Tinker, tailor or transform: Gender equality amidst social-ecological change

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ABSTRACT

Global visions of environmental change consider gender equality to be a foundation of sustainable social-ecological systems. Similarly, social-ecological systems frameworks position gender equality as both a precursor to, and a product of, system sustainability. Yet, the degree to which gender equality is being advanced through social-ecological systems change is uncertain. We use the case of small-scale fisheries in the Pacific Islands region to explore the proposition that different social-ecological narratives: (1) ecological, (2) social-ecological, and (3) social, shape the gender equality priorities, intentions and impacts of implementing organizations. We conducted interviews with regional and national fisheries experts (n = 71) and analyzed gender commitments made within policies (n = 29) that influence small-scale fisheries. To explore these data, we developed a 'Tinker-Tailor-Transform' gender assessment typology. We find that implementing organizations aligned with the social-ecological and social narratives considered social (i.e., human-centric) goals to be equally or more important than ecological (i.e., eco-centric) goals. Yet in action, gender equality was pursued instrumentally to achieve ecological goals and/or shallow project performance targets. These results highlight that although commitments to gender equality were common, when operationalized commitments become diluted and reoriented. Across all three narratives, organizations mostly 'Tinkered' with gender equality in impact, for example, including more women in spaces that otherwise tended to be dominated by men. Impacts predominately focused on the individual (i.e., changing women) rather than driving communal-to-societal level change. We discuss three interrelated opportunities for organizations in applying the 'Tinker-Tailor-Transform' assessment typology, including its utility to assist organizations to orient toward intrinsic goals; challenge or reconfigure system attributes that perpetuate gender inequalities; and consciously interrogate discursive positions and beliefs to unsettle habituated policies, initiatives and theories of change.

1. Introduction

Gender equality is now accepted as integral to achieving global sustainability (Leach et al., 2018, Raworth, 2017, Biermann et al., 2012). Novel conceptual sustainability paradigms, such as the 'Doughnut for the Anthropocene' (Raworth, 2017) and the United Nations Sustainable Development Goals (SGDs), confront the dual challenges of social equity and ecological sustainability by promoting gender equality as one of the key targets. At the highest level, these paradigms direct humanity toward an "ecologically safe and socially just space" to thrive (Raworth, 2017). In this space, the inclusion of gender equality is considered a prerequisite for, and determinant of, social-ecological sustainability (Kawarazuka et al., 2017, Locke et al., 2014, Raworth, 2017). The realization of gender equality refers to "the equal rights, responsibilities and opportunities of women and men and girls' and boys'" (UN Women, 2017). However, there has been disquiet about whether and how gender equality is being realized (i.e., prioritized, interpreted and actioned) within social-ecological systems practice.

Specifically, questions remain about the extent to which different social-ecological narratives, defined by different world views about the relationship between people and the natural environment (Mace, 2014, Hutton et al., 2005), are able to advance gender equality (Kawarazuka et al., 2017, Leach et al., 2018, Locke et al., 2014).

Gender equality and social-ecological system changes are, in some contexts, positively correlated and self-reinforcing (Resurrección and Elmhirst, 2009, Locke et al., 2014). As an example, gender equitable decision-making and access to and control over natural resources can enhance agricultural productivity (FAO, 2011), reduce economic and productive losses (Cole et al., 2018), increase food and nutrition security (Meinzen-Dick et al., 2012), and improve the compliance and effectiveness of environmental management (Leisher et al., 2016, McDougall, 2015). The corollary is that gender inequalities can inflame environmental issues, and also be exacerbated by environmental change. Threats and pressures upon the environment, such as resource scarcity, climate instability and disasters, can amplify gendered vulnerabilities to environmental changes and shocks, intensify (predominately women's) productive labour and increase the incidence of gender-based violence (Castañeda Camey et al., 2020, Resurrección and Elmhirst, 2009). In the aftermath of two tropical cyclones in Vanuatu in 2011, for example, where 16,000 people were left without access to food or clean water, a 300% increase in new cases of domestic violence was recorded (Kilsby and Rosenbaum, 2012). In our highly connected world, the possibility for such challenges to escalate into 'systemic risks' is growing (Spijkers et al., 2019).

