

## Perspective

# Rethinking the 30 by 30 target to ensure the well-being of small-scale fishing communities

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## SUMMARY

**Target 3 of the Convention on Biological Diversity's (CBD) Kunming-Montreal Global Biodiversity Framework calls for the protection of 30% of terrestrial areas, inland waters, and marine and coastal areas through area-based conservation (protected areas and other effective conservation measures) by 2030. As we progress toward this target, there is a need to critically evaluate the potential impacts of marine area-based measures on small-scale fishing communities, whose well-being is intrinsically entwined with marine ecosystems. Drawing on case studies from the Solomon Islands, we present principles and a roadmap to guide decision-makers tasked with implementing marine area-based conservation in determining whether, where, and how these measures can be effective and equitable in the context of areas used and governed by small-scale fishers. Importantly, we argue that communities should not shoulder the burden of meeting global conservation commitments.**

The Convention on Biological Diversity's (CBD) Kunming-Montreal Global Biodiversity Framework (GBF) aims to “halt and reverse biodiversity loss to put nature on a path to recovery for the benefit of people and planet by conserving and sustainably using biodiversity and by ensuring the fair and equitable sharing of benefits from the use of genetic resources, while providing the necessary means of implementation.” One of the 23 strategies to achieve this aim is captured by target 3, which calls for 30% of the planet to be effectively conserved and managed by 2030 through equitably governed “systems of protected areas and other effective conservation measures (OECMs) recognizing Indigenous and traditional territories where applicable.” The CBD defines a protected area as an “area, which is designated or regulated and managed to achieve specific conservation objectives” and OECMs as an “area other than a protected area, which is governed and managed in

ways that achieve positive and sustained long-term outcomes for the *in situ* conservation of biodiversity, with associated ecosystem functions and services and where applicable, cultural, spiritual, socio-economic, and other locally relevant values.” The key distinction between protected areas and OECMs is that the former has biodiversity conservation as a primary objective, whereas the latter is defined by effectiveness in conserving biodiversity, irrespective of its objectives.<sup>1</sup>

The CBD is the world's foremost global conservation policy, with more than 196 signatories. The 30 by 30 target gained considerable political momentum in the lead up to its endorsement in 2021. This was largely due to the efforts of the High Ambition Coalition for Nature and People, a group of governments and non-governmental organizations (NGOs) who championed the goal and pushed for its inclusion in the GBF. Unlike many other targets, the 30 by 30 is relatively easy to



communicate and measure, making it an attractive focus of politicians, scientists, and donors who have a vested interest in reporting measurable and communicable outcomes. The target is also framed around supporting several dominant narratives beyond conservation, such as development, climate mitigation and adaptation, and food security, making it attractive to a wide range of stakeholders. The so-called “30 by 30” target has thus been a major driver of marine area-based conservation (i.e., marine protected areas [MPAs] and OECMs) since its adoption in December 2022.

Data on the coverage and effectiveness of MPAs are generally outdated, incomplete, and unreliable.<sup>2–4</sup> However, recent estimates suggest that approximately 8% of marine areas globally are designated as MPAs or OECMs,<sup>5</sup> with approximately 32% of national marine waters (including the EEZ) in the Pacific region.<sup>6</sup> Notably, the report of the latest CBD Conference of Parties (COP16) in 2025 called for additional focus on improving, understanding, and promoting the effective implementation of MPAs and OECMs,<sup>7</sup> suggesting that coverage is not an accurate indicator of success.<sup>2</sup>

The unprecedented ambition of the 30 by 30 target has raised concerns that it could potentially compromise the rights and well-being of those most reliant on coastal and marine areas,<sup>8,9</sup> undermining the stipulation of target 3 for “recognizing and respecting the rights of Indigenous Peoples and local communities.” Small-scale fishing communities, which in the Pacific may be equated with coastal communities,<sup>10</sup> are the principal caretakers of marine biodiversity and critical habitats in near-shore areas of the Pacific Islands.<sup>11,12</sup> Therefore, we argue that target 3 is unlikely to be successful in the Pacific if marine area-based conservation is not planned and managed by and for the benefit of small-scale fishing communities.

The GBF includes extensive commitments: from zero loss of areas of high biodiversity importance, sustainable use, and management of biodiversity to gender-sensitive participation. Its approach to conserving and sustainably using biodiversity by 2050 is broad and comprehensive and among its 23 targets calls for, for example, recognition of diverse value systems; gender and intergenerational equality; and respect for the rights, knowledges, and practices of Indigenous Peoples and local communities. Against this backdrop of social recognition and equity, the GBF emphasizes the importance of enabling strategies to ensure communities can sustainably and effectively use their resources, build their management capacity, and access the required financing. Yet, there is a risk that these aspects of the GBF are being overshadowed by the headline 30 by 30 target.

If the equity, effectiveness, and sustainability aspects of the GBF are overshadowed by the 30 by 30 target, this could impede outcomes of the GBF by shifting attention and resources away from other pathways required to mitigate the root causes of biodiversity loss.<sup>8,13,14</sup> These root causes include overconsumption and disproportionate wealth in the Global North,<sup>15</sup> and systemic changes to the global economic and political systems that are required to address them.<sup>8,16</sup> This, together with the fact that most areas under threat of habitat conversion are in the Global South,<sup>17</sup> can lead to the burden of conservation falling on those most reliant on SSF, along with the risk that conservation will be ineffective and inequitable.<sup>9,18</sup>

