Assessing Inclusion of Social Equity Principles in 30x30 Coastal Conservation and Management Policies Using an Access-based Equity Framework

BY

Fanny Yang
Dr. John Virdin, Advisor
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EXECUTIVE SUMMARY

Coastal Indigenous peoples and local communities face issues of non-equitable distribution of coastal resources when conservation policies restrict entry to marine areas. Restrictions bar traditional community access to such spaces for economic, social, and cultural purposes. The Convention of Biological Diversity's adoption of the Post-2020 Global Diversity Framework in December 2022 calls for a global initiative of conserving at least 30 percent land and sea areas by 2030. For coastal communities that rely on marine resources for their way of life, it is essential that future coastal conservation efforts balance ecological preservation with social equity needs, particularly for coastal communities that rely on marine resources for their way of life. Coastal and marine resources have long played significant roles in maintaining community livelihoods and supporting cultural well-being; however, access to ocean resources is rarely equitably distributed due in large part to ocean conservation policies exacerbating already existing inequalities or creating barriers to important marine resources for community access.

This paper seeks to address how well national governments are integrating social and equity values when designing coastal conservation policies by using access as a social equity proxy lens. The purpose of research is to develop an equity policy screening tool based off of access equity elements in order to address social equity gaps in marine conservation policy relevant for the 30x30 initiative.

Across the equitable marine conservation literature review, results indicated that social equity is underpinned by three core characteristics: recognition, procedure, and distribution. Recognitional equity acknowledges the diversity of identities, values, and associated rights, considering cultural and societal norms, practices, and livelihoods; procedural equity refers to the level of inclusiveness, knowledge, and participation of communities in decision-making institutions and policy formation; and distributional equity considers how the costs and benefits are allocated or distributed amongst stakeholders, community members, and involved group members. The synthesis and balanced integration of each equity element into societal decision-making forms the pillars of social equity, which advocates for the fair and equal treatment of all groups resulting from outcomes and procedural development.

Taking from current equitable marine conservation themes, an access-based equity framework tool was developed and then translated into a codebook for future policy analysis use. In order to identify equity elements in policy documents and coastal management approaches, the concept of traditional access was used as a proxy for social equity. The research resulted in 1) an access-based equity framework from a limited equitable marine conservation literature review and 2) an equity code book based on the developed equity framework, as potential policy analysis tools that can be used by researchers and policymakers to assess equity gaps in sets of national coastal conservation policies.

To select sample countries for the preliminary framework application, we identified a set of criteria to ensure applicability of the examples. Five criteria were used to determine the appropriate target countries for assessing their conservation plans, policies, or management approaches; the criteria ensured that resulting sample countries would be actively participating in the 30x30 global initiative, had accessible and relevant national documentation in which the access-based equity framework could be applied to, and that there was geographic and income diversity to avoid uneven results of countries in the subset. The two countries selected for the preliminary assessment using the developed framework were Australia and India. By applying the framework to these two countries' national marine conservation policies, we ground truth the applicability of the created equity analysis tools and their future useability in marine conservation policy design.

The discussion section provides reflection on the case study analysis work, gives insights on the trend of marine conservation policy in the context of 30x30, and encourages the use of the framework and codebook as tools to ensure ongoing social equity when developing conservation programs. The paper also acknowledges study gaps while conducting the research and addresses the impacts of time constraints and potential scope bias. The report includes recommendations for policymakers and governmental coastal resource managers on how to use the framework and codebook to increase equitable access for coastal Indigenous and local communities when designing and implementing coastal conservation policies.

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Abstract

Coastal Indigenous peoples and local communities (IPLCs) face issues of non-equitable distribution of coastal resources when conservation policies restrict entry to marine areas. Restrictions bar traditional community access to such spaces for economic, social, and cultural purposes. The Convention of Biological Diversity (CBD)'s adoption of the Post-2020 Global Diversity Framework in December 2022 calls for a global initiative of conserving at least 30 percent land and sea areas by 2030. For coastal communities that rely on marine resources for their way of life, it is essential that future coastal conservation efforts balance ecological preservation with social equity needs. This paper seeks to address how well national governments are integrating social and equity values when designing coastal conservation policies by using access as a social equity proxy lens. The research resulted in 1) an access-based equity framework from a limited equitable marine conservation literature review and 2) an equity code book based on the developed equity framework, as potential policy analysis tools that can be used by researchers and policymakers to assess equity gaps in sets of national coastal conservation policies. The two tools were applied to example scenarios in Australia and India. The paper includes recommendations for policymakers, governmental coastal resource managers, and researchers on how to use the developed framework and codebook to assess equitable access for coastal IPLCs when designing and implementing coastal conservation policies.

Photo Credit: Fanny Yang, 2022

Introduction

Centuries of extraction based human activities such as overharvesting of fisheries, intense coastal development, and pollution and agricultural runoff have impaired coastal ecosystems and contributed to marine biodiversity loss. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)'s 2019 Global Assessment Report on Biodiversity and Ecosystem Services identified inland waters and freshwater ecosystems as showing high rates of

decline; seagrass meadows decreasing over 10% per decade since 1970s, and accelerated coral reef bleaching over the past two to three decades (IPBES, 2019). In contrast, currently only about 8% of the ocean is protected by marine protected areas.[1]

Conserving marine biodiversity will take continued collaboration and commitment on a global level to address landscape level biodiversity concerns. Biodiversity conservation actions taken by nations during this decade – 2021 to 2030 – are more than ever, instrumental in preventing biodiversity collapse, maintaining sustainable and healthy ecosystems, and strengthening coastal resilience in the face of climate change impacts. Declared by the United Nations (UN) in 2019, 2021-2030 is named the "UN Decade on Ecosystem Restoration" with the goal of preventing, halting, and reversing degradation of ecosystems; more importantly, the global consensus stresses acknowledgement and respect for the critical roles coastal IPLCs play in having been tenured custodians of our ecosystems (UN, 2020).

CBD's Post-2020 Global Biodiversity Framework follows 21 targets and 10 milestones for 2030, while en route to "living in harmony with nature" by 2050 (CBD, 2022). The framework builds upon ongoing conversations in the conservation field regarding how to sustainably meet people's needs while preserving the environment. It stresses the collaboration of national state governments and non-governmental organizations, Indigenous peoples and local communities, women's groups, youth, and the business and finance community in implementing conservation approaches that recognizes the principle of equity. One of the key targets of the framework is to ensure that at least 30 per cent globally of land areas and of sea areas, especially areas of particular importance for biodiversity and its contribution to people, are conserved through effectively and equitably managed (CBD, 2022).

The current global push in marine conservation efforts will find that it is essential for future coastal conservation efforts to balance ecological preservation with social equity needs, particularly for coastal communities that rely on marine resources for their way of life. Coastal and marine resources have long played significant roles in maintaining community livelihoods and supporting cultural well-being; however, access to ocean resources is rarely equitably distributed due in large part in ocean conservation policies exacerbating already existing inequalities or creating barriers to important marine resources.

[1] Per cent number is sourced from the UN's World Database on Protected Areas via the Protected Planet dashboard. An active tracker of marine protected areas and other effective areas-based conservation measures can be found here: https://www.protectedplanet.net/en/thematic-areas/marine-protected-areas

Photo Credit: Pew Charitable Trust, 2020

Although equity and access rights are typically included in conventions, international agreements, and policies, they are insufficiently operationalized (Österblom, H., C.C.C. Wabnitz, D. Tladi et al., 2020). In practice, poorly designed conservation initiatives are planned and implemented in a top-down approach that inadequately considers local perspectives and needs, and that separates Indigenous peoples and local communities from resources and territories that they depend on for culture and survival (Bennett et al., 2021). When conservation approaches focus heavily on the ecological criteria of maintaining environmental sustainability without incorporating social and economic considerations, the number of people affected are predominantly in poorer countries that also tend to have higher concentrations of biodiversity. (Schleicher et al., 2019). Comparatively, protected marine areas associated with positive socioeconomic outcomes were more likely to report positive conservation outcomes with results of empowered local people, reduced economic inequalities, and maintained cultural and livelihood benefits (Oldekop, Holmes, Harris, & Evans, 2019). The purpose of the research is to develop an equity policy screening tool based off of access equity elements in order to address social equity gaps in marine conservation policy relevant for the 30x30 initiative. Taking from current equitable marine conservation themes, an access-based equity framework tool was developed and then translated into a codebook for future policy analysis use. Examples of how the codebook can be used are illustrated through two preliminary country examples: Australia and India.

Methodology

The research question seeks to address how well social equity principles are considered and incorporated when national coastal conservation policies are designed. In order to identify equity elements in policy documents and coastal management approaches, the concept of traditional access was used as a proxy for social equity. Regulating and restriction human access to marine areas (e.g., marine protected areas) is a prominent tool in coastal management as it allows natural resources and ecosystems to recover without disturbance, but it also plays a significant role in impacting distribution of resources and use for various stakeholders, and in particular coastal IPLCs. Therefore, we use access as an indicator of equity elements within conservation policies.

To ensure that the understanding of the research topic remained consistent throughout, we defined certain key terms to bound the scope of the work. The terms are "coastal Indigenous peoples and local communities", "traditional access" and "coastal conservation policies and management approaches". Next, to provide a basis of how social equity is presented in marine conservation, we conducted a literature review of what "equitable marine conservation" looked like with specific focus on resource and spatial access. The literature review is fundamental in identifying core principles of social equity and identifying best practices and recommendations, which were then incorporated into an access-based equity framework. The framework was developed with a specific bias towards highlighting access elements based on recognitional, distributional, and procedural equity definitions from the existing literature. This served to align general social equity principles with the definition of traditional access within the framework to create the foundation for a more targeted screening policy tool. The framework was translated into a codebook that contained dimensions of social equity relating to code and/or subcode language that were more related to access equity. The intention of the codebook is for it to be used as a future tool for identifying social equity elements in policy.

To select sample countries for the preliminary framework application, we identified a set of criteria to ensure applicability of the examples. Five criteria were used to determine the appropriate target countries for assessing their conservation plans, policies, or management approaches; the criteria ensured that resulting sample countries would be actively participating in the 30x30 global initiative, had accessible and relevant national documents in which the access-based equity framework could be applied to, and that there was geographic and income diversity to avoid uneven results of countries in the subset. The two countries selected for the preliminary assessment using the developed framework were Australia and India. By applying the framework to these two countries' national marine conservation policies, it will serve as a method of ground-truthing the created equity analysis tools and its future useability in marine conservation policy design.

Defining terms to bound research scope.

The first step for approaching the research topic was to define terms and key concepts to create a scope boundary for which the research question will be specifically addressed within. By establishing standard definitions to key research factors such as "coastal Indigenous peoples and local communities", "traditional access", and "coastal conservation policies and management approaches", this informed the lens for analyzing equity gaps in specific marine spatial planning policies and conservation approaches such as marine protected areas, marine reserves and resource management, and other effective area-based conservation measures.

"Coastal Indigenous Peoples and Local Communities"

Currently, there is no agreed upon universal definition of Indigenous and local communities (CBD, 2013); rather, international organizations recognize the fluidity of community identity politics and acknowledges a working definition of Indigenous and local communities appropriate for the discussion's context.