The increasing conviction that gender equality is a powerful and inherent determinant of human and environmental experiences in social-ecological systems extends beyond academia. There has been a proliferation of written commitments to gender equality in the environment and development arena (e.g., IUCN, 2018, UN ESCAP, 2017). A prominent example is the global Convention on Biological Diversity (1992), which in establishing a Gender Plan of Action, recognized gender considerations as being important to achieving biodiversity targets (CBD, 2020). These developments are consistent with the uptake of human-centric narratives within traditional biodiversity preservationist and conservationist agendas (Hutton et al., 2005, Mace, 2014). However, there is a lack of convincing evidence suggesting conservationist and environmentalist agendas are achieving gender equality outcomes (Mangubhai and Lawless, 2021, Stacey et al., 2019, James et al., 2021). Little is known about how gender equality commitments and outcomes are influenced by the institutional priorities of implementing organizations (i.e., regional agencies, national governments, non-governmental organizations (NGOs) and civil society), obscuring the robustness of the coupled 'gender equality'–'social-ecological system' proposition. Rather than being prescriptive, the universal applicability of gender equality commitments (i.e., SDG5) serve as a 'template' for local (re)interpretation and (re-)articulation within sectoral, national and local contexts (Razavi, 2016). As such, rationales and pathways for pursuing gender equality commitments can vary considerably (Lawless et al., 2021). Gender equality can become diluted, tokenistic or fail to take a practical form (Lawless et al., 2020, Razavi, 2016). Consequently, there may be stark differences in how different organizations seek to tackle gender issues, and how they measure and perceive success. Without gaining insights into this discursive connection, achieving gender equality to satisfy the goals of social-ecological systems sustainability may continue to falter.

In this study, we seek to understand how different social-ecological narratives shape gender equality approaches and impacts. Our investigation is guided by the notion that differences in the social-ecological narratives of implementing organizations will affect how they address issues, and measure and perceive successes (Fabinyi et al., 2014, Morrison et al., 2020, Lawless et al., 2020). We use the case of small-scale fisheries as a critical example of an interconnected social-ecological system characterized by diverse and dynamic resources, resource users and governance actors (Ostrom, 2009, Berkes, 2003, Jentoft and Chuenpagdee, 2009). Through examining the policies and practices that influence small-sale fisheries, we assess the efficacy of gender equality priorities, intentions and impacts. By 'policy' we refer to written binding and non-binding regional, national and organizational gender equality commitments made to small-scale fisheries. By 'practice' we refer to the actualization of commitments, for instance via extension services, development projects or investments offered by regional agencies, national governments, NGOs, the private sector, and/or civil society, henceforth, 'implementing organizations'. We first aim to identify and situate the narratives of implementing organizations along a social-ecological spectrum. We then seek to understand how gender equality is prioritized in their work; including the intentions of gender approaches they use. Finally, we assess the impacts that respondents perceive to have been achieved through the use of these gender approaches. Our objective is to critically reflect on organizations' efficacy in pursuing gender equality, and to develop a framework for self-reflection and adjustment that can be used in small-scale fisheries and other sectors to improve gender equality outcomes.

2. Methods

2.1. Study context

2.1.1. Case justification

Social-ecological systems thinking has generally been deficient in capturing social dynamics, particularly the intricacies of social difference and power (Fabinyi et al., 2014, Brown, 2014, Cote and Nightingale, 2012). Small-scale fisheries have served as a case to highlight the nature and relevance of these blind spots. For instance, small-scale fisheries research and policy have shown how the scope of social-ecological systems governance can be expanded to better account for gender inequalities, including the influence of gender norms and power relations (e.g., Cohen et al., 2016, Kawarazuka et al., 2017, Locke et al., 2014). We consider the case of small-scale fisheries a useful social-ecological system to explore, building on the rich social science foundations, and to bring a deeper level of reflection on gender equality.