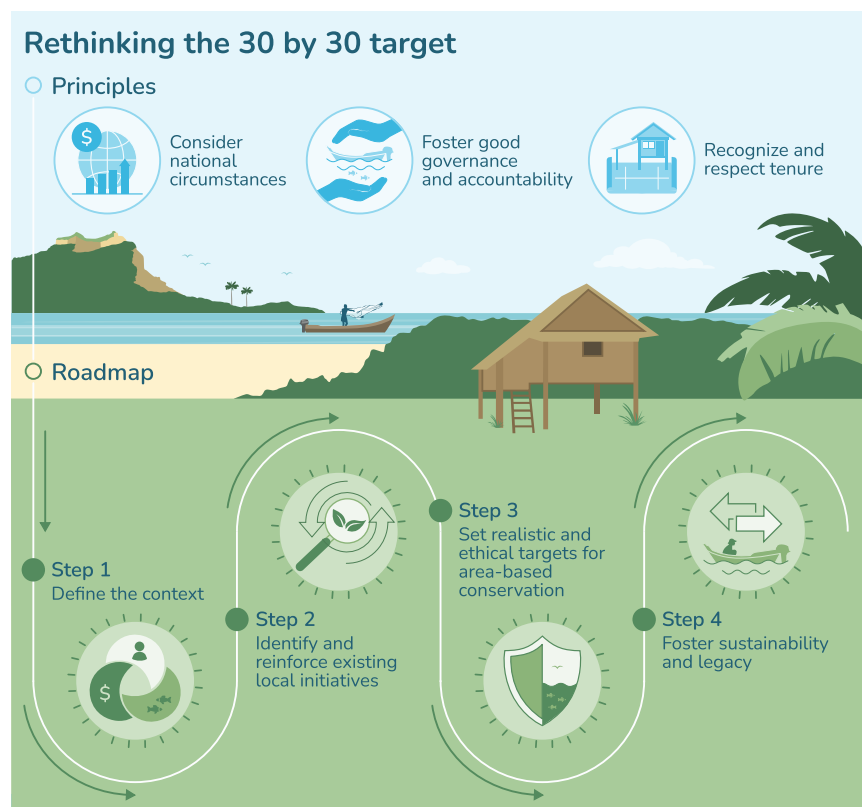
In this article, we provide perspective on ways to avoid harm and produce benefits when prioritizing the advancement of the 30 by 30 target in small-scale fishing communities, and we present the argument that, in some contexts, promoting more MPAs and OECMs may not be the most appropriate or the most important way to bolster the well-being of nature and people to achieve the GBF objectives. We illustrate our case using context and examples from the Solomon Islands in the Pacific, a country with approximately 3,000 small-scale fishing communities.<sup>19</sup>

### THE POTENTIAL IMPACTS OF MARINE AREA-BASED CONSERVATION ON SMALL-SCALE FISHING COMMUNITIES

The impacts of marine area-based conservation globally have been found to be mixed, resulting in ecological and socio-economic benefits in some locations but not others.<sup>20–25</sup> Specifically, the ecological outcomes of MPAs have been shown to vary considerably, with positive outcomes being associated with permitted-extraction levels, good governance (particularly meaningful engagement and empowerment of stakeholders and rightsholders), and sufficient funding.<sup>24,25</sup> In contrast, the focus on protected area coverage over the last few decades has in some cases led to protected areas having minimal ecological impact because they are unevenly distributed across political boundaries and do not address the most pressing threats in some locations,<sup>26</sup> are in remote areas that are not under threat (“residual”),<sup>27</sup> or are legally designated but ineffective (“paper parks”).<sup>28</sup>

In terms of socio-economic impacts, marine area-based conservation has the potential to be both beneficial and harmful to the well-being of small-scale fishers. Negative and positive impacts across the multiple domains of human well-being have been documented, including in relation to livelihoods, food (in)security, political (dis)empowerment, subjective (ill)well-being, cultural identity, and access and property rights.<sup>29–33</sup> For example, a review of the social impacts of 121 MPAs across the globe found that the most commonly reported benefits related to the economic (increased income, catch per unit effort, and catches), governance (resource control and support), and social (community involvement) domains.<sup>31</sup> The most commonly reported negative impacts related to economic (increased cost of fishing) and social (increased conflict) domains of human well-being.<sup>31</sup> Negative social impacts can lead to reductions in support and compliance with conservation initiatives, diminishing ecological outcomes as well as other social outcomes.<sup>18,34–36</sup>

Importantly, the social impacts of marine area-based conservation have been shown to be heterogeneous across well-being domains, time, social subgroup (both inter- and intracommunity), and governance arrangement. For example, a study of multiple MPAs in Indonesia found that they generally contributed to poverty alleviation but that impacts were mixed according to poverty domain (e.g., negative impacts on governance aspects, such as marine resource control, and positive impacts on material wealth).<sup>32</sup> Impacts were also found to vary over time, with most positive impacts occurring during the implementation



**Figure 1. Principles and roadmap for rethinking the 30 by 30 target to ensure the well-being of small-scale fishing communities**

nities play a leading role. For example, improved human well-being outcomes were more commonly associated with community-led as opposed to other governance models in a review of more than 100 MPAs globally.<sup>31</sup> More broadly, research highlights the need for equity, good governance, co-creation of knowledge, local agency, and partnerships to improve social and ecological outcomes for sustainability initiatives.<sup>41,42</sup>

Although considerable progress has been made toward more community-centric approaches to conservation, which are explicitly included in the 30 by 30 target, similar to the Aichi target that preceded it, there is a risk that the 30 by 30 will be implemented in a technocratic, externally driven, and top-down way. Such approaches can ignore, or even undermine, governance led by local actors, in particular small-scale fishing communities.<sup>8,14,43</sup> This may be, among other

period, after which management activities all but ceased or waned, and alleviation of poverty did not continue to accrue.

The social impacts of MPAs can differ within and between communities, influenced by factors such as prior rights, resource dependence, and usage patterns.<sup>37</sup> For fishers, differential impacts have been examined in relation to fishing methods and gear types used.<sup>31</sup> Variability in outcomes may also be shaped by the level of resource dependence and ability to adapt to change—including shifting fishing areas or occupations<sup>38</sup>—as well as sociocultural factors, such as age, gender, and ethnicity.<sup>39</sup>

Planned global expansion of marine area-based conservation measures will likely increase the encroachment of these areas on locations used and managed by small-scale fishers. In the Global South, coastal communities face a myriad of challenges that cannot be addressed by marine area-based measures alone (e.g., overfishing and poorly regulated resource extraction, climate change, food insecurity, limited infrastructure, and disputed tenure rights). This lends support to the need for interventions that seek to influence conservation outcomes, whether directly or indirectly, to empower communities to drive the prioritization, design, and implementation processes so that the resulting measures are suited to their unique strengths and vulnerabilities.<sup>40</sup> In this vein, we argue that communities should be supported to be the agents of change in protecting marine resources on their own terms, not simply as complicit collaborators in externally driven initiatives.