> ***…the situation of Indigenous peoples varies from region to region and from country to country…the significance of national and regional particularities and various historical and cultural backgrounds should be taken into consideration*** *– United Nations Declaration on the Rights of Indigenous Peoples, 2008*

Similarly, there is no standardized definition that comprehensively captures the precise identities of *coastal Indigenous peoples and local communities*; instead, coastal communities are typically characterized as those community groups that relate to, reside on, and/or depend on the coast. CBD uses the term "Indigenous and local communities" in recognition of communities that have long connections and associations with waters that they have traditionally lived on or used (CBD, 2013). Coastal connections can span over multiple generations and create the basis for a long-standing relationship with the area or resource ecology (IPBES, n.d.). It is also noted that local communities can include multiple ethnic identities, be of historical settlement or recent establishment. Understanding that coastal communities are dynamic socio-ecological systems, such communities are also characterized by their impact on the sustainability of the resources which they have relations to (Leach et al., 2018). For the purposes of the equity analysis, the study specifically focuses on coastal Indigenous peoples and/or local communities that exhibit the below characteristics and relies on consistent physical access to coastal resources for economic, social, and or cultural purposes.

Of significance to the study, main characteristics used to identify relevant Indigenous and local communities for the research are listed below. These characteristics are a part of a

more comprehensive list as discussed by the CBD's Ad Hoc Open-Ended Inter-Sessional Working Group on Article 8(j).

- Lifestyles linked to traditions associated with natural cycles (symbiotic relationships or dependence), the use of and dependence on biological resources and linked to the sustainable use of nature and biodiversity.
- The community occupies a definable territory traditionally occupied and/or used permanently or periodically. These territories are important for the maintenance of social, cultural, and economic aspects of the community.
- Technology/knowledge/innovations/practices associated with the sustainable use and conservation of biological resources.
- A set of social rules (e.g., that regulate land conflicts/sharing of benefits) and organizational-specific community/traditional/customary laws and institutions.
- Performance and maintenance of economic activities traditionally, including for subsistence, sustainable development and/or survival.
- Biological (including genetic) and cultural heritage (bio-cultural heritage).
- Spiritual and cultural values of biodiversity and territories
- Foods and food preparation systems and traditional medicines are closely connected to biodiversity/environment.
- Shared common property over land and natural resources.

"Traditional access" to coastal resources

The research question utilizes access to coastal resources as a social equity proxy to identify environmental justice and equity gaps within sets of national coastal conservation policies and approaches. For the purposes of the study, traditional access is defined as the ability to physically access coastal areas, lands, and resources and specifically for economic, social, and cultural purposes. Because the study is focused on analyzing physical access to coastal spaces and the subsequent impact on coastal Indigenous peoples and local communities' abilities to benefit from resources, we focus on two components of access theory: 1) resource access and 2) spatial access (Bennett et al., 2018). A variety of factors can influence access to and benefits from coastal resources such as ecosystems capacity, geographic location, property and/or land use rights, competing uses of the coast, environmental and climate change, and governance and management (Bennett et al., 2018).

"Coastal conservation policies and management approaches"

The coastal conservation policy analysis focuses on how governance and management framing decisions at the national level impacts resource and spatial access abilities for coastal communities. For the purposes of this study, this is in reference to commonly utilized marine conservation tools present in policy and strategic planning documents such as the use of marine protected areas (MPAs) or large marine protected areas

(LMPAs), other effective area-based conservation measures (OECMs), and other marine spatial planning (MSP) tools in coastal resource management.

MPAs and LMPAs are generally known as designated geographical marine areas that are protected for conservation purposes with limits on human activities. LMPAs are MPAs that are greater than 150,000 km^2 ; one famously known LMPA is the Great Barrier Reef in 1975 (IUCN, 2017a). The International Union for the Conservation of Nature (IUCN) defines MPAs as a clearly defined geographical space that is recognized and managed to achieve long-term conservation, ecosystem services, and cultural values (IUCN, 2017b). However, despite the IUCN's inclusive definition, on-the-ground implementation of establishing MPA still encounters conflicts around balancing ecological preservation and maintaining access to resource users. While there are over 20 definitions of what constitutes as a MPA, the common theme that is agreed upon for these areas is that human activity is regulated and/or restricted according to the resource manager's intentions of preserving, conserving, and protecting coastal spaces (Marine Conservation Institute, 2023).

Marine reserves are a type of MPA that is stricter in marine resource protection. Also known as "no-take" areas, the designation prohibits the removal or extraction of marine resources. Without intentionally considering varying stakeholder communities and their relationship with the coast, such efforts can undermine the access rights of Indigenous and local coastal communities who may have strong cultural ties to the space or rely on traditional harvesting for subsistence and livelihood (Ban & Frid, 2018). It is important to note that not all MPAs operate as a marine reserve, but this also holds true for not all marine reserves are MPAs.

OECMs, as defined by the IUCN, are areas that achieve long term and effective in-situ conservation of biodiversity outside of the traditional designation of a protected area (IUCN, n.d.). The uniqueness of OECMs is their propensity to achieve biodiversity conservation goals using resource management methods that take into consideration cultural and social-economical values. OECMs present opportunities for coastal IPLCs to have a voice in shaping conservation strategies while ensuring that traditional ecological knowledge is preserved and incorporated in management measures. As nations exhaust the number of MPAs that can be established within their jurisdictions, OECMs are increasingly becoming the next marine conservation tool to achieve global biodiversity targets.

Within the context of the CBD's Post 2020 Biodiversity Framework, Target 3, the paper will look specifically at policy language in relevant coastal management strategy documents that explicitly provide guidance and direction for national governments to meet the 30x30 coastal conservation goal. Also acknowledging that currently not all nations have developed targeted conservation goals or are currently drafting strategies

that would meet Target 3 of CBD's Post-2020 Biodiversity Framework, the scope of conservation policies and approaches from selected sample countries will also include existing or past policies focused on coastal conservation efforts.

Conducting a literature review of equity in marine conservation.

We conducted a non-intensive literature review of equitable marine conservation with a specific focus on resource and spatial access. Open access databases , such as Google Scholar, Scopus, and ProQuest, and the Duke University Library Portal were used to locate peer reviewed articles and policy briefs focused on equity discussion in marine conservation within the last 5-10 years. The list of search terms used in each database are represented alphabetically in Box 1, each separated by vertical bar (|). The search terms are used to create search strings for more targeted results of the literature topic.

BOX 1: SEARCH TERMS
Access | Coastal | Community | Conservation | Equitable | Equity | Framework Marine | Ocean | Planning | Resource | Social | Spatial

To determine relevancy to the study, we scanned each article and documents' titles, abstracts and conclusions. Documents that addressed search terms in a marine conservation context were listed in a separate excel document to keep reference (see Appendix A), and sorted by the search string that pulled the document hit, document title, publishing year, journal source, and source link. Due to research time constraints, approximately 50 articles and relevant topic documents were pulled from the database searches. A total of 28 documents mentioning equity and marine conservation were retained for full review.

Once complied, we conducted the full review of the collected literature based on:

- definitions of equity or equity frameworks used;
- equity elements and components applied to marine conservation (e.g., best practices);
- if the specific equity elements are applicable to access issues;
- the marine conservation tool referenced in the literature; and
- the geographic case studies used to connect the specific equity element to the marine conservation tool, if applicable.

This is to identify current social equity frameworks that are being applied to conservation or in the specific context of marine conservation, and what best practices of equitable marine conservation policies are recommended in recent research. For the purposes of this study, recent literature included documents with publishing years between 2013 and 2023. The purpose of this data synthesis is to understand perspectives on social equity around traditional access in marine

conservation planning and how existing recommendations can be extrapolated to better guide future conservation efforts. Appendix B shows the log with text information from each literature document per variable listed prior; the categories of information were used to guide extraction of key equity principle information to aid in the development of an access-based equity framework and the subsequent codebook. Out of the 28 documents retained for the full review, 25 documents contained specific discussions about equity applied to marine access issues and provided best practices and recommendations specific to alleviating access inequities.

Developing an access-based equity framework.

The access-based equity framework was developed using only the core social equity principles – recognition, distribution, and procedure equity. The framework contains policy screening addressing equity embedded access themes: 1) how access rights and needs are recognized, 2) how access to marine resources and coastal spaces is distributed or allocated, and 3) and how access procedures are established to enable traditional access for communities.

Due to the more recent appearance – within the last 3 to 5 years – of contextual, intergenerational, and intragenerational equity in the existing literature, these emerging social equity components were not incorporated into the access-based equity framework. Additionally, across the few equitable marine conservation literature that address contextual, intergenerational, and intragenerational equity, suggested recommendations and best practices from those articles were not always specific to newer equity components, being more likely to draw back on the principles of recognition, distribution, and procedural equity.

Access themed best practices and policy recommendations are incorporated into an analysis framework based on the results of the equitable marine conservation literature review with a specific bias towards suggestions that improve or address access issues for coastal IPLCs. Each recommendation was sorted into one of the three equity characteristics; if recommendations also integrated contextual equity, it was noted in the excel spreadsheet (Appendix C). The best practice recommendations and policy suggestions were grouped into equity themes of recognition, distribution, and procedure as related to traditional access by coastal IPLCs.

Translating the access-based equity framework into a codebook.

To analyze national marine conservation policy documents, we developed a codebook (see Table 2) to identify social equity elements in policy design. The codebook was based on the three social equity principles as presented in the resulting access-based equity framework screening tool. The codebook is separated into three categories: dimensions of social equity, the code, and corresponding subcode. Dimensions of social equity are taken from the equitable marine conservation literature review, which revealed three core principle pillars: recognitional equity, distributional equity, and procedural equity. These dimensions are then codified as defined by the developed access-based equity framework and its set of questions. The questions are meant to identify whether sample marine conservation policy or approaches meet the broader equity

dimensions. Lastly, we identified subcodes that would indicate that the sample policy language and goals do have connections with the main code through specific words, stated policy actions, or policy best practices. The subcodes serve as examples showing that the policy document is thoughtfully and intentionally embedding social equity in its marine resource protection and coastal management programs.

Determining the selection criteria for identifying potential sample countries for framework application.

Five criteria were used to identify appropriate sample countries for application of the access-based equity framework. The use of a selection criteria is to filter out countries that may not be relevant to the scope of the research question (i.e., countries that are not explicitly a part of the 30x30 movement), and to ensure that resulting sample countries were geographically diverse, topically relevant, and had robust marine conservation policies. The five criteria are listed below and their filtering purpose expanded on.

Criteria 1: Sample countries for policy and approaches are at least a member of the High Ambition Coalition.

The High Ambition Coalition (HAC) for Nature and People is an intergovernmental group of more than 100 countries co-chaired by Costa Rica, France, and the United Kingdom (HAC, n.d.). The purpose of the HAC is to provide a gathering and collaborative platform for the international community to achieve the 30x30 initiative. The HAC addresses both terrestrial and marine conservation goals.

Criteria 2: Sample countries for policy and approaches analysis may also be a member of the Global Ocean Alliance.

The Global Ocean Alliance (GOA) consists of 73 (as of 2023) countries led by the United Kingdom. These countries are prioritizing the 30 percent marine conservation target in the 30x30 initiative (GOV.UK, n.d.). Countries that are a part of HAC but have not indicated GOA membership does not necessarily mean that they are not participating in ocean conservation efforts.

Criteria 3: Identifying countries with relevant marine conservation policies and approaches.

Identified subset of countries have developed national coastal conservation policies or plans with implementation timelines and goals under the 30x30 initiative OR have at least 5 years of coastal conservation projects, initiatives, policies over the course of 2017 to 2022.

Criteria 4: Ensure that subset of countries for policy analysis and case study discussion have geographic diversity. This includes both a geography-based filter and an income level-based filter.

The purpose of incorporating a geographic filter is to remove possibility of data clumping where all case studies or analyzed conservation policies come from one region of the world. Applying an income filter assists in identifying coastal conservation strategies and resources and relationships to economic development. Geographical categorization of world countries is based on using the UN system geoscheme where countries and areas are grouped geographically into six major areas: Africa, Asia, Europe, Latin America and the Caribbean; Northern America, and Oceania (UN, 2022). The assignment of countries or areas to specific groupings is for statistical purposes and does not involve outside assumptions regarding political or UN territories (UN, 1999).