Gender inequalities persist in small-scale fisheries, as they do in most environmental sectors. Men tend to hold greater influence in decisions related to access, use and management of productive assets (including, but not limited to, fishing grounds and stocks), and are more likely to capture and control a disproportionate share of the social and economic benefits (Harper et al., 2013, Lawless et al., 2019, de la Torre-Castro et al., 2017). Women's participation in small-scale fishing and contributions to economic and food security are high in all regions of the world, yet women continue to be undervalued, underrepresented and marginalized in the both formal and informal sector activities (Harper et al., 2020, de la Torre-Castro et al., 2017). The degree, pace and depth to which gender inequalities are challenged is set by the policy landscape. There have been few attempts to examine gender in the policies that govern, and the practical approaches taken, in the small-scale fisheries sector (see for exception Lawless et al., 2021, Mangubhai and Lawless, 2021) and the extent to which these policies and practices lead to impacts.

2.1.2. Pacific Islands small-scale fisheries

Our geographic focus is the Pacific Islands, a region supporting remarkably high biodiversity in coastal ecosystems (SPREP, 2020). These coastal ecosystems are an integral source for food and nutrition security, livelihood opportunity, and the wellbeing of the predominantly coastal populations (Sulu et al., 2015, Andrew et al., 2019). In this study we focus on commitments to gender equality in both fisheries policy and practice made at the regional level, and national levels for Fiji, Solomon Islands and Vanuatu. These countries were chosen as they have the highest density of small-scale fisheries investments and agencies working on fisheries in the region.

Social-ecological systems thinking has been strongly influenced by

this region (Bell et al., 2018, Jupiter et al., 2017). In this context, social-ecological systems are defined by close functional ties to coastal and oceans spaces (Andrew et al., 2019), the plurality of national and customary governance frameworks (Rohe et al., 2018a, Foale et al., 2011, Sloan and Chand, 2016), and sensitivity and responsiveness to climate and demographic changes (Bell et al., 2018). These systems are also characterized by concurrent environmental development initiatives supported by government, NGOs and overseas development assistance (Rohe et al., 2018a, SPREP, 2020). In the context of small-scale fisheries, examples of these initiatives (i.e., policy or management measures) include periodic marine closures or 'taboo' areas, and regulation of marine resource use and harvests and gear controls (Cohen et al., 2015, Foale et al., 2011). However, there is some debate about the ability of these initiatives to lead to both effective and equitable social-ecological outcomes (Fabinyi et al., 2013, Bell et al., 2018). For instance, separate studies of community-based fisheries in Solomon Islands found that compliance with management measures are weakened due to inequitable decision-making processes whereby authority rests largely with powerful (predominately male) individuals (Blythe et al., 2017, Rohe et al., 2018b).

Over several decades, research from the Pacific Islands region has sought to establish the crucial role of women in fisheries production (Bliege Bird, 2007, Chapman, 1987), their contributions to the economy (Harper et al., 2013) and food security (Kronen and Vunisea, 2009, Thomas et al., 2021). Research at local levels has illustrated the gender norms (Lawless et al., 2019), power relations (Locke et al., 2017) and social structures (Foale and Macintyre, 2000) that can contribute to women's marginalization. There has been a proliferation of commitments to gender equality in regional small-scale fisheries policy and development investments throughout the region (i.e., PEUMP, 2019, ACIAR, 2016, SPC, 2015). However, institutional research has highlighted the limited capacities of fisheries managers and practitioners, and the efficacy of gender and fisheries policies across the region, to

adequately consider and respond to these gender issues (Mangubhai and Lawless, 2021, Song et al., 2019, Lawless et al., 2021). These capacity constraints, coupled with the persistently slow progress in overturning gender inequalities in the fishing sector, point to a need for a deeper examination into how implementing organizations are prioritizing gender and what can be done to help achieve gender policy goals.