Indeed, research has shown that positive social outcomes of marine area-based conservation are more likely if local commu-

reasons, due to a lack of understanding of how conservation practice can be transformed to the local level<sup>37</sup> and due to financial and power imbalances between the Global North and South, as well as national and local scales of governance.<sup>14,15</sup>

We recognize that support for engaging communities in conservation and marine management is not a new concept<sup>12,19,42,44</sup> and acknowledge that community-centric approaches are, in fact, embedded in many of the GBF targets that have a strong focus on recognizing the rights of Indigenous Peoples and local communities (e.g., targets 1, 3, 22, and 23). Despite this, community engagement in conservation is still predominantly post hoc and reactive.<sup>14</sup> As such, a more preemptive, systematic, and holistic approach is required to uphold the GBF's commitment to community-led conservation in practice. Importantly, we argue that a suite of actions may be required that complement and may or may not include area-based conservation. The principles and roadmap described in the following section provide a pathway to determining whether, where, and how area-based marine conservation can be effectively and equitably implemented in small-scale fishing communities.

### PRINCIPLES AND A ROADMAP FOR RETHINKING THE 30 BY 30 TARGET

We present three overarching principles and a roadmap to guide the process of determining whether, where, and how MPAs and OECMs should be implemented in small-scale fishing communities (Figure 1). The roadmap includes four iterative steps and

associated questions to guide this process. These steps are intended to support researchers, practitioners, and decision-makers in ensuring that predictable weaknesses in environmental governance and the main known threats to biodiversity are identified and addressed before giving guidance on the best ways to work in collaboration with small-scale fishing communities on area-based and other measures to support marine conservation and management.

These principles are foregrounded on recognizing that small-scale fishing communities, Indigenous Peoples, and Traditional Owners have multi-dimensional dependence on marine systems, status as rightsholders, knowledge of the major threats to their environments, and, in some cases, experiences of disempowerment via externally led management and conservation activities.<sup>45,46</sup> Ensuring that these rightsholders have meaningful input within national processes, including local decision-control to implement measures that are relevant to their unique challenges, is not only ethically responsible but can also foster marine stewardship, ocean literacy, and, ultimately, diverse societal gains and ecological benefits.<sup>42</sup>

We use context and examples from Solomon Islands to illustrate the roadmap, derived from the cumulative knowledge of the authors, who have extensive experience implementing conservation and livelihoods initiatives in Solomon Islands and Melanesia. The principles and roadmap represent the perspective of the authors based on this experience, substantiated by the academic literature, and the cumulative results of a multitude of applied research projects, some of which are exemplified in the case studies that have been included to illustrate the steps. Solomon Islands, and Melanesia more broadly, is a salient focus for discussing marine area-based conservation because of the enduring and complex customary land- and sea-tenure systems that affect conservation initiatives.<sup>47</sup> In the last 30 years, Pacific Island countries in general have considered community-led management arrangements to be more appropriate than the top-down control prevalent elsewhere.<sup>11,48</sup> This context provides an opportunity to demonstrate what a people-centered, rights-based approach to conservation implies in a place where decision-making power is primarily exerted at the local level.

### Principle 1: Consider national circumstances

Differences in geographies, governance orientation, environmental regulations, human rights records, and economies of nations, among other factors, will shape priorities and capabilities for effective and equitable conservation.<sup>49</sup> In certain countries, populations are highly dependent on marine and coastal systems, which serve as vital sources of food and nutrition security and livelihood foundations.<sup>50</sup> In these contexts, decision-makers may understandably prioritize meeting basic human needs over conservation policy priorities. In recognition of this, the GBF is clear that “the goals and targets of the Framework are global in nature” and “each party may contribute to attaining the goals and targets in accordance with national circumstances, priorities and capabilities.” This stipulation allows countries to apply the GBF to promote transformative change relating to the indirect drivers of biodiversity loss that are unique to them, which may include actions to support marine area-based measures, such as increasing management and sustainable use (targets 9, 10,

15, and 16), and increasing resources for implementation and capacity building (target 19).<sup>9,50–54</sup> Simply put, those wishing to support a party in achieving the vision of the GBF must assess existing systems that support marine biodiversity and implement measures to strengthen them rather than focusing on investing predominantly in a single target. Without this, marine area-based measures may not be implemented or sustained in the long term. Most importantly, if major direct and indirect threats are ignored (e.g., pollution, population growth, and management of extractive industries such as mining and logging), it is possible that focusing on the 30 by 30 target will distract from national policy priorities and may undermine achievement of other priority targets that require addressing more urgently.<sup>13,14</sup>

### Principle 2: Foster good governance and accountability

Governance is largely considered to be one of the most important determinants of effective and equitable marine management.<sup>45,46</sup> As such, extensive research has sought to identify and highlight the key features that underpin “good governance.”<sup>47,48</sup> These include, but are not limited to, the following: (1) governance systems must be responsive to local contexts and emphasize social/collective learning, innovation, and fit<sup>55</sup>; (2) governance systems must have a shared and strategic vision, allowing for the development of forward-looking interventions in anticipation of future environmental change<sup>56</sup>; and (3) governance systems must fulfill the objective of equitable and active management of power imbalances to ensure the participation of diverse groups, worldviews, and ways of knowing/doing within decision-making processes.<sup>57</sup>

