicitly refer to related concepts or use key terms as a reference point for analysis. Out of these, the largest group (67 papers) refers to participation and engagement, followed by equity and social justice (40), socio-cultural values and preferences (34), and knowledge and knowledge production (22) (note that one paper can relate to several of these categories). Other terms (in order of frequency) include conflict management, human well-being, livelihoods and viable communities, followed by empowerment, access, legitimacy, integration, social capital, human rights, social cohesion, influence, identity, peace building, poverty alleviation, social learning, inclusion, and gender. 169 papers do not offer any specific definitions of SS terms or related concepts, although they clearly do consider topics of relevance. Here, assumptions are often implicit, and any mention of SS issues is merely in passing, often as part of generic introductory statements such as the need to promote societal benefits in resource management or the importance of including user perspectives in management.

Papers referring to participation and engagement mostly consider MSP from a process perspective. (Political) representation is the key issue here, which is often linked to notions of transparency, empowerment, justice and fairness. Fairness, equity and justice in this context refer to the representation of different groups in decision-making processes, but also to the consideration of diverging views, beliefs, interests and needs and how input is weighed (e.g., Piwowarczyk and Wróbel, 2016). Recognition of diverse social and cultural values and different forms of knowledge plays into this, emphasising the close connection between the political and cultural dimensions of SS. Participation is also discussed from the perspective of co-production of knowledge, collaboration or transformation, emphasising once again the process dimension of MSP and the political implications of this process and its associated structures in terms of democratic control (e.g., Flannery et al., 2016).

The economic dimension of SS is least strongly represented in the papers, although terms like livelihoods and well-being suggest some consideration of the effects of MSP or MPAs in terms of access to resource issues and relatedly distribution of goods and bads. Livelihoods are frequently discussed in an artisanal fisheries or local community context, against a background of change and increasing vulnerability and the need for communities to diversify and local people to secure jobs. Flannery et al. (2016) explicitly consider winners and losers of MSP processes in terms of the distributive effect of MSP; Ramos et al. (2014) consider employment in concert with heritage, lifestyle and healthy living as key dimensions of socio-cultural sustainability.

A term strongly associated with social sustainability discussed in only two papers is social capital, which is related to trust and potentially also social cohesion. Social capital is defined as an intermediate outcome of participation, and is related to the interaction among participants and the development of networks, increasing the capacity for the exchange of knowledge and building trust (Oen et al., 2016). Another noteworthy aspect is that gender is only considered in two of the papers, making it clearly underrepresented as a dimension of representation (de la Torre-Castro, 2019; de la Torre-Castro et al., 2017) and impacts of MSP decision-making.

Most SS issues are not considered in isolation, which arguably reflects the multi-faceted nature of SS as well as the mix of analytical and normative approaches in the literature. Ntona and Morgera (2018) for instance are concerned with fair and equitable benefit-sharing, which they relate to preventing conflicts between stakeholders, alleviating/preventing poverty in coastal communities, human well-being, and environmentally sustainable economic growth. Some papers broaden their approach even further, placing SS within the context of

social-ecological systems, for example defining the potential for social-ecological sustainability as the likelihood that human and nonhuman components of the focal coupled SES will be maintained so as to meet the needs of both people and nature, now and in the future (Leslie et al., 2015).

3.3. What key arguments are made for including social sustainability in MSP?

As for the previous question, only very few articles (ca. 2%) make clear arguments for including SS as an explicitly mentioned (multidimensional) concept (Fig. 3). On the other hand, a larger number of articles (about 50%) present arguments relating to specific aspects linked to SS. Prevalent issues/arguments mentioned include the importance of promoting and considering participation and deliberation, socio-cultural values and benefits, conflicts, justice/rights, power dynamics, wellbeing and livelihoods, equity and trade-offs. While a few articles made normative ethical/rights-based arguments for the inclusion of such SS aspects, most of the articles made more instrumental effectivity-related arguments. Such instrumental arguments included the importance of social and cultural considerations and data to facilitate rational planning and an ecosystem service-based approach, as well as to promote legitimacy, trust and effectiveness in marine governance.