2.2. Analytical frameworks

2.2.1. Social-ecological narratives

Our study is based on the premise that gender equality priorities, intentions and impacts are influenced by different social-ecological narratives about the relationship between people and the environment (Mace, 2014, Jones et al., 2016, Hutton et al., 2005). We focus on three broad narratives – ecological, social-ecological and social. The ecological narrative views humans as protectors (or destroyers) of biodiversity, species and eco-system function (Tilman, 2012). The social narrative sees humans as beneficiaries of ecosystem goods and services (Daw et al., 2011). The social-ecological narrative views humans and the environment as interconnected, and both inherently part of social-ecological systems (Berkes et al., 1998). Using the literature articulating these three narratives, we propose that the ecological, social-ecological and social narratives pursued by implementing organizations shapes their gender equality priorities, intended aims, and impacts (Fig. 1).

Unpacking this further, these narratives together reflect a range of instrumental and intrinsic values placed on gender, affecting the depth of engagement with gender as a concept (e.g., Lawless et al., 2021, Lau, 2020). We define instrumental values as those that prioritize gender equality as a means to achieve or enhance non-gender goals, for instance, to enhance environmental outcomes, or the productivity of small-scale fisheries (e.g., Leisher et al., 2016, Cook et al., 2019), and thus trend toward the ecological narrative. By contrast, we consider

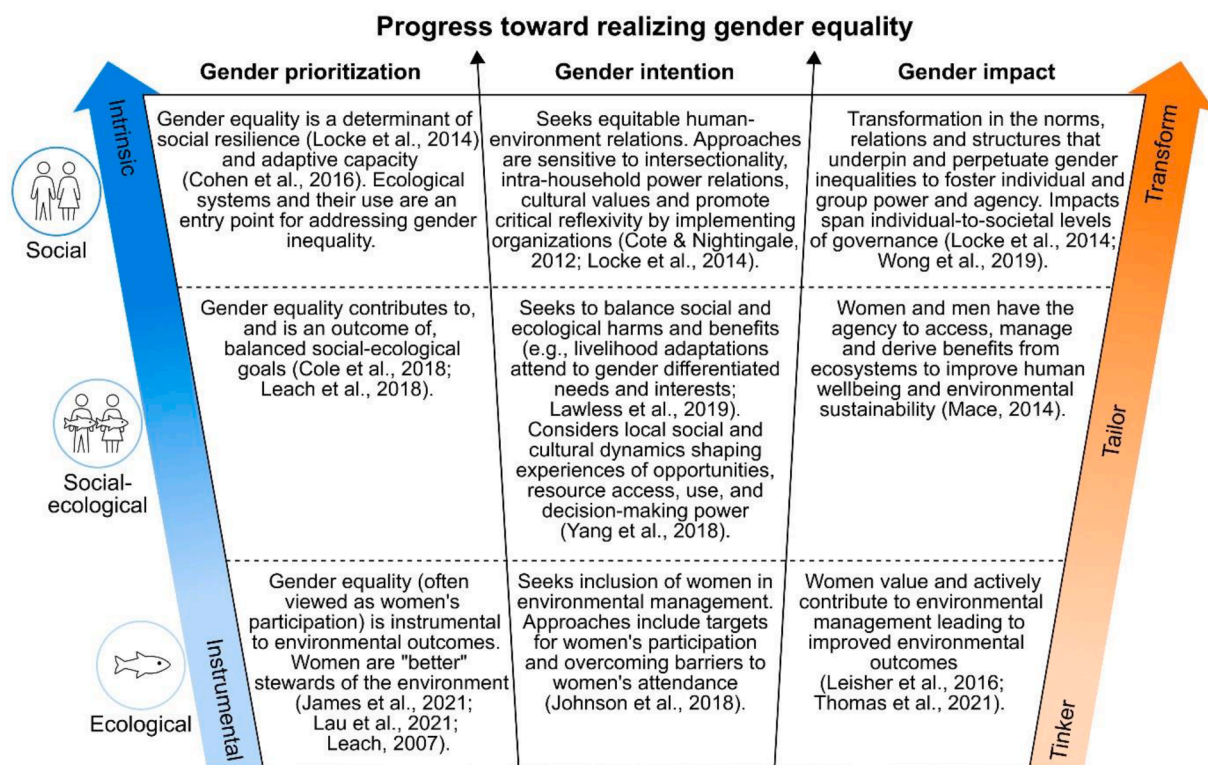Fig. 1. Our proposition based on (1) three social-ecological narratives about the relationship between humans and the environment, (2) their intersection with organizational priorities, intentions and impacts for gender equality, (3) their alignment with instrumental (i.e., non-gender) and intrinsic (i.e., socially just and fair) goals, and (4) the type of impacts they are likely to achieve (Tinker-Tailor-Transform).