Thus, inclusivity in decision-making processes across scales, including local, national, regional, and global decision-making forums and policies, is vital to achieving positive outcomes from conservation and management.<sup>58</sup> Although local actors are often active participants in driving policy, there are many documented instances where their voices have been restricted to local-level decision-making processes, resulting in conservation targets being driven by external priorities, management tools, and approaches.<sup>1</sup> In some cases, local actors who are likely to be impacted by decision-making processes have been excluded from the process entirely.<sup>59,60</sup>

In having a principle centered on the need for good governance, it is also imperative to highlight the importance of accountability.<sup>15</sup> Indeed, the extent to which environmental governance is characterized by fragmentation, duplication, dispersed authority, and weak regulations is well documented, highlighting the need for increased accountability.<sup>61</sup> We contend that this is particularly important for small-scale fishing communities. Increased accountability is needed to ensure that governments and formal decision-makers are held responsible for their actions and that policies are implemented transparently and equitably for the well-being of communities that are affected by those decisions.<sup>62</sup> For small-scale fishing communities, which often lack the power or ability to influence large-scale policy decisions, ensuring government accountability can provide a vital safeguard against the marginalization and adverse impacts that can result from poorly implemented conservation targets.<sup>63</sup> It also ensures that accountability is not solely placed on the communities that are most dependent on marine resources

and sometimes less equipped to effectively mitigate external pressures. In short, if governments do not uphold their responsibility to manage external threats (e.g., mining, logging, pollution, and lack of enforcement of regulations on external fishers), then local-level conservation cannot succeed. Governments cannot commit to the 30 by 30 and other CBD targets and respect the rights and livelihoods of small-scale fishing communities, while concurrently supporting activities conflicting with the target, such as mining and logging concessions, large-scale fishing, mass tourism development, or subsidizing high impact agrobusiness such as oil palm plantations.<sup>64,65</sup>

### Principle 3: Recognize and respect tenure

Tenure refers to the rights and responsibilities of people and societal groups regarding how and by whom land and marine areas and resources are used, including who is entitled to transfer such rights and under what conditions.<sup>47</sup> The Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries & Forests<sup>66</sup> include various principles to ensure that rights holders experience agency in actions that may have impacts upon their rightful lands, coasts, waterways, and associated resources.<sup>67</sup> Yet, how tenure is governed varies significantly between and even within nations.<sup>68</sup> Ensuring the principles of responsible governance of tenure are recognized, strengthened, and not undermined by the development and implementation of MPAs and OECMs in different contexts is crucial for effective and equitable management.<sup>44</sup> Although research and evidence on marine tenure are nascent relative to terrestrial tenure systems, studies exploring the impacts of property rights systems on conservation outcomes have found that secure tenure can lead to equitable and sustainable outcomes. For example, MPA networks that incorporate marine tenure into their design can more equitably distribute the costs of conservation among small-scale fisheries actors<sup>69</sup> and have been shown to be associated with improved ecological outcomes in Indonesia<sup>70</sup> and in the Solomon Islands.<sup>71</sup> Recognition and respect for tenure is therefore considered not only a cross-cutting issue but also inherent to the success of the 30 by 30 target.

Failure to support tenure through conservation means that communities are unlikely to engage with marine area-based conservation initiatives, particularly if rightsholders are not able to further secure their rights and present their interests through safeguards and processes that ensure accountability and representation.<sup>47</sup> In short, failure to consider tenure or even the nuance of tenure is likely to lead to failed MPAs. For example, few communities in Fiji have had their fisheries management areas recognized under national conservation laws because such a process would require the waiving of customary rights.<sup>72</sup> Further, erosion of tenure rights through conservation can lead to a suite of negative impacts on human well-being. In fact, poverty among small-scale fisheries communities is not necessarily dependent upon the availability of marine resources and technologies but can instead be caused by the lack of rights and means to access these resources.<sup>73</sup> As such, fostering tenure security is particularly critical in contexts where rights are informal, with weak or ambiguous supporting legal frameworks, and where competition for space and resources is increasing.<sup>47,74</sup> This also requires acknowledging where tenure arrangements may reinforce ineq-

uity within communities, for example, if certain groups, such as women or migrants, do not have tenure rights or power to influence resource-related decisions.<sup>75,76</sup>

Accounting for and adequately recognizing land and marine tenure requires understanding (1) how existing tenure arrangements impact different people's ability to access resources (both tangible and intangible); (2) how marine management activities and proposed projects affect tenure rights, security, and culture; (3) the relationship between proposed MPAs and tenure (e.g., tenure as a prerequisite for the project, or the project as a means of further securing tenure); and (4) the explicit consideration of who has responsibility (and to whom they owe that responsibility) to deliver outcomes for future beneficiaries.<sup>77,78</sup> Within Western economics and law, a "bundle of rights" is a popular way to describe and conceptualize tenure.<sup>75,79</sup> People and communities are viewed as holding full rights if they "(1) have the authority to access, withdraw, and manage resources, (2) decide who is included/excluded, (3) transfer their rights to others, and (4) experience the freedom and agency to transform the ways in which areas and resources are used."<sup>47</sup> In practice, the more complete the bundle of rights held by people or societal groups, the higher their tenure security. Indigenous Peoples and local communities, however, may view tenure more holistically, whereby rights and responsibilities are embedded through their relationship with nature. Customary law and tenure systems may not be formalized in proposed marine areas designated to meet the 30 by 30 target, so efforts need to ensure that existing governance systems still represent and strengthen local rights and responsibilities alongside formal 30 by 30 designation and management.

### THE ROADMAP

This roadmap draws on the principles described above and is intended to lead those considering the implementation of area-based conservation measures through a series of diagnostic steps and questions, helping them work collaboratively with communities to determine whether area-based measures are appropriate and what other measures might be required to achieve positive well-being outcomes for people and nature.

#### Step 1: Define the context

Q1a. What is the governance context?

Q1b. What is the socio-economic context?

Q1c. What are the threats to biodiversity and what role do governments and communities play in these?