The income-based filter used is based on the income-level designations from the World Bank Group. For the current 2023 Fiscal Year:

Income Level Category	GNI per capita* (in US dollars)
High-income economies	$13,205 or more
Upper-middle income economies	Between $4,256 and $13,205
Lower-middle-income economies	Between $1,086 and $4,255
Low-income economies	$1,085 or less

The World Bank Atlas conversion method calculates a country's GNI by using the average of a country's exchange rate for that year and its exchange rates for the two preceding years, while adjusting for the difference between domestic and international inflation rates (World Bank Groupb, n.d.). GNI per capita is derived from dividing the GNI by the country's midyear population.

Criteria 5: Country operates primarily in English as their national language.

This is to ensure that resulting national policy documents are accessible and can be reviewed against the access-based equity framework.

Selection of example countries for framework application.

Based on the selection criteria, we compiled an initial broad list of targeted countries that met both Criteria 1 (having at least HAC membership) and Criteria 2 (may have GOA membership). To quality check the list of countries and their relevancy to marine conservation efforts, each country on the list was geographically confirmed to have coastal lands in its jurisdiction and therefore is also participating in the marine conservation target of the 30x30 initiative.

Landlocked countries that were on the list as satisfying Criteria 1 but not Criteria 2 were removed. Next, the list is filtered for countries utilizing English as an operating language to enable collection of relevant national marine conservation policy documents. The resulting list shows the subset of potential countries whose documents can be selected for the access-based equity framework analysis. In the case of this paper, Australia and India were the two case study countries selected for surface level analysis. Due to time constraints, the number of example countries for the framework application was limited to two.

Final Filtered List of Sample Countries

Filtering with the selection criteria, a final list containing 31 countries can be found in Table 1. From this list, two countries are chosen for the preliminary application of the access-based equity framework and the codebook deeper equity analysis which will be presented in the results section. Binary numbers 1 and 0 are used to denominate “yes” and “no” under the filter categories: “HAC member”, “Also part of Global Ocean Alliance”, and “Has coastal lands?”. The final filtered list is generated from first filtering for “HAC member”, then “Has coastal lands?”, and finally “Also Part of Global Ocean Alliance”. Priority filtering is given to the categories “HAC member” and “Has coastal lands” as some countries may not be a part of the GOA despite having coastal lands; however, this does not mean that they are not partaking in coastal conservation efforts.

Table 1: Final list of sample countries for equity framework application

Country	Official Language	Geographic Diversity Filter	World Bank Income Level Filter	HAC member	Also Part of Global Ocean Alliance	Has coastal lands?
Antigua and Barbuda	English	Latin America and Caribbean	High-income	1	1	1
Australia	English (de facto status)	Oceania	High-income	1	1	1
Canada	English, French	Northern America	High-income	1	1	1
England	English	Europe	High-income	1	1	1
Cook Islands	English, Cook Island Maori	Oceania	High-income	1	0	1
Northern Ireland	English, Irish	Europe	High-income	1	1	1
Seychelles	English, French, Seychellois Creole	Africa	High-income	1	1	1
Trinidad and Tobago	English	Latin America and Caribbean	High-income	1	1	1
Ireland	Irish, English	Europe	High-income	1	0	1
Wales	Welsh, English	Europe	High-income	1	1	1
Malta	Maltese, English, Maltese Sign Language	Europe	High-income	1	0	1
United States	English (has de facto status)	Northern America	High-income	1	0	1
Ghana	English	Africa	Lower-middle	1	0	1
India	Hindi, English	Asia	Lower-middle	1	0	1
Kenya	English	Africa	Lower-middle	1	1	1
Nigeria	English	Africa	Lower-middle	1	1	1
Philippines	Filipino, English	Asia	Lower-middle	1	1	1
Pakistan	Urdu, English	Asia	Lower-middle	1	0	1
Samoa	Samoan, English	Oceania	Lower-middle	1	1	1

Country	Official Language	Geographic Diversity Filter	World Bank Income Level Filter	HAC member	Also Part of Global Ocean Alliance	Has coastal lands?
Papua New Guinea	Tok Pisin, Hiri Motu, English, Papa New Guinean Sign Language	Oceania	Lower-middle	1	0	1
Liberia	English	Africa	Low-income	1	0	1
Gambia	English	Africa	Low-income	1	1	1
Sierra Leone	English	Africa	Low-income	1	0	1
Grenada	English	Latin America and Caribbean	Upper-middle	1	0	1
Marshall Islands	English	Oceania	Upper-middle	1	0	1
Belize	English	Latin America and Caribbean	Upper-middle	1	1	1
Saint Vincent and the Grenadines	English	Latin America and Caribbean	Upper-middle	1	0	1
Jamaica	English	Latin America and Caribbean	Upper-middle	1	1	1
Palau	Palauan, English	Oceania	Upper-middle	1	1	1
Saint Lucia	English	Latin America and Caribbean	Upper-middle	1	1	1
Tonga	Tongan, English	Oceania	Upper-middle	1	1	1

Equitable Marine Conservation Literature Review

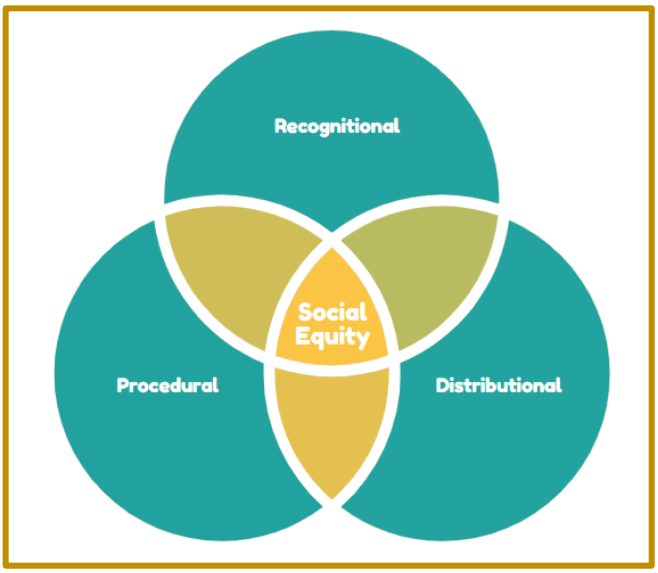

Figure 1: Three main pillars of social equity

Across the equitable marine conservation literature review, results indicated that social equity is underpinned by three core characteristics: recognition, procedure, and distribution (Gill et al., 2019; Andradi-Brown et al., 2023; Jacob et al., 2023; Maini et al., 2023; Cisneros-Montemayor et al., 2019; Leach et al, 2013; Bennett et al., 2020). Recognitional equity acknowledges the diversity of identities, values, and associated rights, considering cultural and societal norms, practices, and livelihoods; procedural equity refers to the level of inclusiveness, knowledge, and participation of communities in decision-making institutions and policy formation; and distributional equity considers how the costs and benefits are allocated or distributed amongst stakeholders, community members, and involved group members. The synthesis and balanced integration of each equity element into societal decision-making forms the pillars of social equity (see Figure 1), which advocates for the fair and equal treatment of all groups resulting from outcomes and procedural development (Cisneros-Montemayor et al., 2019; Österblom, H., C.C.C. Wabnitz, D. Tladi et al., 2020).

However, more recent theories of social equity regarding the three mainstay aspects of the concept also show more nuanced extensions that address holistic perspectives of equity via the past, present, and future, such as contextual equity, intergenerational equity, and intragenerational equity (Österblom, H., C.C.C. Wabnitz, D. Tladi et al., 2020; Bennett, 2022; Sanborn & Jung, 2021; Bennett et al., 2021; Gill et al., 2019). Contextual equity considers the past and the present social, political, cultural, and economical circumstances that impact procedural, distributional, and recognitional development. Intergenerational equity as it relates to marine conservation is about the assurance of future generations and their abilities to benefit and use natural resources, while intragenerational equity focuses more on the immediate setting and how distribution of benefits and resources are allocated within the current generation.

Access-based Equity Framework and Codebook

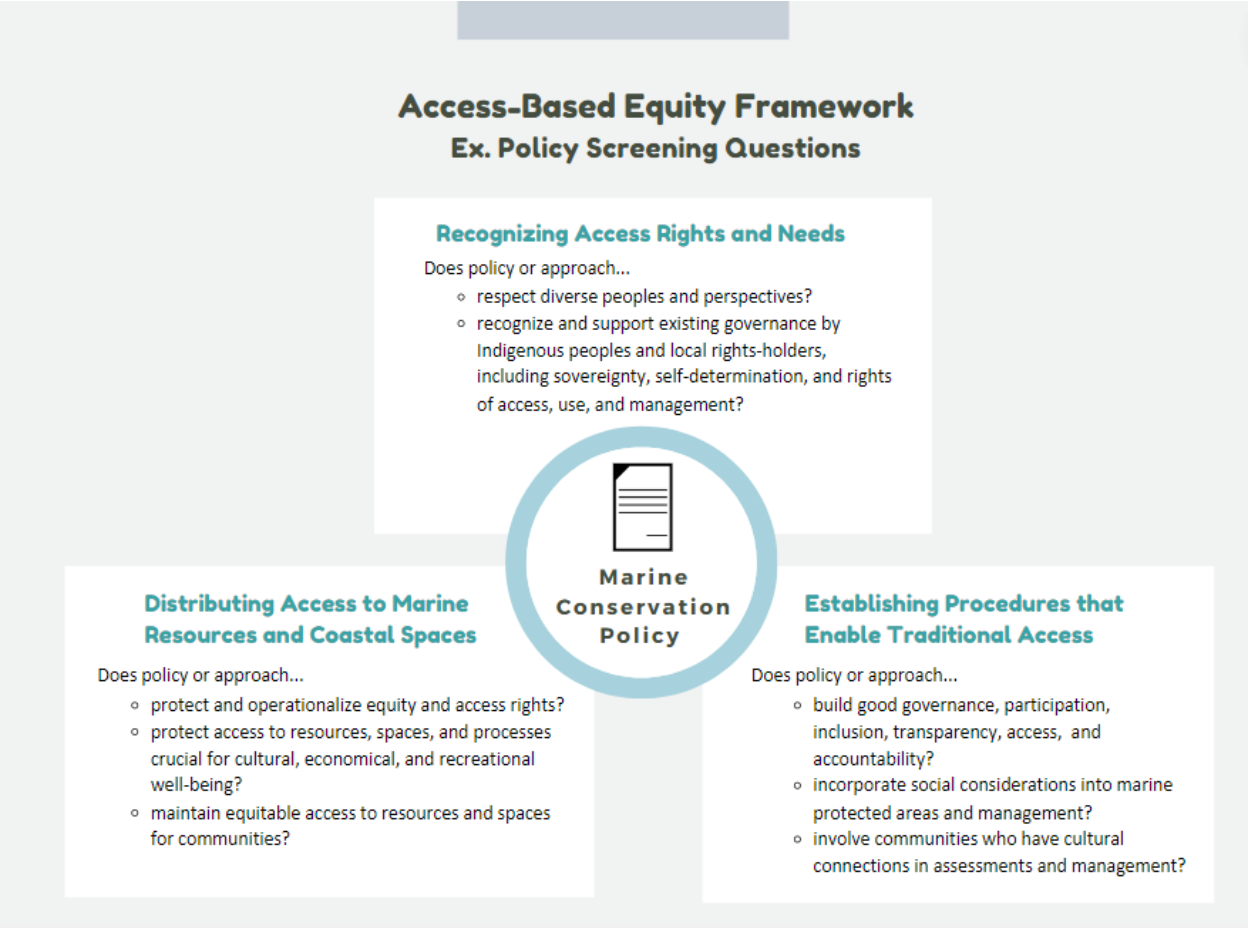

Figure 2: Framework that can be used for screening conservation policy for social equity elements.