intrinsic values as those oriented towards justice and fairness as outcomes in and of themselves (e.g., Murunga, 2021), and thus trend toward the social narrative. We argue that the social-ecological narrative presents a more evenly weighted prioritization of both intrinsic and instrumental values, as this narrative is focused on adaptation, feedback and connectedness to achieve synergistic social and ecological outcomes (Ostrom, 2009, Keck and Sakdapolrak, 2013). Yet, the social-ecological narrative is akin to a "balancing act", whereby there are conceptual and practical limitations and tension to achieving this synergy (Song et al., 2018, Locke et al., 2014). Specifically, although the social-ecological narrative pre-empts a more integrated approach to natural resource management and research, there are still only few reported successes in actually integrating gender considerations (Kawarazuka et al., 2017, Locke et al., 2014).

We introduce a 'Tinker-Tailor-Transform' gender assessment typology (detailed in section 2.2.2) to predict and assess the type of impacts gender commitments in policy and practice are likely to achieve when pursued via different social-ecological narratives. We explore the proposition that when gender is pursued with the goal to drive human development outcomes, gender is likely to be valued intrinsically, and generate approaches, impacts and measures of success that are likely to 'Transform' gender inequalities (i.e., displace unequal gender norms, relations, structures and systems) (Locke et al., 2014, Rees, 1998, Squires, 2005). At the opposite end of the spectrum, where priorities are oriented toward ecological outcomes, gender is likely perceived as instrumental to this aim. As such, the ways in which gender equality is approached and measured are, at best, likely to 'Tinker' with gender (i.e., include women in spaces occupied or dominated by men) with limited potential to make meaningful advancements toward gender equality (Rees, 1998, Squires, 2003).

Although we identify three main social-ecological narratives, we acknowledge these are neither clear cut nor bounded. Research concerned with food security or poverty reduction objectives may, for instance, appear to be aligned with a social narrative, supporting human-centric goals and intrinsic values (e.g., Cole et al., 2015). However, there are also instances whereby gender equality visions may be conceived instrumentally, for example, to achieve nutritional outcomes (e.g., Meinzen-Dick et al., 2012). Therefore, these narratives should be seen as heuristic in nature rather than definitive.

2.2.2. 'Tinker-Tailor-Transform' gender assessment typology

We developed a 'Tinker-Tailor-Transform' assessment typology (Table 1), adapted from gender policy analysis frameworks (i.e., Squires, 2003, Squires, 2005, Rees, 1998), and indicators for gender best practice applied in fisheries and agricultural development contexts (i.e., IGWG, 2017, Johnson et al., 2018, Kleiber et al., 2019). The 'Tinker-Tailor-Transform' assessment typology represents a tool for deepening understanding of the rationales for pursuing gender equality and assessing the intentions and impacts of gender investments. To 'tinker' is an attempt to repair something by working at the margins, often in an ad-hoc manner. In our case the 'Tinker' classification represents efforts for incremental change, those that are the most easily achieved with narrow measures of success, for instance to increase the number of women attending a meeting, and assuming women and men face the same barriers and opportunities. To 'tailor' means to alter something to suit a particular need or situation. In our case the 'Tailor' classification may recognize differences between women and men and directly respond to these differences. These actions and measures of success accommodate, but not necessarily challenge, gender disparities whereby the social conditions, norms and relations in which inequalities are embedded remain in place. To 'transform' means to radically change form and function. In our case, the 'Transform' classification reflects efforts that challenge and displace the underlying configurations perpetuating gender inequalities. The distinction between these three classifications is that 'Tinker' approaches tend to treat women and men the same, assuming they face the same barriers and opportunities. 'Tailor'

Table 1
'Tinker-Tailor-Transform' gender assessment typology.