Understanding how the national governance system operates, including policy priorities and how these support communities (or not), power dynamics, and the efficacy of the system, is key to determining whether a new measure will be effective and how existing ones can be strengthened (e.g., step 2). In view of this, we recommend that a governance review and assessment should be the first step in informing decisions about how to implement the 30 by 30 target alongside other measures to protect biodiversity.

For instance, at a site level, where effective and equitable local governance exists, recognizing and supporting these systems

helps ensure that benefit-sharing mechanisms and decision-making processes fit the sociocultural context, ensuring that different local needs and priorities are addressed and that management is considered fair by local actors.<sup>1</sup> MPAs generally hold conservation as a primary objective,<sup>80</sup> which can alienate or disempower people who manage areas for other objectives, including some small-scale fishing communities.<sup>44,81</sup> It is thus important to recognize the contribution and associated values, knowledge, and governance of diverse actors holding priorities other than conservation, which can have benefits at multiple scales.<sup>1</sup> Enabling the voice and decision-control of local actors where necessary is particularly critical for Indigenous Peoples and local communities.<sup>9,13,14,44</sup>

The socio-economic context will influence how communities experience and respond to MPAs and OECMs, and thus provides crucial information for shaping the design and potential outcomes of these measures.<sup>35,36</sup> A simplified example is that if a nation or community is highly dependent on fisheries for food, with limited alternative sources of sustenance or income, they may be less likely to be able to accept or comply with measures that significantly or permanently restrict their access to fish. In this example, area-based measures that are large and do not allow any resource extraction (e.g., no-take MPAs) may not be appropriate. In reality, communities may face a complex myriad of interacting challenges that compromise their ability to engage in or benefit from conservation. Communities in the Solomon Islands experience poverty; lack of food security and the burden of malnutrition, micronutrient deficiency, and non-communicable diseases<sup>82</sup>; limited infrastructure and access to health services; lack of alternative sources of income, weak enforcement, and associated grievance-redress mechanisms; and weak, inadequate, or poor understanding of policy and legislation to support communities' management efforts.

Communities may also possess unique strengths that can help foster positive social and ecological outcomes of MPAs and other measures—these include high social capital,<sup>83</sup> strong tenure and local governance,<sup>47</sup> and trusted leadership.<sup>84,85</sup> Understanding these dimensions means that marine area-based measures, where appropriate, can be designed in such a way that they leverage existing strengths. In the Solomon Islands, strong and well-defined local tenure possesses several strengths that can be leveraged to support marine area-based measures. These include strong local stewardship linked to cultural and spiritual connection to place, traditional management systems, traditional knowledge of local communities and ecologies, and established and respected local governance systems, including adaptive governance.<sup>84,86,87</sup> In this vein, however, it is also important to acknowledge that weakened traditional management systems<sup>88</sup> or disputes over tenure can also impede fisheries conservation and management efforts, and local practitioners from the Solomon Islands have suggested that tenure disputes should be resolved in advance of implementing Locally Managed Marine Areas (LMMAs) or other conservation measures.<sup>71</sup> However, this may be difficult in practice, as tenure disputes often remain dormant and can surface unexpectedly.

In the Solomon Islands and elsewhere in the Pacific, in addition to climate change and the heightened severity of natural di-

sasters, there has also been an increase in land-based threats that are external or out of the control of communities.<sup>89</sup> Illegal, unreported, and unregulated fishing and poorly regulated land-based activities, such as commercial logging, pose threats to biodiversity, local tenure, and marine resources that are far greater than those caused by local activities. These threats are compounded by weak and ambiguous legislative mechanisms and limited resources (financial and technical) of national/subnational government institutions to support local communities in tackling these challenges.

As such, the combination of external, interacting threats faced by small-scale fishing communities, both present and future, is also a key consideration for shaping conservation and management actions. For example, establishing an MPA in a community that is adjacent to current or future logging activities is likely to fail, as the threat of sedimentation emanating from the cleared land cannot be mitigated by this approach. MPAs and OECMs must therefore be implemented in the context of a landscape-based approach that engages communities to understand the nature and extent of interacting threats and develop strategies to address them.<sup>90–92</sup>

### Case study 1

Paradoxically, the amplification of external threats to small-scale fishing communities has also stimulated an increase in funding to support conservation and management efforts globally, including climate change adaptation funding and innovative conservation funding mechanisms. However, these may not be readily accessible to local communities. Engaging with communities via the roadmap can help generate information to both target and support applications for funding, which are orientated toward addressing the most pressing community needs. This approach can help to shift the dominance of external donors in setting the agenda for marine conservation and related initiatives toward those who are meant to benefit from those funds (Box 1).

### Step 2: Identify and reinforce existing local initiatives

Q2. What are the local initiatives and systems in place, and what is needed to support and sustain these approaches to environmental management?

Where possible, identifying and leveraging local initiatives and systems that can support the 30 by 30 target, or even replace marine area-based measures, can reduce the burden on both communities and governments and increase the chances of long-term success. The design and implementation of externally led MPAs are still largely informed by the science and context of the Global North. Informal, customary approaches to managing marine resources often better suit the context and needs of local communities and livelihoods.<sup>9,87,93</sup> More formal, and often ecologically focused, approaches to conservation risk undermining traditional knowledge and local approaches by challenging self-determination<sup>48</sup> and overriding customary rights.<sup>72</sup> In this way, externally imposed MPAs can contribute to the erosion and displacement of Indigenous cultural practices that have been protecting fisheries for centuries and can be more effective than MPAs and other western conservation models.<sup>71,86,94</sup>

Scholars and policymakers from the Pacific and elsewhere have documented and long advocated that management and

Box 1. Case study 1

CASE STUDY FROM WESTERN PROVINCE, SOLOMON ISLANDS



**A participatory mapping exercise with a small-scale fishing community to document local threats and their impacts across the land-sea interface. Photo credit: Bethany Smith.** The co-design of a risk profile and community adaptation plan in a small-scale fishing community in Western Province in the Solomon Islands demonstrated that the interplay between commercial logging and fisheries decline underscored the need for non-area-based measures. Despite the existence of a locally established LMMA, the community observed negative impacts on their fishery from upstream logging activities, including sedimentation and chemical pollution affecting reefs, and the removal of mangroves. In the coastal zone, further impacts were observed from sanitation-induced pollution. Recognizing these challenges, the community employed a suite of area- and non-area-based measures to mitigate impacts. These included forest and mangrove replanting schemes to restore vital habitats, development of a management plan to prevent future logging activities, development of improved sanitation infrastructure to reduce coastal pollution, and the introduction of rainwater tanks to increase water security and mitigate logging impacts on natural water sources. Such measures were deemed vital for addressing complex environmental issues effectively and demonstrate the need to implement holistic approaches to addressing threats that extend beyond area-based measures.