Hence, the literature advances several interrelated reasons for including SS and social science methods in marine governance practice and scholarship, which can cater for three broad socio-political concerns, namely governance efficiency, human wellbeing and democracy. Of these factors, ensuring management/planning efficiency constitutes the most prominent concern among scholars. For many authors, marine/coastal management and governance initiatives can become successful in implementing resource management and use strategies if they are informed by and incorporate SS concerns and social science methods. However, the bulk of this literature conceives SS narrowly in terms of representation/participation, thus ignoring equally vital elements of SS (e.g., recognition and distribution). What is more, “success” is often conceived less in terms of these key SS elements as important in their own rights, and more in instrumental terms of reducing conflict or making planning more efficient. Here, it is assumed that inviting coastal communities and fisheries to participate in decision-making processes will secure their support, which should render management decisions credible, reduce opposition to conservation and development programs and thus reduce transaction costs for development and conservation (Tafon, 2019). As a case in point, Schultz et al. (2007, p. 140) argue that the participation of coastal communities is vital because ‘many of the social processes that support or obstruct conservation take place at the local level’. They further add that ‘engaging local actors may lower the transaction costs of sustained conservation’ and ‘can also improve incentives for ecosystem management’ (p. 140). Bennett (2019) takes a broader view of SS beyond representation yet maintains the efficiency discourse according to which the tendency to ignore the social context of sustainability can lead to a ‘backlash against conservation, management or development initiatives’ (p. 249). That said, arguably, the efficacy discourse may overlap and interact with other more ethically/morally grounded arguments promoted in the same paper.

Another key argument for taking SS seriously is the idea that marine and coastal resources provide humans with various economic, nutritional and socio-cultural functions. This dependence argument is typically characterised by a poverty and vulnerability discourse whereby the function of ecosystems services in alleviating poverty is underscored, but usually not differentiated in any detailed way. Also underpinning the dependence literature is the idea of wellbeing as intangible. By challenging conceptions in which wellbeing is predominantly conceived in economic terms, many scholars make linkages between the ocean/coast and values of different sorts, including cultural, aesthetic and religious values (see Gee et al., 2017). From this point of view, steering the oceans and coasts to meet people’s nutritional and intangible

socio-cultural needs is ‘the right thing to do’ (Bennett, 2018, p. 140). Accordingly, efforts to maximise the ocean’s full benefits to humans must be strengthened by social science methods (e.g., participatory GIS; stakeholder analysis etc.) that can effectively spatially map and account for diverse local cultural and spatial values and identities, as well as livelihood strategies and resource management practices (Klain and Chan, 2012). Such efforts should also identify and address issues of misrepresentation, resource maldistributions, as well as misrepresented ocean/coastal knowledge, rights, vulnerabilities and status (Saunders et al., 2020). Many conclude that failure to do so is unethical (Bennett, 2018; Tafon et al., 2019b), counter normative – does not follow policy and legal principles/requirements – (Ramos et al., 2014; Schultz et al., 2007) and can stymie overall sustainability ambitions (as represented in the SDGs and elsewhere) (Saunders et al., 2020).

Advancing democratic ocean governance is promoted as a key reason for including SS. Proponents of democratic renewal typically seek to draw attention to and reduce power asymmetry, which is believed to constitute a key obstacle to a just, equitable and sustainable ocean and governance. A key argument is that exclusionary processes, often stemming from post-political and techno-managerial forms of ocean governance tend to legitimise predetermined (often development) outcomes (Tafon, 2018) thereby undermining the norms of democracy, sustainability, justice, recognition and distribution (Flannery et al., 2016). Proponents argue that paying attention to and addressing power asymmetries at various levels of decision-making can increase inclusivity, empower weaker groups, address conflict, increase the legitimate authority or consensual agency of decision-makers, build trust, generate new knowledge, promote collective sense-making on sustainability challenges, build capacity for informed decision-making and foster legitimacy, transparency, effectiveness, efficiency and distributive justice (Flannery et al., 2016; Jentoft, 2017; Kidd and Ellis, 2012; Tafon et al., 2019b). In this sense, power is conceived not only as restrictive but also as a productive force. Here, the literature sheds light on “voices from below” that seek to challenge hegemonic rules and norms around what sustainability is or should be, thus raising concerns around recognition and representation, as well as resource access, control, stewardship and distribution (Tafon et al., 2019a).