Classification type	Rationale for gender equality	Indicators to assess gender intentions and impacts
Tinker	Gender equality is the inclusion of women in spaces occupied or dominated by men, and all people conforming to dominant masculine norms. This rationale assumes gender neutrality, whereby women and men have the same opportunities, are autonomous, and therefore should be treated the same. This classification type is also referred to as 'inclusion'.	1. Increased number of women attending and/or participating (i.e., within meetings, initiatives or decision-making bodies), or with access to different aspects of an initiative (i.e., extension services). 2. Women have adopted stereotypical masculine roles or traits (i.e., participating in activities such as spear fishing or women espousing assertiveness).
Tailor	Gender equality is accounting for the different needs and interests of marginalized groups. This rationale acknowledges that identities are gendered and influence the different opportunities and constraints of women and men. This classification type is also referred to as 'integration', 'reversal' or 'establishing difference'.	1. Gender differences (i.e., needs, constraints and interests of women and men) are acknowledged and accounted for in initiative design and implementation. 2. Initiatives are explicitly tailored to women's needs, wants and interests. 3. Opportunities to access, participate in and benefit from initiatives work around gender inequalities.
Transform	Gender equality is the displacement of unequal gender norms, relations, structures and systems. This rationale is sensitive to intersectional differences and views women and men as active participants in examining, questioning, and transforming the beliefs, values, attitudes and power relations that perpetuate gender inequalities. This classification type is also known as 'displacement'.	1. Gender norms, relations and structures that contribute to gender differences and inequalities have been critically examined and understood. 2. Equitable gender norms and relations and structures that foster gender equality are created or strengthened. 3. Inequitable gender norms, relations and structures that perpetuate gender inequalities are displaced.

approaches tend to address the symptoms of gender inequality, by addressing women's comparative disadvantage to men, and 'Transform' approaches tackle the root causes (McDougall et al., 2021). These terms and their meaning share some similarity to other well-established frameworks used to understand the potential impacts of different gender approaches (e.g., IGWG, 2017, Johnson et al., 2018). While the 'Tinker-Tailor-Transform' assessment typology also has a focus on impacts, it extends these existing frameworks to place greater analytical emphasis on the rationales and intentions of gender equality commitments. Contextualized explanations and application of the assessment typology as an analytical rubric are detailed in Sections 3.2.2 and 3.3.2.

2.3. Data collection and analysis

The growing number of gender equality commitments made to small-scale fisheries policy and practice across the region over the past decade (e.g., SPC, 2015, PEUMP, 2019, ACIAR, 2016) present a rich case to examine how gender equality is prioritized, what changes are sought and achieved. To do this, we applied a mixed methods approach consisting of key informant interviews and a policy review. Key informant interviews allowed us to examine gender equality discourses in use, specifically, to explore how regional and national gender equality commitments were prioritized and then actualized (i.e., through extension services, development projects or investments). Our examination of regional and national policy instruments enabled the

exploration of written discourses around gender equality.

2.3.1. Key informant interviews

We conducted interviews with key informants who (a) self-identified as a small-scale fisheries and/or gender and fisheries expert; and (b) worked in, or with a focus on, Fiji, Solomon Islands or Vanuatu and/or the broader Pacific Islands region. We identified key informants via consultative discussions with fisheries actors during a regional workshop in Fiji in November 2017, combined with purposive and snowball sampling of fisheries actors in-country. We sought the inclusion of both females (n = 42) and males (n = 29) in our sample. Key informants (n = 71 total) included fisheries officers or NGO staff, and consultants who worked on fisheries management (n = 28), government officials and policymakers (n = 19), executives of regional agencies, NGOs or private organizations (n = 13), applied researchers (n = 9) and academics (n = 2). These informants had an average of 11.9 years of experience working on small-scale fisheries in the Pacific Islands region (a combined 809 years), and 9.8 years of experience working on gender (a combined 695 years). We considered key informants to have had influence over, or been influenced by, the conceptualization of gender in small-scale fisheries. We ensured the range of implementing organizations (non-governmental (n = 28), regional (n = 18), governmental (n = 16), and advisors to these organizations (n = 9)) operating at regional and national levels of governance were represented in the sample through a process of stratification. The geographic focal areas of work for informants included the Pacific Islands region (n = 22), Fiji (n = 21), Vanuatu (n = 15) and Solomon Islands (n = 13).