Source: case study example was derived from the project *Spatially Integrated Approach to Support a Portfolio of Livelihoods* (FIS/2020/11), funded by the Australian Centre for International Agricultural Research.

conservation of small-scale fisheries will be most effective when it draws on traditional marine tenure and local knowledge.<sup>19,48,84,95,96</sup> Governments in the Global South are often not as well-resourced as those in the Global North, so working with communities is also the most practical and cost-effective way to achieve conservation objectives.<sup>48,97</sup>

In many cases, customary mechanisms, which may encompass area and non-area-based measures (e.g., seasonal closures or gear restrictions) already exist and do not need to be disrupted. However, these are also not always documented and so may not be included in target measure reporting.<sup>19</sup> Further, traditionally managed marine areas may not always meet the definition of an MPA.<sup>72</sup> However, the emergence of the OECM policy tool can help to enable recognition of the contribution of managed areas other than protected areas to conserving biodiversity.<sup>1</sup>

MPAs and OECMs should also not override more contemporary regional trends, such as community-based fisheries management (CBFM), in the Pacific, which has led to a multitude of national-level efforts to initiate or support CBFM.<sup>11,98</sup> We note that there are many terms used in the Pacific that encompass CBFM and these can be used interchangeably, provided they encompass an ecosystem approach that will achieve healthy fisheries, sustain livelihoods, and ensure resilient communities. These include a community-based ecosystem approach to fish-

eries management (CEAFM), community-based natural resource management (CBNRM), and CBFM. In some locations, including the Solomon Islands, LMMAs may also be equated with and/or be an associated outcome of CBFM. A narrow focus on the 30 by 30 target has the potential to disrupt this and other initiatives by trying to frame CBFM as MPAs to meet the target. Moreover, it is important to recognize that establishing area-based conservation in 30% of marine areas might increase the pressures on the remaining areas.

Another important contemporary local spatial policy tool is reflected in the call to action from small-scale fisheries,<sup>99</sup> with multiple signatories from organizations representing small-scale fisheries globally, including the Solomon Islands. Of relevance to the 30 by 30 target is the request for governments to “urgently secure preferential access and co-manage 100% of coastal areas.” Preferential Access Areas (PAAs), designated under national and subnational jurisdiction are becoming increasingly prevalent, and most are located in the Global South and have small-scale fisheries and fisheries management as their most common goal.<sup>100</sup> There is currently limited understanding of the potential synergies, redundancies, and overlaps between PAAs and other marine area-based measures.<sup>100</sup> From the GBF perspective, these types of activities could potentially be classified OECMs (depending on the consent of governing actors and potential to meet key criteria).<sup>1</sup> Although we

Box 2. Case study 2

CASE STUDY FROM MALAITA PROVINCE, SOLOMON ISLANDS



**A marker to delineate a taboo site (left image). In 2017, a logging company started operations in this area, damaging water resources and destroying mangroves critical for food security (right image). Photo credit: Jan van der Ploeg.** Throughout the Solomon Islands, there are innumerable sacred sites. These “taboo sites” are primarily related to genealogy, oral history, and customary tenure but essentially function as permanent no-take zones. Other cultural practices are specifically meant to manage coastal fisheries. Fishing grounds are, for example, closed for a specific period of time to maximize fish catches for a feast or funeral.<sup>103</sup> Most LMMAs on Malaita build on such socially sanctioned restrictions and incorporate sacred sites into their management plans. However, government-sanctioned extractive industries continue to cause extensive damage to sacred sites, which leads to environmental degradation and social frictions and undermines CBFM initiatives.<sup>104</sup>

Source: example derived from the “Strengthening CBNRM to safeguard food security in Malaita Province” project funded by the Asian Development Bank.

acknowledge that their contribution to biological conservation remains largely undocumented, the call to action potentially calls for a reframing of the 30 by 30 target in areas where small-scale fisheries operate—from allocating 30% of marine areas to MPAs and OECMs to delegating management of 100% of these areas to small-scale fishers and supporting them to manage these areas on their own terms. The call also includes stipulations for gender equity, protection for competing blue economy sectors, transparency and accountability, climate change resilience, and social rights for youths. These requests resonate with the perspectives presented here, suggesting a broader suite of measures required to protect the future of small-scale fishing communities.

Formal marine area-based management measures in the Solomon Islands and other Pacific Island countries are currently characterized by relatively small-scale interventions such as LMMAs and CBFM initiatives.<sup>98,101</sup> These approaches necessitate and emphasize cooperation and have a strong focus on sustainable use and supporting local livelihoods. Importantly, marine area-based restrictions and management of fisheries have been a cultural practice in the Solomon Islands for generations.<sup>102</sup>

**Case study 2**

Informal marine area-based management is in fact widespread, and communities often do not allow unrestricted resource use by outsiders.(Box 2)<sup>103,104</sup> One of the few studies on this topic found that out of more than 700 villages, 35% imposed temporary spatial closures, 24% imposed species restrictions, and 20% imposed gear restrictions.<sup>105</sup> Traditionally, these actions have

not been explicitly tied to the concept of conservation but rather to cultural reasons, such as the passing of a tribal leader, or for the purpose of maintaining or replenishing stocks for a village event or festive season or, more contemporarily, to religious obligations and the need for additional income for necessities such as school fees. However, these findings suggest there is awareness of threats and options for mitigation.<sup>105</sup> The reality that most communities have de facto tenure and control over their areas means that the challenges related to open-access resources are mitigated. In the Solomon Islands, this widespread, informal management presents the most practicable and equitable avenue to simultaneously deliver human well-being and environmental conservation outcomes—including surpassing area-based targets. However, it is also important to acknowledge that informal management can be a costly burden for communities, and they should not be expected to be the agents of change for a country to meet national conservation commitments. As such, leveraging informal management to achieve these commitments will not reach its potential without strong tenure rights, stable ongoing funding, significant external coordination, and support from governments and NGOs.