3.4. What strategies are proposed to address challenges and/or promote social sustainability in MSP?

Around 45% of the articles in the review give one or more suggestions regarding how to address challenges and/or promote various aspects relating to SS in MSP or marine governance (Fig. 3). Most of these suggestions relate to calls for generating and mapping better data on social and cultural values, as well as data on related issues of conflicts, vulnerability, risks etc. Other ideas include, for example, development and implementation of rational planning tools (often linked to ecosystem services), various ways to develop stakeholder participation, engagement and local co-management, as well as suggested ways to develop governance arrangements and to implement good governance principles.

3.4.1. Generating and mapping (better) social and cultural data

Quite a number of articles make arguments for the need to generate and include *more and better information on social and cultural values*, stakeholder preferences, conflicts, impacts, vulnerabilities etc. Many of these studies also propose specific approaches and methods. It is possible to identify two general types of arguments in this category.

First, several articles voice either *general calls for socio-cultural data inclusion or suggest types of data to be included*. For example, St Martin and Hall-Arber (2008) argue that social data is a ‘missing layer’ in marine planning and that knowledge of various stakeholders’ uses and values of marine space should be included in planning (in a spatially explicit way). Other authors present more articulated and varied suggestions on data needs, for example, calls for a thorough mapping and

understanding of differing roles and social equity (Newton and Elliott, 2016); mapping of traditional use, social assets and measuring social well-being (Mangubhai et al., 2015); or generating an understanding of the constraints and business of fishers (Yates, 2014). Even more detailed suggestions on data needs include cultural heritage (Khakzad et al., 2015); socio-ecological vulnerability (Sowman and Raemaekers, 2018); interrelations among marine uses (Voyer et al., 2017); biocultural place relations and the perspective of youth (McRuer and Zethelius, 2017), and mapping of silent/silenced interests and uses (Trouillet, 2019).

Second, a large group of articles present various ideas on how to develop and implement *specific methods* to generate (often spatialised) information on social/cultural values and preferences. Public participation GIS (PPGIS) and methods to assess cultural ecosystem services (CES) attract most attention. PPGIS and related methods are generally considered a good way to generate spatialised information on the social/cultural values and preferences of coastal/marine stakeholders and citizens, as well as to enhance transparency and collaboration (e.g., Blake et al., 2017; Merrifield et al., 2013; Strickland-Munro et al., 2016). Burnett (2020) specifically suggests how to develop and ensure representation and equitable distribution of power in PPGIS processes, linking the generation of information (an instrumental purpose) to dimensions of fairness (a normative purpose).

In relation to ES methods, papers are mostly concerned with the integration of non-material values and preferences in decision-making and the development of related frameworks, typologies and methodologies (e.g. Bohnke-Henrichs et al., 2013; Chan et al., 2012; Katsanevakis et al., 2011, for non-monetary valuation techniques). Some authors present case studies of the use of ES methodologies that include social and cultural ES in specific contexts. For example, Sanguiliano (2019) develops and adopts a method for analysing the prevalence of ecosystem services (social and cultural ES are included) in the objectives and policies of Scotland's National Marine Plan. In a study of an Estuary in central Chile, Elwell et al. (2018) used people's perceptions of ecosystem services to guide modelling and management efforts – specifically to identify 17 benefits and potential interventions for the estuary.

The reviewed articles also include a number of additional suggested approaches and tools to address specific challenges: consideration of multiple-objectives (Lombard et al., 2019); integration - e.g. sectoral, knowledge, stakeholder (Gee et al., 2019); outcomes among social equity, economic return, and conservation (Halpern et al., 2013a); economic benefits and beneficiaries (Weig and Schultz-Zehden, 2019); and trade-offs and co-location (Johnson et al., 2020; Yates et al., 2015).

3.4.2. Improved stakeholder and public participation/engagement

In line with the large number of papers focusing on the MSP process as part of social sustainability, many suggestions are presented for how to improve stakeholder and public engagement in MSP. Both instrumental and normative considerations come into play: While some authors argue that engagement is essential for building a deeper (critical) analysis/understanding of the marine 'problem' (Ritchie and Ellis, 2010), others argue that recognition, representation, and consideration of power and exclusion are vital to, for example, minimise mistrust, support future engagement and empowerment and to promote distributive and procedural fairness (Flannery et al., 2018; Fleming and Jones, 2012; Grimm et al., 2019; Ntona and Morgera, 2018).