Interviews were conducted face-to-face (n = 69) or via teleconference (n = 2) between August 2018 and February 2019. More than half the interviews (58%) were conducted with two interviewers present to reduce interpretation bias, clarify any discrepancies, and enable validation of responses. In these cases, interviews were recorded independently and jointly transcribed into an excel database. Independent transcription by the two interviewers were compared to identify discrepancies in interpretation and then discussed and resolved. The lead author then completed the analysis. Interviews included open and close questions to elicit both descriptive and evaluative data. All questions required key informants to reflect on the priorities and values of their own organizations, or if they worked independently, their own values. Interviews were structured according to our research questions.

First, to determine the social-ecological goals of implementing organizations, we asked informants to rate between 0 and 100% the extent to which their organization (or as individuals if working as an advisor to these organizations) prioritized social and ecological goals. To clarify our meaning, we provided broad examples of social goals and outcomes such as livelihood development, poverty reduction, improving food and nutrition security or health. Examples of ecological goals we provided were the protection of biodiversity, ecosystem function and/or keystone or iconic species.

Second, we asked informants to select one statement from a pre-defined list that best illustrated the main reason their organization considered gender in their work. The statements included: (1) Because it is something our donor requires us to do; (2) To increase the number of women in our organization; (3) To increase the number of women participating in our programs; (4) To increase the likelihood of sustainably managed fisheries; (5) To increase the profitability of coastal fisheries; (6) To increase the productivity of coastal fisheries and; (7) Because we recognize gender equality as a fundamental human right. These statements were developed based on examinations of how gender equality had been prioritized in other governance contexts with diverse political actors (e.g., Lombardo et al., 2010, Nazneen and Hickey, 2019), as well as reflect the potential range of instrumental and intrinsic values for gender (e.g., Lawless et al., 2021).

Third, we sought to understand the changes implementing organizations pursued by integrating gender equality commitments. We asked informants to select one small-scale fisheries initiative (i.e., a project,

policy, research or technology) that they were familiar with that had integrated a gender approach. All 71 informants were asked to describe the initiative and gender approach in detail (therefore total initiatives n = 71). Questions sought to elicit what the overall initiative aimed to achieve; the reasons why gender was considered and integrated; and the details of the gender approach used. We later combined these data with the results of our review of regional and national small-scale fisheries policy instruments (n = 29) through which we found 147 policy statements describing types of gender approaches proposed (described in section 2.3.2.). We then grouped the gender approaches thematically and assessed the intended changes of these approaches based on our 'Tinker-Tailor-Transform' assessment typology (Table 1).

Finally, to understand the practical influence of the gender approaches, including whether the intentions were actualized, we asked informants to describe any changes they perceived had occurred from the implementation of the gender approach and to provide an example. We assessed these data in two ways. First, we applied the 'Tinker-Tailor-Transform' assessment typology (Table 1) to assess the impact data, which we then compared with the intention data. Second, we evaluated the types of impacts and positioned them in the framework developed by Rao and Kelleher (2005, Fig. 1, p.60). Impact types are organized according to (1) the level of governance (i.e., individual-to-societal) in which changes occurred and; (2) the types of social rules they influenced. For instance, whether they were formal (i.e., accounted for gender in formal spaces such as through laws, policy or in management committees, employment and data collection) or informal (i.e., influenced equitable decision-making, enhanced the productive capacities of women, or challenged values, attitudes and beliefs of people related to gender).