**Step 3: Set realistic and ethical targets for marine area-based conservation**

- Q3a. Are MPAs or OECMs needed and appropriate to support conservation and management of marine biodiversity?
- Q3b. What is a realistic and ethical target for marine area-based conservation?

Marine conservation and management are becoming more complex as the threats to communities and marine resources intensify and are increasingly driven by external or distal social (e.g., global markets) and biophysical (climate change) drivers. Area-based measures are designed primarily to regulate resource extraction (primarily fishing in the marine context) rather than the distal social drivers that influence proximate drivers, such as poverty, market demands, or cultural norms. In addition, there are many threats that are not directly influenced by area-based measures, such as climate change, run-off, and invasive species. Therefore, in most instances, marine area-based measures alone will not be effective in maintaining or building ecosystem function.

Thus, following the assessment of threats and their ultimate drivers in step 1, this step requires identifying the suite of management measures that are best suited to addressing those threats. Area-based measures may be appropriate where marine resource extraction is a key threat in an area<sup>19</sup> but to be effective should be used as part of an integrated approach that considers all threats and their external or distal drivers.<sup>8,92,106,107</sup> In this vein, it is also important to acknowledge again the multiple targets associated with the GBF that address marine biodiversity challenges and provide benefits to small-scale fishing communities. Critically, depending on the threats present and the distal (or ultimate) drivers of those threats, marine area-based measures might not even be the right approach. A narrow focus on securing 30% of marine areas in MPAs or OECMs is unlikely to maintain ecosystem integrity and tackle the comprehensive needs of the GBF targets.

The Solomon Islands' Community-Based Resource Management Unit of the Ministry of Fisheries and Marine Resources (MFMR), alongside other Ministries, Provincial Partners, the LMMA network, and external NGOs, recently produced the "Local Guide to Better Catches" as a guide to help communities determine the best measures for improving fisheries to support their food and income needs.<sup>108</sup> This guide takes communities through a similar process to the roadmap to define the local context and presents options to address declining fish catches in the community that include MPAs, OECMs, and non-area-based measures. The initiative reflects a national recognition that communities should be engaged in determining the most appropriate and viable measures for conservation and management of their fisheries, and that it is necessary to consider a combination of marine area and non-area-based approaches. Importantly, this should also include measures that are not directly marine-based, and that tackle the impacts of land-based activities on the marine environment.

The second question in this step requires decision-makers to consider the social and ethical implications of marine area-based measures for small-scale fishing communities. Established ethical frameworks<sup>42</sup> are focused on ensuring social benefits and avoiding social harms. These ethical targets may also be guided by global commitments such as the Universal Declaration of Human Rights or the Sustainable Development Goals. At the local level, ethical norms are also features of local cultures, and marine area-based measures need to ensure they support what is considered ethical by communities.<sup>45,109</sup> Used in marine protected area planning, inclusive community visioning exercises or hypothetical scenario development tools enable the

development of a range of possible and desirable futures.<sup>18,110</sup> Such approaches prompt both decision-makers and communities themselves to reflect on justice-related aspects, including "whose normative worldviews are being prioritized when making decisions?," "who may benefit or be harmed?," and "what type of social implications are being considered, modeled and measured?"<sup>111</sup> Caution is also needed to ensure that the burden of conservation, and ensuring ethically sound marine management, is not solely borne by local actors nor by nations that face more pressing and urgent development challenges.

#### Step 4: Foster sustainability and legacy

Q4a. Are there appropriate mechanisms in place to support the long-term sustainability of existing or new measures?

Implementing the previous steps should lay the foundations required to ensure that conservation and management measures are viable in the long term. This step requires an evaluation of whether additional technical expertise or institutional capacity will be required to implement management and sustain existing or new activities.<sup>71,112</sup>

Government institutions are best placed to provide the wide-scale support and extension services required to ensure that communities can identify and respond to natural resource threats and implement the types of community stewardship described above over the long term. However, this is unlikely to be achieved without substantially more investment in national and, particularly, provincial institutions' extension and enforcement systems and capacity.<sup>113–118</sup>

To date, there have been more than 25 years of efforts, largely from NGOs promoting area-based management, whether MPAs, OECMs, or other community-driven models. Given these efforts, it is notable that only a relatively small proportion of Solomon Islands communities have set up and sustained externally recognized area-based management. In 2009, just over 110 sites were recorded, and in 2022, 158 active sites were estimated, with another 121 estimated to be inactive, i.e., no longer implementing management plans. This suggests that current approaches to promoting and supporting area-based management have at best reached 5%–10% of Solomon Islands' communities.<sup>19</sup> The limitations of non-government and government capacity to ensure environmental management in general, or to support a significant proportion of coastal communities in improving area-based management of their coastal areas, led to the recognition of the need for approaches that were likely to benefit all communities and provide them with at least some tools or information to work from. This included working more strategically to support more communities that do wish to implement management plans—known as the "lite approach" reflected in national policy<sup>118,119</sup> and regional policies on scaling up community-based fisheries management.<sup>98</sup> Responses to the commitment to support significant scaling up of the reach of CBFM approaches have been apparent in government, for instance, through the creation of a CBFM Section in MFMR,<sup>120</sup> and in the activities of some NGOs.<sup>121</sup>

For certain very specific threats to endangered species or ecosystems of national or global interest, MPA approaches that center biodiversity conservation as the primary objective may well be necessary. A notable example is the Arnavon Community

Box 3. Case study 3

CASE STUDY, ACMP, SOLOMON ISLANDS



**Local engagement with turtle conservation in the Arnavon Islands.** Photo credits: Tim Calver (left) and Djuna Ivereigh (right). The Arnavon Islands, located between Choiseul and Isabel Provinces, are home to the largest rookery of critically endangered hawksbill sea turtles in the South Pacific. However, 150 years of excessive exploitation drove the population into severe decline by the mid-twentieth century. The Solomon Islands government's initial attempts to protect the rookery in 1976 failed to engage tenure holders and local resource users. As a result, a local landowner burned the Ranger Station to the ground in 1982 and the harvest of turtles resumed.