In terms of practical suggestions, many articles focus on aspects of collaboration, co-management/partnership and integration of stakeholder input and influence in the planning process (e.g., Fox et al., 2013). Baker and Constant (2020) focus on epistemic justice and the integration of local ecological knowledge for marine conservation in a case study from the Seychelles – arguing for a primary focus on networks and collaborative knowledge production rather than consultation. Diggon et al. (2019) propose a nested, indigenous community-based approach as beneficial for conflict management and for the protection of First Nations governance and economy, cultural values and activities, and resource management priorities. Additional suggestions and

approaches forwarded include: promoting an enabling environment for local partnerships (Kelly et al., 2012); cooperation across multiple scales, acknowledging multiple meanings (Kannen, 2014); citizen science as a way of creating cooperative spaces (Jarvis et al., 2015); inclusion and analysis beyond stakeholder groups (Munro et al., 2017); knowledge-based integration networks of local and global knowledge (Gerhardinger et al., 2018); and fostering local level social capital and cohesion (Bakker et al., 2019).

3.4.3. Governance arrangements and principles

In the context of the need to develop intersectoral planning Bruns and Gee (2009) promote the need to develop more collaborative and deliberative approaches to marine planning. Such a shift is suggested to include a focus on good governance principles/functions such as deliberation, transparency, legitimacy, and accountability. This is argued to be especially important when substantive goals are unclear, contradictory or unarticulated. Similar arguments for the need to (context-specifically) develop governance arrangements in line with good governance principles (as well as a further set of named principles linked to precaution, intergenerational equity etc.) are forwarded by several authors in the context of, for example: MPA planning (Cicin-Sain and Belfiore, 2005); the Great Barrier Reef Marine Park (Hassan and Alam, 2019); Scotland (Smith, 2018) and Baltic Sea MSP (Piwowarczyk et al., 2019). In a case study in Puck Bay, Poland, Piwowarczyk and Wrobel (2016) search for what they view to be determinants of legitimate governance. It is concluded that there is a need to focus on improved transparency, consistency and accountability of the decision-making process by ensuring that institutional responsibilities do not overlap and that key players do not play many, potentially conflicting, roles.

3.4.4. Critical and transformational planning approaches

In mostly articles published since 2015, several authors argue for strategies developed as part of a critical planning scholarship or a transition/transformation perspective. Three main types of suggestions can be identified within this category.

First, a group of authors present insights from case studies and/or theoretical/conceptual analysis that urge for *a more critical MSP scholarship and practice* (e.g., Fairbanks et al., 2019; Jay, 2018; Karnad and St. Martin, 2020). Flannery et al. (2016, p.127), for example, argue, based on a set of case studies from around the world, that 'we need to begin thinking about what spatial, environmental or social justice would look like in a marine context, and how the "land" value derived from marine development could be captured and deployed for socially progressive purposes'. Clark and Flannery (2020) assert that a 're-politicisation' of MSP is essential for the development of an equitable and radical MSP that breaks with various path dependencies and entrenched concepts. This will need to involve a recentralising of conflict in marine governance, the deliberate redesign and transformation of marine governance regimes, and the development of strategies to empower stakeholders. On a slightly different note, Jentoft (2017) and Smith and Jentoft (2017) focus on the need to address skewed power/influence dynamics among stakeholders through procedural justice and institution-building that facilitates power-sharing, communication, deliberation, mediation, and interactive learning. Notable additional concepts and issues focused in the various strategies and approaches forwarded include: 'rights-based management' (Sale et al., 2014), 'fairness and equity in transitions' from one marine/coastal regime to another (Rennie, 2010), 'flexible and responsive' approaches (Jay, 2018), and 'contextually applied' MSP and MPA processes (Sale et al., 2014).

Second, the *vital role of the MSP planner* is focused on in some recent articles in response to what is seen as a lack of scholarly attention on this aspect of marine planning. Retzlaff and LeBleu (2018) argue that planners and planning scholars with experiences from land-based planning could contribute important insights on for example participation, equity, contextuality etc. Similarly, Tafon et al. (2019a) propose 'pragmatic adversarialism' as a role for planners to 'ensure procedural fairness'

in MSP, while Tafon et al. (2019b) argues that an 'ethico-political' planner may contribute towards more equitable processes and outcomes. In a retrospective study of stakeholder consultations in Norwegian marine planning, Sundsvold and Armstrong (2019) articulate a similar idea of developing the planner's role as 'wise arbitrator'.