The goal of the framework (Figure 2) is to take what constitutes traditional access and see how it manifests in national marine conservation policies and approaches by addressing important sub-elements of recognitional, distributional, and procedural equity. A summary of key points within each equity element that should be included in marine conservation policies is expanded upon below:

- Recognitional equity in the context of community access emphasizes the need to recognize different cultural and societal norms, values, and perspectives that exist in connection with coastal resources. Acknowledgment and support of current governance structures, which includes Indigenous and local community sovereignty, self-determination, and rights of access, use, and management of marine spaces (Grorud-Colvert, 2021). It is crucial for retaining pre-existing rights, tenure, and access to coastal resources. Embedding recognitional equity into policy decisions allows for more meaningful community-based management approach in which sociocultural relations are

respected and knowledge of traditional ecological management practices are shared for the better management of marine spaces and resources.

- Distributional equity emphasizes fair and equal distribution of access to physical coastal spaces for cultural and traditional uses, which in turn contributes to sharing of economic benefits from harvesting marine resources. Including distributional equity elements marine conservation plans, such as retaining access for both extractive and non-extractive uses, can generate almost 90% of the marine area's economic value (Ruiz-Frau, 2015). Ensuring that coastal Indigenous peoples and local communities are not excluded from coastal areas and their historical territories can be important for promoting economic sustainability while maintain livelihoods and well-being (Christie et al., 2017).

- Procedural equity best practices emphasized promoting inclusive decision-making and planning processes that share management power with communities, giving local resource users more control, voice, and opportunities to participate in the development of marine conservation policies (Andradi-Brown et al., 2023; Bennett et al., 2021; Sanborn & Jung, 2021) and building social capacity in communities so that they can continue their involvement in coastal management discussions (Österblom, H., C.C.C. Wabnitz, D. Tladi et al., 2020; Jacob et al., 2023).

The framework, as opposed to the codebook, provides a broader social equity analysis tool as it allows the user to assess social equity elements during the policy design and planning stages. The framework addresses elements of equity that extend beyond what is legally memorialized in a planning document as it asks the user to consider the process of policy development such as intentional community outreach and engagement with IPLCs, ensuring continued spaces for inclusive participation, and respecting differing norms in societal connections to marine resources.

Codebook for Policy Analysis Use

For a more in-depth assessment of marine conservation policy documents, we translated the previously discussed equity framework into a codebook (Table 2). The codebook could potentially serve as a ground truthing tool to ensure that draft policy documents are in fact incorporating social equity dimensions that satisfy recognitional, distributional, and procedural equity under an access-based context. The codes and sub-code phrases in the code book can be used to compare institutional goals and objectives to the three core social equity dimensions. The code level is used to identify if intentions of the corresponding equity dimension (e.g. recognitional equity) is represented by policy actions to recognize access rights, differing cultural and societal norms, whereas the sub-code lens is to pinpoint the specific actions that will be implemented to achieve the associated social equity dimensions (e.g. incorporation of traditional ecological knowledge in conservation and management programs).

Table 2: Equity Codebook

Social Equity Dimensions	Code	Sub-Code
Recognitional equity	Recognizing - • access rights and needs • pre-existing rights, tenure, and culture • sociocultural well-being and cultural connections embedded in human-environment interactions	• Diverse peoples, cultures, values systems, traditions, and perspectives • Respect for different cultural and societal norms • Indigenous peoples and local community rights-holders • Sovereignty, autonomy, self-determination • Incorporation of recreational, traditional, or cultural use of resources • Consideration, identification of local community and Indigenous peoples' needs • Incorporation of traditional ecological knowledge
Distributional equity	Distributing access to – • marine resources and coastal spaces for extractive and non-extractive uses • share social gains from the ocean economy • facilitate redistribution of wealth and benefits while assigning responsibility and liability	• Protect and operationalize equity and access rights • Protect access to resources, spaces, and processes crucial for cultural, economic, and recreational well-being • Economic sustainability, economic benefit • Equitable distribution of resources (access to)

		• Maintain livelihoods, sustenance, harvesting • Inclusion (vs exclusion) of communities
Procedural equity	Establishing procedures that - • enable traditional access • enable community-based marine resource management • share both power and responsibility of resource management • contribute to inclusive governance processes	• Participation • Inclusion, inclusivity • Transparency, accountability • Institutional structures • Facilitate co-management between government and local communities and/or Indigenous peoples
	Social capacity	• Relationship building • Knowledge development and exchange • Power relationships, Reconciliation

Opportunities for Applying the Framework: Australia and India

Australia and India were two case study countries selected from the final filtered list of countries actively participating in the 30x30 initiative. The two countries chosen present a unique comparison between two significantly different nations, in governance structure, demographics, income-level, and past marine conservation initiatives, yet both national governments also recognize the importance of utilizing more management based tools like OECMs to support their marine conservation goals.

Australia

The Australian government is a strong supporter of biodiversity conservation both at the national and international level, and represents a case study example of a country with robust conservation policies and programs. Critical to Australia's success is their recognition of IPLCs' historical connections to coastal lands and the nation's active engagement in incorporating IPLCs in coastal management. This comes from their growing understanding of traditional ecological knowledge and the values of IPLC relationships as important factors in state conservation initiatives (Tran, Ban & Bhattacharyya, 2020). Since 1997, Australia's Indigenous Protected Area (IPA) Program has provided a framework for First Nations communities to co-manage their land and sea territories with the country's Department of Climate Change, Energy, the Environment and Water. IPAs are areas of land and sea managed by Indigenous groups through a voluntary agreement with the Australian government and are considered an essential component of the country's National Reserve System (NRS) (DCCEEW, 2023). The IPA Program accounts for more than 50 per cent of the NRS, protecting approximately 87 million HA of land and 5 million HA of sea (HAC, 2022). According to Australian Marine Parks, there are 62 established marine parks, covering around 45 per cent of Australian waters; up to 18 per cent of Australian waters are protected in "no take" zones and are fully protected from human activity.

Australia is a long-standing signatory to the CBD and participated in the development of the Post 2020 Global Biodiversity Framework that coined the global 30x30 initiative. Complementing Australia's current national biodiversity conservation strategy, the country is also pursuing other biodiversity conservation tools such as OECM recognition. The access-based equity framework can be applied to this initiative to ensure that future conservation guidance documents continue to implement best practices and inclusive goals.

OECM Recognition Effort

On March 15, 2023, the Australian government released their public consultation opportunity to comment on the development of draft principles guiding future OECM recognition. Currently, OECMs are not recognized or recorded in Australia; the recognition principles will establish a national framework for OECM development, which will serve as a complementary approach to existing protected area programs. However, it is to be noted that the draft principles are for land OECM designations. There is an opportunity to take the application of the equity framework on the current document and have those improvements or best practices transferred into future guiding documents aimed at designating marine based OECMs.

Following the equity framework, we can identify proposed principles in the draft OECM recognition document currently that addresses equity elements. This includes free, prior and informed consent of First Nation peoples (and general site governance) (Principle 4.1 and 4.1.1), recognition of land tenure (Principle 4.5), recognition of varying forms of governance including governments, private individuals or organizations, First Nation people, and shared or jointly managed areas (Principle 4.6), and inclusion of IPLC knowledge in site management (Principle

4.7). While the draft document is strong in highlighting recognitional equity through acknowledging IPLCs and their role in OECM development, the framework is light on addressing distributional and procedural elements such as considering potential environmental and economic benefits with in-situ management for resource managers and how to maintain access to co-management governance structures. Given that this is in the early drafting stages and in the process of soliciting feedback, there may be additional future efforts to include more specific implementation language to serve as examples for achieving the already presented principles prioritizing recognition of IPLCs.

India

India is among one of the 17 most megadiverse countries in the world, with a coastline of about 7,517 km, and seven to eight per cent of all recorded species residing in the country (Mathur, B. V., Pant, R., & Tripathi, R., n.d.). Recognizing the importance of preserving biodiversity and its significance to the livelihoods of millions of people in the country, India has already accomplished major conservation goals. As of today, India has over 22 per cent terrestrial and 5 per cent coastal and marine areas under protection. This was achieved through government mandates to establish protected areas through designation of conservation reserves, community reserves, wildlife sanctuaries, and national parks. Community reserves can be applicable to seascapes and therefore are usually linked to national parks and sanctuaries; there are currently 25 MPAs on the mainland and 130 MPAs in the islands of India (Bajaj, P., Tiwary, E., 2021). India recognizes that there is a limited scope for continued expansion of MPA networks and is therefore looking towards OECMs to meet its 30x30 goals.

Identifying Equity in OECM Categorization

Last, year with support from the UN Development Programme, the Government of India developed the criteria and guidelines for identifying applicable sites for OECM designation in the country. There are 14 potential categories of OECMs, organized into 3 major subgroups: terrestrial, waterbodies, and marine. For the purposes of the example equity framework analysis, we will focus on the subgroups of coastal water bodies and marine OECMs. While the document is already published and in use, the application of the equity frame may still be referenced for future updates of the criteria and guidelines. Currently, the guidelines have no explicit equity principles embedded into the selection of OECMs. However, within the coastal waterbodies categories, there is acknowledgement of socio-ecological values that may be connected with marine spaces. Guidance for OECM category 12 “Important Coastal Biodiversity Areas” defines such areas as transition areas between land and sea that can be socio-economically important with significant ecosystem and cultural functions; and OECM category 14 “Ecologically/Culturally/Internationally Significant Coastal and Marine Areas” are areas identified to have aesthetic, historic , archeological, scientific, social, or spiritual value for past, present, or future generations (UNDP, 2022). Acknowledging that there will be conservation areas that are culturally and economically significant to local coastal communities is a first step in the

document. The application of the framework shows that this is very surface level incorporation of social equity. The guidelines provide no further context on how to ensure such areas are selected and managed equitably to balance marine conservation while upholding social importance. For future updates on the criteria and guidelines document, addressing this equity gap can provide more intentional selection of OECMs with the understanding of community context and leading to improved management outcomes.

Discussion

From the Australia and India case studies, the application of the access-based equity framework is shown to be flexible in use when comparing different marine conservation policies, from draft policy documents to existing implemented guidelines. While the framework would be best used in conjunction with the codebook for a more extensive review of equity concepts in available document text, being able to utilize the broader framework at the beginning stages of policy development (e.g. Australia's current efforts in creating guiding principles for OECM designation), provides fruitful opportunities to ensure that social equity components are incorporated in marine conservation efforts from start (policy development) to finish (implementation). The framework allow users to perform a high level assessment specifically on the design of marine conservation approaches, as the access-based recognitional, distributional and procedural equity themes addresses not only the textual declaration of access for coastal IPLCs, but the implementation and availability of access (i.e. ability to access stakeholder meetings where coastal IPLC input are heard and incorporated into final documents). The framework is holistic in its ability to capture equity elements or gaps within the entire process of policy development. As social equity goes beyond tangible text, and is embedded in how governments interact with communities, the screening policy questions provided by the framework helps identify markers of stronger or weaker recognition, distribution, and procedural equity factors in marine conservation programs.