Since protection in 1995, nest numbers at the ACMP have doubled, representing the first known recovery of a western Pacific hawksbill rookery.<sup>122</sup> Moreover, the employment of rangers and other associated flow-on benefits to local communities outweigh opportunity costs associated with conservation. As such, conservation at the ACMP has been strongly supported by local communities. This includes the local landowner who burned the station in 1982 and who became a vocal supporter of conservation at the ACMP until his death in 2021. This example highlights the central importance of community support, even in exceptional areas where biological diversity conservation is the primary objective.

From 1991, TNC began working with local communities and Choiseul and Isabel provincial and Solomon Islands' national governments to re-establish protection at the Arnavon Islands. Protection was formalized in 1995 under the Arnavon Community Marine Conservation Area and then in 2017 as Solomon Islands first national park—the ACMP. Under this community-centered approach, all park rangers and most management committee members were drawn from three local communities (with additional representatives from Choiseul and Isabel Provincial Governments, National Ministries, and TNC). Communities involved include two with customary ownership claims to the islands (Kia and Katupika) and a community of ethnic Kiribati, who were relocated to Wagina Island as climate refugees in the mid-twentieth century. The Wagina community has no tenure claim but was the primary resource user at the Arnavon Islands at the time of protection. As such, their active involvement was considered central to management success.

Marine Park (ACMP). The additional governance complexity, technical expertise, and resourcing costs of ACMP show that such approaches should not be undertaken lightly. Additionally, formalized MPA approaches currently necessitate reliance on external organizations such as The Nature Conservancy (TNC); however, this could be reduced by ensuring that government has the capacity to provide support and enforcement where required (Box 3).<sup>122</sup>

**RETHINKING THE 30 BY 30 TARGET**

In this perspective, we have reflected on the pursuit of the 30 by 30 target and have cautioned that marine area-based measures could harm small-scale fishing communities, especially if driven by global targets and not by local needs. We have argued for a more holistic approach to implementing the GBF that considers interacting proximal and distal threats experienced by communities and supports communities to be agents of change and leaders in determining how best to conserve and manage their marine resources. In this context, we presented principles and a roadmap for implementing an integrated, systematic, contex-

tual, and community-led approach that is required to understand whether and how MPAs and OECMs can be used to benefit small-scale fishing communities and produce conservation outcomes. We have highlighted the importance of identifying and reinforcing locally led initiatives but contend that local communities should also not be expected to be the agents of change for a country to meet national conservation commitments, especially where the major threats are not under their control. This approach calls for accountability and support from actors operating at multiple levels of governance.

The Solomon Islands and numerous other countries in the Pacific and globally are signatories to the call to action from small-scale fisheries mentioned previously. This call echoes the importance of key points raised in this article, including the need for accountability, transparency and political will, inclusivity, and resilient communities. Most importantly, the call to co-manage 100% of coastal areas highlights the need to recognize the sovereignty of existing community-led approaches and suggests a re-conceptualization of the 30 by 30 target to accommodate this. As such, achieving marine conservation and management objectives may require a significant departure from

current approaches to advancing the 30 by 30 target. This means that the process of implementing our principles and roadmap may lead to the conclusion that MPAs and OECMs are not appropriate in some locations—or at least not until essential environmental regulation systems are in operation nationally.<sup>59</sup> We acknowledge the challenge that upholding this principle may present to governments and practitioners who are bound by existing political, project, or donor-driven commitments. However, we also contend that not paying attention to this is likely to result in a failure to achieve those commitments or the vision of the GBF in general, and it may even cause harm to local and Indigenous people in small-scale fishing communities.

We used context-specific examples from the Solomon Islands to illustrate the steps in the roadmap, highlighting several key measures that should be considered in implementing the 30 by 30 target. We suggest that local tenure should be strengthened and that existing management measures performed by local communities, including CBFM and LMMAs, should be supported via actions such as broadscale capacity development, formalizing local rules, and supporting communities with enforcement. Other critical measures should be taken to address supra-local threats, among others, effectively regulating logging and mining and holding government accountable for addressing these threats. Communities should also be engaged in defining their most pressing threats and needs and be supported to meet those needs so that they can realistically engage in and equitably benefit from conservation measures.

To conclude, international marine conservation efforts should not be dominated by a narrow focus on percentages and hectares of MPAs and OECMs. Neither should they replace, distract, or undermine existing socially legitimate tenure, traditional management, or other community-led management measures or impose unreasonable restrictions on people whose culture and way of life are inextricably linked to fishing. Rethinking the 30 by 30 target necessitates a broader focus on sustainable development and integrated landscape management that encompasses fisheries management and minimizes land-based threats such as pollution and deforestation. In this vein, it is important not to reduce the GBF to the 30 by 30 target and to ensure that funding is allocated to meeting *all* targets. We hope this perspective will stimulate the institutionalization, or at least the consideration, of the principles and roadmap in existing and future efforts to go beyond the 30 by 30 and engage communities in tackling the multitude of interconnected proximal and distal challenges affecting marine systems.

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### AUTHOR CONTRIBUTIONS

A.D. led the drafting and revision of the manuscript with contributions from all authors. All authors contributed to the conceptualization of the manuscript.

### DECLARATION OF INTERESTS

The authors declare no competing interests.

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