Finally, a variety of calls are made for *making better use of social science and participatory research* knowledge and methods, for instance to identify the distributional effects of MSP (Kidd and Ellis, 2012), to consider community health and wellbeing (Pittman et al., 2019), or to promote inclusivity, equity and responsibility in marine governance (Bennett, 2018, 2019).

4. Discussion

As detailed in the results section, our systematic review of the international academic literature has generated a comprehensive evidence base on the links between MSP and SS, in response to our research questions. The results show a diverse array of SS conceptualisations, arguments and suggestions being made in the analysed MSP research articles. More detail on key insights of significance for MSP research and practice are discussed below.

4.1. Research engagement, themes and gaps

First, we turn our attention to the two research questions on understanding the conceptual basis of SS and arguments for why SS should matter in MSP. The bibliographic results of the literature review show that SS has become a growing focus in MSP research over the years, indicated by the steady growth in the number of papers published annually. Looking at the journals where the papers have been published, and combining this with the affiliations of the first authors (which admittedly is only a rough indicator of disciplinary focus as many groups are interdisciplinary), it is apparent that SS issues in MSP are largely discussed within geography and planning, as well as from a policy and oceans perspective, but less so from a purely social or environmental science perspective. While there are some exceptions, such as human and social geographers, it would appear that social scientists are underrepresented in terms of primary disciplinary basis, possibly indicating that "social sustainability is put into MSP" rather than social scientists choosing MSP as a subject of enquiry. Still, the number of articles on SS in MSP have increased steadily over the years included in this study, where especially the rise in 'critical' and 'transformation focused' articles can be interpreted as a growing engagement of social science with MSP and SS (e.g., Flannery et al., 2016). We hypothesise two possibly important drivers for this development. First, the number of MSP processes and plans that have led to tangible outcomes and potential societal impacts (such as representation and distributive effects) has grown recently, only making an evidential base available for scrutiny over the last ten, or even, five years (Ehler et al., 2019). Second, we find it likely that the 17 SDGs developed as part of the United Nations' 2030 Sustainable Development Agenda make the marine social connection more visible and tangible than the previous Millennium Development Goals (Ntona and Morgera, 2018). While SDG 14 (Life Below Water) is aimed at realising economic, environmental and social objectives at sea, it is clear that most of the other SDGs are also applicable in the marine setting. This emerging awareness of the links between the different dimensions of sustainability in marine settings, in combination with the growing awareness of the contribution social sciences can make to marine governance (McKinley et al., 2020) is no doubt leading to enriching social science engagement in MSP (Bennett, 2018). Hence, it is apparent that over the years, SS has been conceptualised and argued/motivated pluralistically, which is evident by the many analytical perspectives and arguments that are mentioned in this review (i.e., participation and engagement, equity and social justice, socio-cultural values and preferences, knowledge and knowledge production). Nevertheless, it is striking that very few papers offer a

definition of SS or similar overarching concepts. While all the papers analysed do consider elements that contribute to, or form part of conceptions of SS, they only rarely refer to, or argue for, it as a dedicated frame of reference. Social justice and equity are most commonly employed as overarching concepts – arguably they can be taken as synonymous with at least the core foundations of SS (Grimmel et al., 2019; Saunders et al., 2020).

Given the many and diverse interpretations of social sustainability, we use the social sustainability framework developed by Saunders et al. (2020) as a template for analysis. Drawing on Fraser's (2008) theory of social justice, this framework brings together various facets of social sustainability. It consists of economic, political and cultural dimensions that are arranged in a triangle, with SS as the central bridging concept. One corner of the triangle relates to representation, another to recognition and the third to distribution. Using this framework as an analytical template, it is apparent that the majority of papers either relate to representation (defined as who is included and excluded in different decision-making situations and how such inclusion is achieved) or recognition (defined as recognising diverse group identities and related rights, needs, livelihoods, lifestyles and knowledges). Stakeholder participation in MSP, for example, is often considered from the perspective of who has been included and excluded in the MSP process and which contributions have been valued and influential in decision-making (Flannery et al., 2018; Pomeroy and Douvere, 2008). This to some extent, at least obliquely, addresses issues of power (Tafon et al., 2019b) and is linked to tools and methods that could be used for achieving greater procedural equity, including deliberative methods or approaches or methods for acknowledging and including a diversity of value sets (e.g., Halpern et al., 2013b; Strickland-Munro et al., 2016). While linking representation and recognition to achieve procedural fairness and equity therefore emerges as a broadly acknowledged requirement for SS in MSP, the steps between inclusion and influence in decision-making and their distributional consequences are rarely made explicit with only a few papers engaging with these issues in a theoretically informed or critical way.