Recommendation: Looking Towards 2030 Looking Towards 2030

In the context of 30x30, the research shows a precursory shift from the use of establishing MPAs as a go-to tool for achieving marine biodiversity conservation goals to nations beginning to consider a more management based approach such as OECMs. While MPAs have been successful in protecting fisheries and marine ecosystems, the policy tool also contains potential for social implications as it restricts or prohibits access. Access-based conflicts can result when MPAs prevent communities from having access to significant cultural resources and transgresses recognitional equity rights for coastal IPLCs. Because MPA priorities are innately geared towards marine ecosystem and habitat protection, MPAs, when designed and implemented without consideration of social, cultural, and economic impacts, can increase feelings of exclusion, poor communication and inequities in distribution of benefits, and intergroup competition over marine resource use (Cánovas-Molina, & García-Frapolli, 2020). In comparison, OECMs are management based with conservation methods grounded in respecting local values and

integrating community governance knowledge to meet biodiversity objectives. The access-based equity framework can be an appropriate and encouraging tool for nations to use in ensuring that developed OECM principles continually aligned with the underlying concept of co-management.

Using the framework and its corresponding codebook will vary depending on the users. For policymakers, the access-based equity framework will be most appropriate in ensuring that social equity elements are incorporated in all aspects of policy development. As social equity is perceived and manifests differently for all stakeholders, including within coastal IPLCs, ensuring that equity is embedded appropriately in a meaningful and intentional way is crucial in laying the foundation for effective marine conservation implementation. The framework contains sample screening policy questions to serve as stop gaps for reflection between stages of policy development, but also provides a means for assessing social equity post-development of marine conservation programs. The codebook can be specifically used to assess draft and finalized documents.

For researchers, the framework tool is broader and can be helpful in drawing comparisons between case studies in a standardized manner and with a consistent focus, while the codebook can pinpoint parts of document text that addresses access. The code and subcodes are used to determine if the policy document contains any social equity elements and then subsequently if there is guidance to achieve it through its specific targets, objectives, or actions. Those data points can be collected and converted into quantitative data for further analysis and extrapolation of how well the given policy or guidance document meets social equity thresholds.

Study Gaps

Having a well-defined research question is essential to bounding and directing the scope of work to ensure consistency. However, while conducting the research, it is not possible to exclude all variables and biases. Given time constraints, we were unable to perform a more expansive case study review of all 31 countries from the final filtered list of sample countries, gather an extensive collection of policy documents for review and conduct an in-depth analysis of those policy documents using both the access-based equity framework tool and codebook. The study results are based on performing a surface level equity assessment on two case studies and only utilizing the sample policy screening questions within the framework.

The framework can be considered limited in its development as the equity marine conservation literature review is also not as expansive as it could be due to time constraints and the original scoping question focusing on access-based equity. If the study were to be replicated in the future or the framework and codebook to be updated, a larger literature review of equity frameworks would be recommended, with incorporation of emerging equity themes such as contextual, intergenerational, and intragenerational equity. It is important to note that the literature review did not produce many varieties of equitable marine conservation frameworks; most discussions around social equity fell back to the three key concepts of recognitional, distributional, and procedural equity. There were studies that discussed the ecological-social lens, but it was not as

pervasive in cited works compared to the three pillars. The study's specific focus on access-based equity can provide a basis for future framework development, and particularly around analyzing overall social equity existence using a single perspective lens (e.g. gender, income, etc.).

Lastly, the study aimed to apply the developed equity tools to case studies as an example of how the framework could be used by policymakers or other researchers. Due to time constraints, we were unable to complete a deeper comparison of marine conservation policy documents in Australia and India using the codebook. The attempt to ground truth within the research can be enhanced by including interviews with stakeholders involved in the original policy development and drafting, along with impacted coastal IPLCs. This would help compare social equity-based objectives and principles expressed in marine conservation policy documents with what is implemented on the ground, verifying if policies are being executed properly.

Conclusion

The paper exhibits an example of how applying an equity lens to marine conservation policy can unearth gaps in coastal management approaches. By developing an analysis framework and a corresponding codebook based on how access manifests itself in both the policy development stage and the implementation, the resulting tools from the research can be used to decrease equity issues in marine conservation work. Decades of research have shown that changes in human-marine environment interactions from coastal management decisions, result in negative social impacts on communities, and for particularly, coastal IPLCs. IPLCs have long, historical connections and tenure to their coastal lands, and when conservation policies restricts or prohibits access to those spaces, it is an infringement on their recognitional, distributional, and procedural equity rights to their coastal environment. As the international community prepares to implement another collection of marine conservation policies in order to meet the 30x30 goal, governments must take lessons learned from the historical use of MPAs, as this go-to conservation tool have increased marginalization of IPLCs and are seen as a means for government to ocean grab. We must keep in mind how equity needs to be incorporated in all-decision making processes and that national policies can unintentionally exacerbate uneven distribution of marine resources among groups of people and perpetuate resource-based conflicts.

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Appendix A – Equitable Marine Conservation Literature Review Record

Search String	Document Title	Year Published	Journal Source	Link
coastal conservation equity framework	Social Synergies, Tradeoffs, and Equity in Marine Conservation Impacts	2019	Annual Review of Environmental and Resources	https://www.annualreviews.org/doi/full/10.1146/annurev-environ-110718-032344
coastal conservation equity framework	Area-based conservation: Taking stock and looking ahead	2023	Cell Press - One Earth	https://www.cell.com/one-earth/pdf/S2590-3322(23)00040-4.pdf
equitable marine and coastal conservation	Examining linkages between ecosystem services and social wellbeing to improve governance for coastal conservation in Jamaica	2019	Elsevier	https://www-sciencedirect-com.proxy.lib.duke.edu/science/article/pii/S2212041618304509
ocean access equity marine conservation	Equity and access in marine protected areas: The history and future of 'traditional Indigenous fishing' in the Marianas Trench Marine National Monument	2015	Elsevier - Applied Geography	https://www-sciencedirect-com.proxy.lib.duke.edu/science/article/pii/S0143622814002628?via%3Dihub
social equity marine conservation	Social equity and marine protected areas: Perceptions of small-scale fishermen in the Mediterranean Sea	2020	Elsevier - Biological Conservation	https://www.sciencedirect.com/science/article/pii/S0006320719312935
marine conservation equity framework	Charting the value and limits of other effective conservation measures (OECMs) for marine conservation: A Delphi study	2023	Elsevier - Marine Policy	https://www-sciencedirect-com.proxy.lib.duke.edu/science/article/pii/S0308597X22003979
marine conservation equity framework	Navigating a just and inclusive path towards sustainable oceans	2018	Elsevier - Marine Policy	https://www-sciencedirect-com.proxy.lib.duke.edu/science/article/pii/S0308597X18301465
social equity marine conservation	Why people matter in ocean governance: Incorporating	2017	Elsevier - Marine Policy	https://mrnathanjbennett.files.wordpress.com/2012/08/christie-et-al_2017_why-people-matter-in-ocean-governance.pdf

	human dimensions into large-scale marine protected areas			
equitable access marine protected area	Diversity in marine protected area regulations: Protection approaches for locally appropriate marine management	2023	Frontiers in Marine Sciences	https://www.frontiersin.org/articles/10.3389/fmars.2023.1099579/full
equitable marine conservation	Advancing social equity in marine conservation	2021	Frontiers in Marine Sciences	https://www.frontiersin.org/articles/10.3389/fmars.2021.711538/full
marine conservation equity framework	Intersecting Social Science and Conservation	2021	Frontiers in Marine Sciences	https://www.frontiersin.org/articles/10.3389/fmars.2021.676394/full
marine conservation equity framework	Mainstreaming Equity and Justice in the Ocean	2022	Frontiers in Marine Sciences	https://www.frontiersin.org/articles/10.3389/fmars.2022.873572/full?utm_source=UNDP&utm_campaign=40dffee513-Bulletin+55_COPY_01&utm_medium=email&utm_term=0_c2c8d779ea-40dffee513-
social equity marine conservation	Two Decades of Community-Based Marine Conservation Provide the Foundations for Future Action	2022	Frontiers in Marine Sciences	https://www.frontiersin.org/articles/10.3389/fmars.2022.893104/full
ocean equity	Towards Ocean Equity	2020	Google Scholar	https://oceanpanel.org/wp-content/uploads/2022/05/Towards-Ocean-Equity.pdf
equity, marine conservation	Social equity is key to sustainable ocean governance	2022	NPJ - Ocean Sustainability	https://www.nature.com/articles/s44183-022-00001-7
equity, marine conservation	Addressing distribution equity in spatial conservation prioritization for small-scale fisheries	2020	PLOS One	https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0233339
ocean access equity marine conservation	The Missing Layers: Integrating Sociocultural Values Into Marine Spatial Planning	2021	ProQuest	https://www-proquest-com.proxy.lib.duke.edu/docview/2547183302?https://www-nclive-org.proxy.lib.duke.edu/cgi-bin/nclsm?rsrc=309&parentSessionId=0s%2BxyH3oPMQUOB%2FVbUCEgxe%2FNsOuGjHvr6MaEaf

				cVf0%3D&pq-origsite=summon&accountid=10598
ocean equity	Equity and sustainability in the Anthropocene: a social-ecological systems perspective on their intertwined futures	2018	ProQuest	https://www-proquest-com.proxy.lib.duke.edu/docview/2315588240/fulltext/E83686EA14904194PQ/1?accountid=10598
marine conservation equity framework	The MPA Guide: A framework to achieve global goals for the ocean	2021	Science	https://www-science-org.proxy.lib.duke.edu/doi/pdf/10.1126/science.abf0861
equitable marine conservation	Balancing extractive and non-extractive uses in marine conservation plans	2015	Science Direct	https://www-sciencedirect-com.proxy.lib.duke.edu/science/article/pii/S0308597X14002796
equitable marine conservation planning	A two way process – Social capacity as a driver and outcome of equitable marine spatial planning	2023	Science Direct	https://www-sciencedirect-com.proxy.lib.duke.edu/science/article/pii/S0308597X23000349
marine conservation equity resource access	In a network of lines that intersect: The socio-economic development impact of marine resource management and conservation in Southeast Asia	2021	Science Direct	https://www-sciencedirect-com.proxy.lib.duke.edu/science/article/pii/S0305750X21001911?via%3Dihub
ocean equity	Social equity and benefits as the nexus of a transformative Blue Economy: A sectoral review of implications	2019	Science Direct - Marine Policy	https://www-sciencedirect-com.proxy.lib.duke.edu/science/article/pii/S0308597X19305093?via%3Dihub
coastal conservation equity framework	Governance principles for community-centered conservation in the post-2020 global biodiversity framework	2020	Society for Conservation Biology	https://conbio-onlinelibrary-wiley-com.proxy.lib.duke.edu/doi/full/10.1111/csp2.160
resource access in coastal conservation	Cultural Dimensions of Socioecological Systems: Key Connections and Guiding	2013	Society for Conservation Biology	https://conbio-onlinelibrary-wiley-com.proxy.lib.duke.edu/doi/full/10.1111/conl.12068