There is much less focus on the social impacts of marine spatial plans, understood broadly as the distribution of risks, benefits, capacities or resources in MSP, especially in relation to disadvantaged groups. While it may be early days to evaluate distributive impacts of MSP plans, there have been few attempts to consider such distributional effects in any meaningful way in plan-making. Distributive effects may be less popular as a subject of analysis because of unresolved methodological challenges surrounding the measurement and scale of impacts (e.g., Weig and Schultz-Zehden, 2019), or because identifying distributive impacts is not seen as important from a public policy or political perspective. This is in contrast to MPA-related literature where there is a special focus on small-scale fishers, often from the perspective of distributive advantages and disadvantages of management (Charles and Wilson, 2009; Weigel et al., 2014). The fact that there is little transfer between MPA and MSP-based literature suggests that both are regarded as distinct phenomena by their respective epistemic communities. A possible reason is also that much of the MPA work is in the Global South, where the implications of 'locking up' resources may have more direct and/or severe consequences for those living in or nearby marine parks (cf., Weigel et al., 2014). It may also be because of customary rights, claims and legal pluralism contexts that affect MPA design and management, or because the efficacy of MPA planning processes (and their reproductive practice) depends much more on local legitimacy and ownership (Jones et al., 2013) than (statutory) MSP.

In those papers that deal with representation in the MSP process, we note a mix of instrumental and normative arguments that are used to support the principle of broad stakeholder inclusion. While the focus on justice and equity is more readily linked to normative drivers, such as the democratic right of groups and individuals to participate, the focus on including diverse values and knowledge in MSP is also linked to instrumental perspectives, such as using broad inclusion and

understanding of values to reduce conflicts, getting more buy-in from stakeholders or generally to achieve a “better” MSP process. From this perspective, what is regarded as a “good” MSP process is one that is efficient and reduces transaction costs, which is not necessarily the same as a fair and equitable process in line with SS principles (Jentoft, 2017). Adopting socially sustainable practices is likely to be more complex and require more time, including the reality of dealing with conflict, and relying more on deliberative forms of engagement, co-creation of knowledge and shared process responsibility. A “good” MSP process deemed as low cost and least friction is therefore not always best suited to contributing to SS.

Last but not least, we note that with the exception of a few cases, most articles take a rational planning setting as a point of departure. Only a few recent papers question the underlying paradigm and assumptions of MSP as a public political process, taking place in particular administrative settings and constraints (e.g., Fairbanks et al., 2019). From a social sustainability perspective, the aspect of transformation and achieving systemic change therefore remains grossly underrepresented.

4.2. MSP practice: implications and possible strategies to promote social sustainability

Moving on to the question of gaps in knowledge and possibilities for boosting engagement with SS in MSP. An important outcome of the study is that papers tend not to provide insights into how their lessons could be viably adopted in MSP practice. While the reviewed articles included a number of case studies of ‘real’ MSP practices and a few recent articles that focus on strengthening the role of the planner (e.g., Jay et al., 2012; Sundsvold and Armstrong, 2019), our analysis reveals a significant gap in terms of discussing and substantiating the concept of SS for those responsible for MSP, i.e., practitioners and planners. At the same time, there is a common awareness among planners of the social significance of marine/maritime space (Jerzak et al., 2019) and although they may not act against a dedicated SS background, there is evidence that they do give substantial attention to stakeholder engagement during the preparation of marine spatial plans (e.g., Twomey and O’Mahony, 2019). That is, aspects of representation and recognition seem to be acknowledged (and acted upon) as important by many MSP practitioners, revealing at least a partially open-door that promises to give greater consideration to SS in MSP practice. Even though our analysis did not include planning or policy documents, the reviewed scientific articles reveal a number of challenges and strategies to potentially promote SS in MSP, as detailed in section 3.4. Below we discuss what we assess to be key suggestions for MSP practice and practitioners.

First, if planners are to develop their capacity to develop distributive justice, ‘ensure procedural fairness’ or act as ‘wise arbitrators’ (Sundsvold and Armstrong, 2019; Tafon et al., 2019b), greater attention needs to be given to translating theoretical scholarly notions of SS into practical planning activities and measures. One possibility would be to encourage more collaborative research practices based on co-design and shared analysis of problems and potential solutions. As relatively few articles (12%) have been authored collaboratively by academic researchers, stakeholders and practitioners, practical barriers would need to be addressed (e.g., resources, incentives, capacities) for co-production of knowledge on SS in MSP, ensuring that it is not merely a theoretical endeavour but developed jointly based on realistic notions of the role of planners within the wider institutional setting (that tangibly combines academic and public policy considerations). An interesting example of how this can be addressed is to nurture a transdisciplinary ‘knowledge-action network’ that can support learning and transformative action on (social) sustainability in MSP (Gerhardinger et al., 2018).

Second, while seldom addressing SS fully (in terms of scope and depth), or even designed to address SS concerns, the development of various planning tools and approaches stands out as an important

meeting ground between researchers, practitioners and stakeholders for generating outputs with potentially direct relevance for SS practice in MSP (Guerry et al., 2012; Halpern et al., 2013b; Gee et al., 2019). The most commonly addressed tools in the reviewed literature, i.e., public participation GIS (PPGIS) and ecosystem services (ES), may have potential to further elaborate and embed SS concerns in MSP. For example, Burnett (2020) suggests ways to ensure equity and representation in PPGIS processes, which – if used consciously for this purpose – could be a starting point for a more general discussion about equity and representation in MSP. Allowance for more fluid perceptions that reflect contextually situated perspectives about what should constitute ES, as proposed by Elwell et al. (2018), could also contribute to the deeper considerations of SS in MSP, especially when also engaging stakeholders in these conversations. Recently, there have been suggestions on how distributional aspect of benefits and disbenefits can be incorporated in ecosystem service-based sustainability assessments of plans and programmes in the marine context (Fredriksen et al., Forthcoming). However, ES is still mostly a theoretical construct, and although steps are being taken to integrate ES in trade-off analysis in MSP (e.g., by means of dedicated ES assessment tools, see Armoskaite et al., 2020), further development is needed for it to become an approach that can be practically and purposefully applied to SS, e.g., to understand and promote social equity and fairness. This is especially important given that ES’ desirability and usefulness as a means to convey values (material and non-material) in environmental governance settings is contested in the broader environmental literature (Kull et al., 2015) – some authors have even argued that its introduction has exacerbated social injustices (Sikor, 2013).

Finally, it is equally important to influence the policy context of marine governance in order to provide planners with better opportunities and incentives to integrate SS into MSP. As noted in the introduction and illustrated by the results of this review, the predominant marine policy discourse worldwide is on sustainable development (e.g., blue growth) with associated consideration of the interaction and trade-offs between economic and ecological values/risks. Ultimately, to promote the further inclusion of SS in a comprehensive marine sustainability agenda or for that matter in individual marine spatial plans, this economic/ecological policy dominance will need to be reformed. There are indications that the United Nations’ 2030 Sustainable Development Agenda might be a catalyst because of the integrative character of the 17 SDGs. Some marine plans are already based on more comprehensive notions of sustainability, such as the recent Welsh National Marine Plan which is guided by an overarching objective of contributing across Wales’ well-being goals, e.g., by contributing to a strong, healthy and just society and vibrant, more equitable, culturally and linguistically distinct, cohesive and resilient coastal communities (Welsh Government, 2019). Here, planners could play a stronger role in pushing for the pursuit of more integrated sustainability agendas locally and regionally.

5. Conclusions and recommendations for future research

The Manifesto for the Marine Social Sciences (Bavinck and Verrips, 2020) sees as core marine social science concerns: the future of youth and inter-generational issues; meaningfully including the manifold knowledge and realities of people and communities into coastal decision-making; and future research on “social struggle”, “distributional justice” and “outlaw oceans”. While there is a striking gap in the literature on explicit and coherent analysis of social sustainability in MSP, our review shows that people and communities, their values and well-being, and their role in the production of knowledge and decision-making are already a focus of MSP research. However, distributional justice, how to deliver intergenerational justice and engaging productively in social struggles (beyond co-opting some actors in formalised participation spaces) deserve greater attention in terms of developing analytical frameworks, as well as empirical analyses of specific MSP contexts. This would give insights of how SS could be

embedded in MSP, in line with a more comprehensive understanding of multidimensional social justice. To achieve such a deepened and diversified MSP inquiry, we conclude that scholars would do well to delve deeper and more broadly into the social science literature to find inspiration on ways to understand and elucidate social issues. Here, the enormous body of relevant work on justice, power, critical institutionalism, political ecology and terrestrial planning literatures, among others, has hardly been tapped.