	Principles for Conservation in Coastal Environments			
social equity framework in marine conservation	Equity trade-offs in conservation decision making	2017	Society for Conservation Biology	https://conbio-onlinelibrary-wiley-com.proxy.lib.duke.edu/doi/full/10.1111/cobi.13008
marine conservation equity resource access	Proximity politics in changing oceans	2021	Springer Link - Maritime Studies	https://link-springer-com.proxy.lib.duke.edu/article/10.1007/s40152-021-00253-y
coastal conservation equity framework	Social Synergies, Tradeoffs, and Equity in Marine Conservation Impacts	2019	Annual Review of Environmental and Resources	https://www.annualreviews.org/doi/full/10.1146/annurev-environ-110718-032344
coastal conservation equity framework	Area-based conservation: Taking stock and looking ahead	2023	Cell Press - One Earth	https://www.cell.com/one-earth/pdf/S2590-3322(23)00040-4.pdf
equitable marine and coastal conservation	Examining linkages between ecosystem services and social wellbeing to improve governance for coastal conservation in Jamaica	2019	Elsevier	https://www-sciencedirect-com.proxy.lib.duke.edu/science/article/pii/S2212041618304509
ocean access equity marine conservation	Equity and access in marine protected areas: The history and future of 'traditional Indigenous fishing' in the Marianas Trench Marine National Monument	2015	Elsevier - Applied Geography	https://www-sciencedirect-com.proxy.lib.duke.edu/science/article/pii/S0143622814002628?via%3Dihub
social equity marine conservation	Social equity and marine protected areas: Perceptions of small-scale fishermen in the Mediterranean Sea	2020	Elsevier - Biological Conservation	https://www.sciencedirect.com/science/article/pii/S0006320719312935
marine conservation equity framework	Charting the value and limits of other effective conservation measures (OECMs) for marine conservation: A Delphi study	2023	Elsevier - Marine Policy	https://www-sciencedirect-com.proxy.lib.duke.edu/science/article/pii/S0308597X22003979

marine conservation equity framework	Navigating a just and inclusive path towards sustainable oceans	2018	Elsevier - Marine Policy	https://www-sciencedirect-com.proxy.lib.duke.edu/science/article/pii/S0308597X18301465
social equity marine conservation	Why people matter in ocean governance: Incorporating human dimensions into large-scale marine protected areas	2017	Elsevier - Marine Policy	https://mrnathanjbennett.files.wordpress.com/2012/08/christie-et-al_2017_why-people-matter-in-ocean-governance.pdf
equitable access marine protected area	Diversity in marine protected area regulations: Protection approaches for locally appropriate marine management	2023	Frontiers in Marine Sciences	https://www.frontiersin.org/articles/10.3389/fmars.2023.1099579/full
equitable marine conservation	Advancing social equity in marine conservation	2021	Frontiers in Marine Sciences	https://www.frontiersin.org/articles/10.3389/fmars.2021.711538/full
marine conservation equity framework	Intersecting Social Science and Conservation	2021	Frontiers in Marine Sciences	https://www.frontiersin.org/articles/10.3389/fmars.2021.676394/full
marine conservation equity framework	Mainstreaming Equity and Justice in the Ocean	2022	Frontiers in Marine Sciences	https://www.frontiersin.org/articles/10.3389/fmars.2022.873572/full?utm_source=UNDP&utm_campaign=40dffee513-Bulletin+55_COPY_01&utm_medium=email&utm_term=0_c2c8d779ea-40dffee513-
social equity marine conservation	Two Decades of Community-Based Marine Conservation Provide the Foundations for Future Action	2022	Frontiers in Marine Sciences	https://www.frontiersin.org/articles/10.3389/fmars.2022.893104/full
ocean equity	Towards Ocean Equity	2020	Google Scholar	https://oceanpanel.org/wp-content/uploads/2022/05/Towards-Ocean-Equity.pdf
equity, marine conservation	Social equity is key to sustainable ocean governance	2022	NPJ - Ocean Sustainability	https://www.nature.com/articles/s44183-022-00001-7
equity, marine conservation	Addressing distribution equity in spatial conservation prioritization for small-scale fisheries	2020	PLOS One	https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0233339

ocean access equity marine conservation	The Missing Layers: Integrating Sociocultural Values Into Marine Spatial Planning	2021	ProQuest	https://www-proquest-com.proxy.lib.duke.edu/docview/2547183302?https://www-nclive-org.proxy.lib.duke.edu/cgi-bin/nclsm?rsrc=309&parentSessionId=0s%2BxyH3oPMQUOB%2FVbUCEgxe%2FNsOuGjHvr6MaEafcVf0%3D&pq-origsite=summon&accountid=10598
ocean equity	Equity and sustainability in the Anthropocene: a social-ecological systems perspective on their intertwined futures	2018	ProQuest	https://www-proquest-com.proxy.lib.duke.edu/docview/2315588240/fulltext/E83686EA14904194PQ/1?accountid=10598
marine conservation equity framework	The MPA Guide: A framework to achieve global goals for the ocean	2021	Science	https://www-science-org.proxy.lib.duke.edu/doi/pdf/10.1126/science.abf0861
equitable marine conservation	Balancing extractive and non-extractive uses in marine conservation plans	2015	Science Direct	https://www-sciencedirect-com.proxy.lib.duke.edu/science/article/pii/S0308597X14002796
equitable marine conservation planning	A two way process – Social capacity as a driver and outcome of equitable marine spatial planning	2023	Science Direct	https://www-sciencedirect-com.proxy.lib.duke.edu/science/article/pii/S0308597X23000349
marine conservation equity resource access	In a network of lines that intersect: The socio-economic development impact of marine resource management and conservation in Southeast Asia	2021	Science Direct	https://www-sciencedirect-com.proxy.lib.duke.edu/science/article/pii/S0305750X21001911?via%3Dihub
ocean equity	Social equity and benefits as the nexus of a transformative Blue Economy: A sectoral review of implications	2019	Science Direct - Marine Policy	https://www-sciencedirect-com.proxy.lib.duke.edu/science/article/pii/S0308597X19305093?via%3Dihub

coastal conservation equity framework	Governance principles for community-centered conservation in the post-2020 global biodiversity framework	2020	Society for Conservation Biology	https://conbio-onlinelibrary-wiley-com.proxy.lib.duke.edu/doi/full/10.1111/csp2.160
resource access in coastal conservation	Cultural Dimensions of Socioecological Systems: Key Connections and Guiding Principles for Conservation in Coastal Environments	2013	Society for Conservation Biology	https://conbio-onlinelibrary-wiley-com.proxy.lib.duke.edu/doi/full/10.1111/conl.12068
social equity framework in marine conservation	Equity trade-offs in conservation decision making	2017	Society for Conservation Biology	https://conbio-onlinelibrary-wiley-com.proxy.lib.duke.edu/doi/full/10.1111/cobi.13008
marine conservation equity resource access	Proximity politics in changing oceans	2021	Springer Link - Maritime Studies	https://link-springer-com.proxy.lib.duke.edu/article/10.1007/s40152-021-00253-y

Appendix B – Equitable Marine Conservation Variables Extraction Log

Document Title	Yr. Published	Definitions of equity / framework used	Marine conservation application (e.g. best practices)?	Address access issues?	Policy tool referenced	Geographic case stud(ies) used
Social Synergies, Tradeoffs, and Equity in Marine Conservation Impacts	2019	Although **many types of social equity exist [e.g., recognition, contextual equity, procedural equity, distributional equity] s**peaks to the distribution ("Who was affected? When did impacts occur? Where?"), direction ("How were they impacted? positively? negatively? not affected?"), and magnitude ("How much were they affected?") of costs, risks, and benefits from a specific event or intervention; **Differences in access, power, and capabilities (contextual equity)** play a key role in conservation outcomes, both in terms of **who is involved in decision making (procedural equity)** and **who is most vulnerable to being disproportionately affected (distributional equity)**; **contextual equity "takes into account the uneven playing field…created by the pre-existing political, economic and social conditions under which people engage in and benefit from resource distributions—and which limit or enable their capacity to do both**."	n/a	yes	MPA, CBM	Southeast Asia, Eastern Africa, and Central America
Area-based conservation: Taking stock and looking ahead	2023	**Equity,** generally defined as what is fair and right, **conceptualized in conservation as distribution of costs & benefits, decision-making**	Kunming-Montreal GBF provides pathways to enhance equity in area-based conservation; three equity dimensions – need to recognize	yes	OECM	n/a

		procedures, and recognition of socio-cultural diversity (e.g., identities, values, rights)	diverse value systems, foster gender and inter-generational equity, and respect the rights, knowledges, and practices of IPLCs and ensure their effective participation			
Examining linkages between ecosystem services and social wellbeing to improve governance for coastal conservation in Jamaica	2019	**ecosystem service lens** identifying key benefits that communities derive from ecosystems can help prioritize social and ecological objectives; based on the insights of this research, conservation initiatives in coastal marine settings are more likely to succeed (i.e., **achieve social and ecological goals**)	design and operationalize more context-specific MPA approaches; Include equitable community-based or co-management arrangements that offer greater decision-making authority to all local users, rather than subset; Intangible values and benefits are prioritized alongside tangible values and benefits, and their bundled associations are recognized; The design and management of marine conservation initiatives appropriately consider the shared values (i.e., of the "for whom") they are likely to influence. These values should be articulated by fishers (and non-fishers) in the meanings and language related to their own wellbeing; Understanding 'for whom' these conservation initiatives are designed was a foundational question in the early adoption of wellbeing perspectives and should shape efforts to achieve equity and effectiveness, which are core objectives of environmental governance	no	MPA	Jamaica
Equity and access in marine protected areas: The history and future of 'traditional	2015	n/a	research into governance structure of MPAs have revealed that process to establish MPAs can be important for their social and ecological success; inclusion of collaborative or participatory approaches for	yes	LMPA	Marianas Trench Marine National Monument, US Territories of

Indigenous fishing' in the Marianas Trench Marine National Monument			designating and regulating MPAs can increase social equity and conservation effectiveness; consider equity issues in both siting and regulation of MPAs such that development of fishing regulations are reflective of the complex realities of fishing in a given area; consider equity in siting of MPAS such that any negative impacts from their implementation – such as loss of fishing revenue or access to culturally important places – are distributed equally across the globe			CNMI and Guam
Social equity and marine protected areas: Perceptions of small-scale fishermen in the Mediterranean Sea	2020	**three dimensions of social equity** as follows: 1) **Recognitional equity** refers to the acknowledgement and representation of the rights, cultures and identities, values and visions, knowledge systems and livelihoods of local groups in conservation planning and management 2) **Procedural equity** concerns the inclusive and effective participation of all relevant actors and groups in rule and decision-making for conservation policies and programs; 3) **Distributional equity** signifies the fairness of distribution of benefits and burdens between different groups, including current and future generations, of the outcomes of conservation actions	n/a	yes	MPA	Various
Charting the value and limits of other effective conservation measures (OECMs)	2023	three key dimensions of social equity: **recognition, distribution, and procedure**	To ensure that policy commitments to equity translate into practice, global policy organizations, like the CBD and IUCN, should ensure that policy frameworks, including the	n/a	OECM	n/a

for marine conservation: A Delphi study			GBF, include considerations of social equity, provide guidance to national governments and other groups to operationalize equity principles, and include indicators of equity in monitoring and evaluation.			
Navigating a just and inclusive path towards sustainable oceans	2018	n/a	academic literature suggests that equitable management entails that: a) the rights, culture and knowledge of local stakeholders and communities are recognized b) that procedures build on the ideals of good governance – participation, inclusion, transparency, access to justice, accountability, and FPIC c) benefits and burdens of conservation are mitigated and managed Equitable marine conservation: Promoting inclusive decision-making and planning processes that incorporate social considerations into marine protected area networks and management; Increasing collaboration with Indigenous communities and small-scale fishers in marine conservation, in recognition of their historical rights, tenure, use and cultural connections: Bottom up marine spatial planning: Incorporating a broader array of social, cultural, economic and governance considerations into marine spatial planning processes; Furthering the inclusion of diverse stakeholders and perspectives in marine spatial planning processes from inception through to	yes	MSP, MPA	n/a

			implementation; Advancing the practice of appropriately documenting and incorporating historical uses and Indigenous rights, tenure, and access issues into marine spatial planning.			
Why people matter in ocean governance: Incorporating human dimensions into large-scale marine protected areas	2017	n/a	Best practice themes for integrating human dimensions into LMPAs: integration of culture and traditions; effective public and stakeholder engagement; maintenance of livelihoods and well-being; promotion of economic sustainability; conflict management and resolution; institutional transparency and (mis)matching ideas and institutions; legitimate and appropriate governance; social justice and empowerment in equitable distribution of costs & benefits (i.e. environmental justice)	yes	LMPA	n/a
Diversity in marine protected area regulations: Protection approaches for locally appropriate marine management	2023	Equity in protected areas can be thought of in three dimensions: **recognition** (acknowledged legitimacy of rights/values by stakeholders), **procedure (inclusive/effective participation of stakeholders), and distribution** (sharing of costs/benefits of management between stakeholders)	Lessons for equitable marine conservation: For MPAs to deliver equitable outcomes, must be well managed with appropriate & inclusive governance structures & regulations for the local context; Down-up approaches, MPA protection decisions must be grounded in local context and equity; may need to consider partially protected MPAs; May offer more opportunities for locally relevant tailoring of MPA regulations & creates flexibility because not fully excluding communities from fishing can improve resource users in decision-making lowers costs of	yes	MPA	Various

			scaling; Momentum for building institutional structures that facilitate co-management of marine resources between government and local communities and/or direct governance by local communities; Devolve rights & decision-making authority to resource users through different governance models			
Advancing social equity in marine conservation	2021	Defined four aspects of equity that needed to be considered in conservation interventions: **recognitional, procedural, distributional,** and *contextual equity* (*Paper expands prior framework to six interrelated equity elements*, see table 1)	Advancing social equity in marine conservation (direct attention to): Recognition through acknowledgement and respect for diverse peoples & perspectives; fair distribution of impacts through maximizing benefits and minimizing burdens; procedures through fostering participation in decision-making and good governance; management through championing and supporting local involvement and leadership; environment through ensuring the efficacy of conservation actions & adequacy of management to ensure benefits to nature & people; structural barriers to and institutional roots of inequity in conservation importance of social considerations in conservation, such as benefit sharing, equitable management, Indigenous rights, livelihoods, and participation in decision-making	yes	n/a	n/a
Intersecting Social Science and Conservation	2021	in conservation, **equity can be considered along four dimensions: procedural**: equitable involvement of all stakeholder groups in the decision-making process;	for improved CBM approach: meaningful discussion between outside agents and actors within the community should be a priority to identify local and regional needs	yes	CBM, MPA, LMPA, PES	n/a

		distributional: present & future equitable distribution of costs, benefits & responsibilities among groups; **recognitional:** equitable respect for knowledge systems, values, social norms & rights of stakeholders during design & implementation of measures; **contextual:** equitable consideration of past & present social, political, economic & cultural contexts that influence any actor's ability to gain recognition, participate in decision making, or lobby for fair distributions	within local political and cultural contexts; participatory activities should seek to share both the power and responsibility of management equitably; giving local resource users more control over their livelihoods and increasing commitment to participatory measures; incorporated social science into conservation methodologies			
Mainstreaming Equity and Justice in the Ocean	2022	**Equity and justice refer to right and fair treatment of people** – including in the processes, application and outcomes of a public policy or organizational practice; Academic literature proposes various dimensions to equity: **Recognitional equity:** the acknowledgement and consideration of local rights, values, visions, knowledge, needs and livelihoods in policy and practice; **Procedural equity:** the level of inclusiveness and participation in decision-making, and the embodiment of good governance principles (e.g., transparency, accountability, responsiveness, consensus orientation and efficiency); **Distributional equity:** the degree of fairness in the allocation of benefits, and the minimization of harms to local populations and among groups; **Contextual equity:**	Governments, for example, might ensure that national laws and policy frameworks mandate the equitable distribution of economic benefits in the blue economy or require consideration of access rights and fair allocation of benefits when fisheries management measures are implemented; non-governmental organizations should integrate equity and justice considerations (e.g., rights, inclusion, human well-being, local initiatives) into the objectives of marine programs and projects or articulate a code of conduct with social principles that teams and programs should embody	yes	n/a	n/a

		the extent to which broader contextual factors (e.g., economic, governance, social structures, climate change, environmental conditions, rule of law) enable or undermine local social equity and the advancement of equity in policy and practice				
Two Decades of Community-Based Marine Conservation Provide the Foundations for Future Action	2022	n/a	community based marine reserves gaining legal recognition to empower fishing communities; integration of spatial exclusive access helps confers form of spatial property rights to groups of fishers	yes	CBM, Marine reserves	Isla Natividad, Sociedad de Historia Natural Niparaja (Mexico)
Towards Ocean Equity	2020	social equality refers to the level to which all members of a society are assigned the same status based on recognition, opportunity, and outcomes; **social equity** combines concern for equal treatment, with assessment of what constitutes fair treatment across both substantive outcomes and procedural concerns; **distributive equity:** distribution of goods and bads across different individuals and groups in society; **procedural equity:** recognition of rights and stakeholders, inclusion and participation, political power to influence decisions regarding management and distribution of goods and services; **intergenerational equity** - relates to the conservation and sustainable use of the marine environment in a manner that ensures the ability of future generation to reap its benefits	In development activities and conservation initiatives, engage and include developing states and local populations in decision-making processes; Recognize the rights and needs of women, individuals with disabilities, small-scale fishers, Indigenous and other minority groups and lift existing access barriers; Protect human rights and the rights of Indigenous groups; Address corruption and tax evasion; Recognize, protect and operationalize equity and access rights; Build local capacity—including access to low-cost and accessible technologies—to establish equality of opportunity; Understand social-ecological causality in ocean environments to assign responsibility and liability, and secure an equitable distribution of social gains; Demand, require and stimulate transparent,	yes	MPA, other initiatives	n/a

		also; **intragenerational equity** - more immediate and concerned with ensuring equitable distribution of benefits and resources within the current generation	responsible business practices.; Create a shared ocean economy that facilitates redistribution of wealth and benefits; Democratize ocean knowledge; Create inclusive governance processes by incorporating local voices and visions into plans for the ocean economy, at all scales			
Social equity is key to sustainable ocean governance	2022	**Framework to incorporate equity into ocean governance:** Where – in what places and contexts is equity being examined or addressed? Why – why is equity being considered or addressed in this work? Whom – equity for or amongst whom? What – what is being distributed? When – at what stages in governance or research processes is equity being considered or forwarded? How – how do (or might) governance structures mediate, create or undermine equity?	n/a	yes	n/a	n/a
Addressing distribution equity in spatial conservation prioritization for small-scale fisheries	2020	n/a	use of Marxan with Zones to assess distributional equity in modeling socioeconomic impacts of MPAs	yes	MPA	Sogod Bay, Philippines

The Missing Layers: Integrating Sociocultural Values Into Marine Spatial Planning	2021	n/a	community based management and participatory governance are alternatives to support more inclusive marine spatial planning; Meaningful inclusion of Indigenous and local communities in MSP allows for exchange of traditional ecological knowledge and information; identifying sociocultural significant areas is crucial, Identification and codification of sociocultural values associated with sea areas is complex, case-specific, and often include layers not associated with monetary value; iterative and continual process of building mutually beneficial, respectful ongoing arrangements between users and holders of traditional knowledge, in order to build trust, good relations, mutual understanding, intercultural spaces, knowledge exchange, knowledge co-production and reconciliation; Giving traditional stakeholders a voice in relevant decision-making processes, understanding and addressing their views and preferences; It will be necessary to create more inclusive negotiation spaces where people's differences are acknowledged and included in the conversation at different stages; Developing and implementing "equal opportunity" policies to ensure those differences are acknowledged should be a priority; Timely and efficient stakeholder participation is an	yes	MSP	n/a

			essential aspect; the degree and scope of stakeholder participation can vary considerably between countries, and will largely depend on the existing local political or legal requirements for participation; Supporting policy embedment to involve stakeholders in MSP initiatives can ensure that all stakeholders are not only being informed or being used as information providers, but are also essential partners in collaboration and decision-making.			
Equity and sustainability in the Anthropocene: a social-ecological systems perspective on their intertwined futures	2018	**Distributional equity:** how resources, costs, and benefits are allocated or shared amongst people and group; **Recognitional equity:** refers to acknowledgement of and respect for identity, values and associated rights; emphasizes cultural and political domination and discrimination as forms of inequity and injustice; **Procedural equity:** institutions, governance and participation to highlight how decisions are made, and the extent to which different people and groups are able to influence these or have their perspectives represented or incorporated; related to political inequity and to broader debates on power and voice, and the ways these operate through both formal and informal institutions and spaces at local, national and international scales	n/a	no	n/a	n/a

The MPA Guide: A framework to achieve global goals for the ocean	2021	n/a	to succeed, MPA should be established and sustained through enabling conditions for effective and equitable MPA planning, design, governance, and management; enabling conditions across all stages of MPA establishment; recognition and support of existing governance by Indigenous peoples and local rights-holders, including sovereignty, self-determination, and rights of access, use, and management; enabling conditions from proposed/committed to designated; social design principles: inclusion of social objectives for multi-dimensional human well-being recognition of pre-existing rights, tenure, uses: extractive and non-extractive; consideration of pre-existing resource use and socio-economic status; accounting for unequal costs and benefits to different social groups; impact – and benefit – sharing with distributional fairness; enabling conditions from implemented to active management; ongoing consideration of cultural values, traditions, and activities in site management; ongoing efforts to build trust, strong local leadership, partnerships with local users; local collaboration in monitoring, enforcement, and management	yes	MPA	n/a

Balancing extractive and non-extractive uses in marine conservation plans	2015	n/a	incorporation of both extractive and non-extractive interests in the reserve design process had positive outcomes for the two sectors under consideration, as both sectors were able to retain access to areas that generated almost 90% of their economic value; BUT therefore, the use of planning tools is intended to complement, **but not replace, a process in which stakeholders groups need to have substantial inputs**	yes	MPA	Wales MPA network
A two way process – Social capacity as a driver and outcome of equitable marine spatial planning	2023	**Social sustainability** is one of the three pillars essential to sustainable development through and is defined by Saunders et al.; "the **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".	Build social capacity through relationship building, knowledge development, and collaboration for more equitable & sustainable MSP dev and implementation; Question of MSP is how to ensure social-ecological system; Social capital can promote 'meaningful' stakeholder participation, providing the 'means' of sustainable MSP processes alongside social learning, social cohesion and "opportunities for authentic dialogue"; crucial to understand "the ways in which ideologies, beliefs and norms shape the very nature of decision-making"; to investigate if power relationships are maintained in MSP; Interpersonal trust is particularly important for building social capacity; relationships between individuals can support an acceptance of vulnerability which enables an 'openness' to sharing and	yes	MSP	Plymouth Sound National Marine Park (United Kingdom) Pirajubae Marine Extractive Reserve (Brazil) Algoa Bay Project (South Africa)

			receiving knowledge; trust-building, learning and effective communication have been found to be important for addressing power hierarchies in MSP that can lead to the exclusion and marginalization of stakeholder groups in favor of powerful interests; Each arena of interest or social network possesses its own set of rules, ideas and practices and it is negotiation within and outside of these groups that influences social capital and the ability to influence governance. These processes of negotiation and learning are integral to the meaningful participation necessary for MSP to support the development of social capital, that in turn can influence the nature of engagement and the ability for stakeholder groups to be heard			
In a network of lines that intersect: The socio-economic development impact of marine resource management and conservation in Southeast Asia	2021	n/a	n/a	yes	MPA	Koh Sdach Archipelago (Cambodia)
Social equity and benefits as the nexus of a transformative Blue Economy: A	2019	**social equity:** recognition and fair treatment of all groups that would benefit from or be impacted by existing or nascent ocean industries; inclusion [of them] in development plans and policies that; achievement	n/a	no	n/a	n/a