In terms of how MSP research is engaging with SS in MSP practice, the overarching conclusion of the review is that the potential of MSP practitioners to purposefully engage with SS is still underexplored. Our analysis reveals a significant gap in terms of discussing and substantiating the concept of SS for those responsible for MSP, i.e., practitioners and planners. It appears that the academic SS discourse has become too decoupled from practical development of marine governance, and that there is a need for practice-based communities (scholars and affected actors) to address how the multiple dimensions of SS interact with each other, as well as with economic and environmental aspects of marine planning and governance, to either reduce or enhance collective well-being (including the non-human aspects). Such co-produced research on SS can inform MSP practice, while resulting changes and outcomes of MSP practice in turn should spur further research. The proposed collaborative research could, for example, include identification and analysis of how constraints and resistance to SS inclusion/transformation are manifested and enacted in various context-specific MSP processes. As suggested by several authors (e.g., [Bruns and Gee, 2009](#)), elaboration and implementation of social sustainability and 'good governance' related MSP principles could also be fruitful measures to facilitate more in-depth engagement with these issues in MSP practice. Such an approach to MSP would put the focus on the normative qualities of governing ([Jentoft, 2017](#)). MSP would not only be concerned with ecological and/or economic goals, but also with the societal and political processes through which these goals are pursued - 'process matters'. Here, the conduct of the governance process, including its social inclusiveness and implications are seen as an inherent part of the MSP sustainability agenda rather than merely as an ancillary means to achieve 'a sustainability' seen as a kind of end-state. Linked to this, the role, mandate and possibilities of the marine planner to 'ensure procedural fairness' is in need of further analysis and development ([Sundsvold and Armstrong, 2019](#); [Tafon et al., 2019b](#)). Given that planners' views are likely to be represented in MSP plans and planning documents, there are untapped and continuously evolving empirical resources for such research. Here research on terrestrial planning could point the way to a more in-depth analysis of the role of the planner and planning practice as part of a maturing body of MSP research.

In conclusion, we identify four issue areas that need more engagement to address the knowledge and practice gaps identified and ultimately to strengthen social sustainability in MSP as a means of contributing to the implementation of the SDGs in marine and coastal areas. (1) A more developed transdisciplinary research approach is needed that is science-based and brings together diverse academic, practitioner and lay expertise, experiences and interests (including inter-generational perspectives). In order to be productive in particular MSP settings, such an approach would need to be cognisant of the way that extant power relations work to maintain the status quo (with its predominant focus on balancing economic or environmental values towards win:win outcomes) and be alert to transformative openings that are able to reorient MSP towards more effective inclusion of social concerns – not just for their own sake but in order to address the multi-dimensional sustainability ambitions reflected in the SDGs and aspired to by MSP policy. This could include (2) developing more sensitive socio-cultural mapping processes and tools to support a greater diversity of identities being recognised in MSP. Any approaches and tools, however, would require support from a (3a) theoretically informed examination of the role of participation and power, leading to greater insight into how representation and participation in MSP decision-making mechanisms

could be broadened and deepened. (3b) Theoretically and contextually informed equity principles, mechanisms and tools that focus more on the political economy of MSP are needed to support just distribution effects of MSP that does not further marginalise vulnerable groups. Finally, echoing calls for greater inclusion of social science research in marine policy-making ([McKinley et al., 2020](#)) research focus is needed on how to (4) institutionalise social sustainability concerns in marine planning and governance regimes and institutions. Ways need to be found to conceptualise and embed principles and practices in multi-level institutional interactions across different types of marine settings (coastal, national and international).

Author contributions

Michael Gilek: conceptualisation, methodology and data acquisition, analysis and interpretation, writing - original draft, writing - review & editing. Aurelija Armoskaitė: conceptualisation, analysis and figures, writing - review & editing. Kira Gee: conceptualisation, analysis and interpretation, writing - original draft, writing - review & editing. Fred Saunders: conceptualisation, analysis and interpretation, writing - original draft, writing - review & editing. Ralph Tafon: conceptualisation, analysis, writing - original draft. Jacek Zaucha: conceptualisation, writing - review & editing. All authors have approved the final article.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.ocecoaman.2021.105618>.

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