sectoral review of implications		of more just distribution of benefits and burdens; **procedural justice**: fair process of development and establishment for all those involved in or affected by marine industries; **distributional justice**: fair distribution of costs and benefits				
Governance principles for community-centered conservation in the post-2020 global biodiversity framework	2020	**define community-centered conservation here** as the leadership of local and Indigenous communities in the protection of biodiversity and natural resources through multilevel governance processes in which fundamental rights are respected, and relationships of trust and customary practices are co-constructed among communities of place, supportive agents of the state, and civil society actors across multiple spheres of action (e.g., conservation organizations, business, and industry partners)	Core principles of community-centered conservation governance include: (a) building multilevel networks and collaborative relationships needed to coproduce conservation solutions; (b) promoting equity and recognizing the central role of women as agents of positive change in conservation efforts across scales; (c) reframing conservation action through the lens of reconciliation and redress (e.g., responding to injustices from land grabs and territorial enclosures);(d) ensuring a rights-based approach to conservation action in which community agency, access and decision making autonomy are supported; and (e) revitalizing the customary and local institutions that provide legitimate and adaptive strategies for the stewardship of biodiversity	yes	n/a	Tsitsikamma Marine National Park (South Africa)
Cultural Dimensions of Socioecological Systems: Key Connections and Guiding Principles for Conservation in	2013	n/a	Incorporating diverse types of ecological knowledge into conservation and collaborating with alternative knowledge holders can build social and ecological resilience; Guiding principles of a cultural dimensions approach to conservation; Recognize the diverse	yes	n/a	n/a

Coastal Environments			cultural meanings and values embedded in human-environment interactions; Protect access to resources, spaces, and processes upon which cultural wellbeing depends; Involve communities who have cultural connections to ecosystems in science and management at all stages; Allow for cross-scale and nested linkages when assessing and managing cultural dimensions of ecosystems; Recognize the integrated and coupled nature of sociocultural wellbeing and ecosystem health			
Equity trade-offs in conservation decision making	2017	apply definition of equity for established environmental management, **4 dimensions; procedural,** equitable involvement and inclusion of all stakeholder groups in rule making and decisions; **distributional,** equitable distribution of costs, benefits, rights, responsibilities, and risks within and among groups from present and future generations; **recognitional,** equitable respect for knowledge systems, values, social norms, and rights of all stakeholders in policy or program design and implementation; **contextual,** equitable consideration of the broad social, governance, economic, and cultural contexts, past and present that influence an actor's ability to gain recognition, participate in decision making, and lobby for fair distribution	n/a	no	n/a	n/a

Proximity politics in changing oceans	2021	**Equity call[ed] for provision of greater benefits for populations typically most disadvantaged** in terms of social development, including developing nations, fisheries-dependent populations in coastal communities and consumers in countries dependent on fish imports	n/a	yes	n/a	Canada

Appendix C – Equity Principles Grouping of Best Practices and Recommendations

Document Title	Yr. Published	Recognition	Distribution	Procedure	Mentions contextual/inter/ intragenerational equity?
Area-based conservation: Taking stock and looking ahead	2023	Recognize diverse value systems	none	Ensure IPLC's effective participation	yes
Governance principles for community-centered conservation in the post-2020 global biodiversity framework	2020	Ensuring a rights-based approach to conservation action in which community agency, access and decision-making autonomy are supported	Reframing conservation action through the lens of reconciliation and redress (e.g., responding to injustices from land grabs and territorial enclosures);	Building multilevel networks and collaborative relationships needed to coproduce conservation solutions; Revitalizing the customary and local institutions that provide legitimate and adaptive strategies for the stewardship of biodiversity	yes
Diversity in marine protected area regulations: Protection approaches for locally appropriate marine management	2023	Devolve rights & decision-making authority to resource users through different governance models	May offer more opportunities for locally relevant tailoring of MPA regulations & creates flexibility because not fully excluding communities from fishing can improve resource users in decision-making lowers costs of scaling	Momentum for building institutional structures that facilitate co-management of marine resources between government and local communities and/or direct governance by local communities	yes
Advancing social equity in marine conservation	2021	Recognition through acknowledgement and respect for diverse peoples & perspectives; importance of social considerations in conservation, such as equitable management, Indigenous rights, livelihoods	fair distribution of impacts through maximizing benefits and minimizing burdens	procedures through fostering participation in decision-making and good governance; structural barriers to and institutional roots of inequity in conservation	no

Balancing extractive and non-extractive uses in marine conservation plans	2015	incorporation of recreational uses in the systematic planning process	incorporation of both extractive and non-extractive interests in the reserve design process to retain access to areas that generated almost 90% of their economic value.	use of planning tools to complement, but not replace, process in which stakeholder groups need to have substantial inputs.	no
A two way process – Social capacity as a driver and outcome of equitable marine spatial planning	2023	Recognizing that interest or social network possesses its own set of rules, ideas and practices and it is negotiation within and outside of these groups that influences social capital and the ability to influence governance.	none	Build social capacity through relationship building, knowledge development, and collaboration; Provide the 'means of sustainable MSP processes where alongside is social learning, social cohesion, and "opportunities for authentic dialogue"; investigate if power relationships are maintained in MSP; interpersonal trust is particularly important for building social capacity	yes
Social equity is key to sustainable ocean governance	2022	Are communities and stakeholders involved in ocean governance being recognized?	What resources are being distributed and for whom?	At what stages in governance or research processes is equity being considered or forwarded? How do (or might) governance structures mediate, create or undermine equity?	yes
The MPA Guide: A framework to achieve global goals for the ocean	2021	recognition and support of existing governance by Indigenous peoples and local rights-holders, including sovereignty, self-determination, and rights of access, use, and management; recognition of pre-existing rights, tenure, uses: extractive and non-extractive; social design principles: inclusion of social objectives for multi-	consideration of pre-existing resource use and socio-economic status; accounting for unequal costs and benefits to different social groups	MPA should be established and sustained through enabling conditions for effective and equitable MPA planning, design, governance, and management	yes

		dimensional human well-being; ongoing consideration of cultural values, traditions, and activities in site management			
Intersecting Social Science and Conservation	2021	for improved CBM approach: meaningful discussion between outside agents and actors within the community should be a priority to identify local and regional needs within local political and cultural contexts	none	participatory activities should seek to share both the power and responsibility of management equitably giving local resource users more control over their livelihoods and increasing commitment to participatory measures	yes
Navigating a just and inclusive path towards sustainable oceans	2018	the rights, culture and knowledge of local stakeholders and communities are recognized Increasing collaboration with Indigenous communities and small-scale fishers in marine conservation, in recognition of their historical rights, tenure, use and cultural connections.	benefits and burdens of conservation are mitigated and managed	that procedures build on the ideals of good governance – participation, inclusion, transparency, access to justice, accountability, and FPIC Promoting inclusive decision-making and planning processes that incorporate social considerations into marine protected area networks and management.	no
Mainstreaming Equity and Justice in the Ocean	2022	non-governmental organizations should integrate equity and justice considerations (e.g., rights, inclusion, human well-being, local initiatives) into the objectives of marine programs and projects	ensure that national laws and policy frameworks mandate the equitable distribution of economic benefits in the blue economy	non-governmental organizations should articulate a code of conduct with social principles that teams and programs should embody	no
Equity and access in marine protected areas: The history and future of	2015	none	Consider equity issues in both siting and regulation of MPAs such that development of fishing regulations are reflective of the complex	include collaborative or participatory approaches for designating and regulating MPAs can increase social equity and conservation effectiveness	no

'traditional Indigenous fishing' in the Marianas Trench Marine National Monument			realities of fishing in a given area; Consider equity in siting of MPAS such that any negative impacts from their implementation – such as loss of fishing revenue or access to culturally important places – are distributed equally across the globe		
The Missing Layers: Integrating Sociocultural Values Into Marine Spatial Planning	2021	People have sociocultural relations with the sea, thus identifying sociocultural significant areas is crucial; Recognize that traditional communities share relational values that are hard or impossible to monetize, as their place attachment and place identities; Reconcile different worldviews in how the oceans should be managed and used if MSP can also partner with alternative and more inclusive concepts. Ex of one such concept is the idea of de-growth, which is based on the inclusion of values, such as enjoying and promoting humanistic values, maintaining/decreasing the carrying capacity, reducing the north-south discrepancies, along with not seeing nature as a commodity	none	Community based management and participatory governance are alternatives to support more inclusive marine spatial planning; Meaningful inclusion of Indigenous and local communities in MSP decreases odds of system sabotage (noncompliance), and allows for exchange of traditional ecological knowledge and information; Iterative and continual process of building mutually beneficial, respectful ongoing arrangements between users and holders of traditional knowledge, in order to build trust, good relations, mutual understanding, intercultural spaces, knowledge exchange, knowledge co-production and reconciliation; Give traditional stakeholders a voice in relevant decision-making processes, understanding and addressing their views and preferences in that context is not a one-off exercise; necessary to create more inclusive negotiation	yes

				spaces where people's differences are acknowledged and included in the conversation at different stages, and where differences are opportunities for creative and accommodating solutions; Support policy embedment to truly involve stakeholders in MSP initiatives to ensure that all stakeholders are not only being informed or being used as information providers, but are also essential partners in collaboration and decision-making	
Towards Ocean Equity	2020	Recognize the rights and needs of women, individuals with disabilities, small-scale fishers, Indigenous and other minority groups and lift existing access barriers; Protect human rights and the rights of Indigenous groups; Recognize, protect and operationalize equity and access rights.	Understand social-ecological causality in ocean environments to assign responsibility and liability, and secure an equitable distribution of social gains; Create a shared ocean economy that facilitates redistribution of wealth and benefits.	In development activities and conservation initiatives, engage and include developing states and local populations in decision-making processes; Build local capacity—including access to low-cost and accessible technologies—to establish equality of opportunity; Democratize ocean knowledge; Create inclusive governance processes by incorporating local voices and visions into plans for the ocean economy, at all scales.	no
Social equity and benefits as the nexus of a transformative Blue Economy: A sectoral review of implications	2019	Protect human rights and the rights of Indigenous groups.	none	none	

Cultural Dimensions of Socioecological Systems: Key Connections and Guiding Principles for Conservation in Coastal Environments	2013	Incorporating diverse types of ecological knowledge into conservation and collaborating with alternative knowledge holders can build social and ecological resilience; Recognize the diverse cultural meanings and values embedded in human-environment interactions; Recognize the integrated and coupled nature of sociocultural wellbeing and ecosystem health; and design conservation approaches appropriately.	Protect access to resources, spaces, and processes upon which cultural wellbeing depends.	Involve communities who have cultural connections to ecosystems in science and management at all stages (from problem framing to assessment, to identifying and implementing solutions, to monitoring); Allow for cross-scale and nested linkages when assessing and managing cultural dimensions of ecosystems.	no
Why people matter in ocean governance: Incorporating human dimensions into large-scale marine protected areas	2017	integrate culture and traditions legitimate and appropriate governance	maintenance of livelihoods and well-being; promotion of economic sustainability social justice and empowerment à equitable distribution of costs & benefits	effective public and stakeholder engagement; conflict management and resolution; institutional transparency and (mis)matching ideas and institutions	no
Two Decades of Community-Based Marine Conservation Provide the Foundations for Future Action	2022	legal recognition to empower fishing communities, integration of spatial exclusive access helps confers form of spatial property rights to groups of fishers	none	none	no