2.3.2. Policy review

At the conclusion of the interviews we asked key informants to identify and share via email any policy instruments that: (a) informants determined useful in integrating gender within their work; (b) provided details of their organization's gender related programming; and (c) regional and national small-scale fisheries commitments in Fiji, Solomon Islands and Vanuatu. Additional instruments interviewees cited during interviews were added to the sample (total sample n = 76). Through a systematic analysis and coding of these instruments, we then excluded any documents that did not provide adequate detail on the types of gender approaches proposed in order to apply our 'Tinker-Tailor-Transform' assessment typology, which reduced the sample to 29. These 29 policy instruments included organizational program guides (n = 12), research reports (n = 6), organizational strategies (n = 4), national fisheries policies or corporate plans (n = 2), annual reports (n = 2), promotional material (n = 2), and a regional fisheries policy (n = 1). The publication dates of these instruments ranged from 2008 to 2018. The authors and titles of the policy instruments are not referenced due to confidentiality agreements. These instruments are reflective of the formal gender commitments made to small-scale fisheries in Fiji, Solomon Islands, Vanuatu, and the Pacific Islands region.

We used discourse analysis to systematically examine the 29 policy instruments for statements indicating the gender equality approaches proposed or in use (n = 147). Coding of these policy instruments and statements was undertaken using NVivo 12 Plus qualitative data analysis software. We applied attributional coding to determine the attributes of the policy instruments including instrument type, country or region of focus, author(s), organization type of author(s), and publication date. We then used predetermined coding to code the gender approaches into three categories; 'Tinker', 'Tailor' or 'Transform' based on the indicators introduced in Table 1.

2.3.3. Analysis of social-ecological narratives

To elicit general trends about how gender equality is pursued amidst social-ecological narratives (according to our proposition in section 2.2.1), we disaggregated our analysis according to individual informant
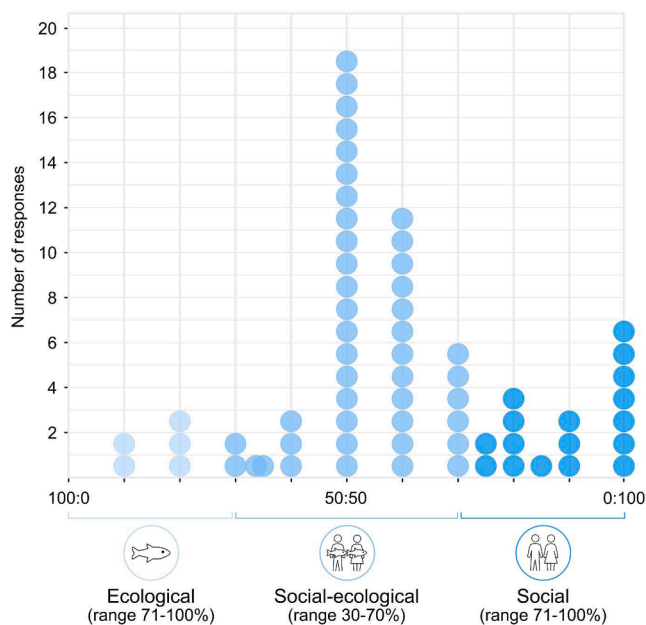
responses as these responses reflected the goals and values of implementing organizations. For each informant (n = 71), we traced the link between social-ecological narratives (determined by rating of social-ecological goals); prioritization of gender (determined by gender priority statements); gender intentions and impacts (based on the Tinker-Tailor-Transform gender assessment and a contextual analysis of examples provided by informants).

3. Results

3.1. Prioritization of gender equality amidst social-ecological goals

3.1.1. Locating social-ecological goals

We determined the prioritization of social and ecological goals by implementing organizations using rating data (Fig. 2). Responses spanned the entire spectrum. Only 8% of responses indicated organizations pursued predominately ecological goals; 67% of responses suggested organizations balanced social-ecological goals; and 25% of responses indicated organizations primarily pursued social goals. The most frequent response (28%) was that social and ecological goals were valued evenly by implementing organizations. Yet, overall, we found implementing organizations tended to lean more toward social than ecological goals (see the distribution of responses in Fig. 2). For example, an Advisor to a regional agency indicated that social goals accounted for 60% of their work focus and ecological goals 40% (thereby falling into the social-ecological goal range), "It's fairly even … we do work on coastal fisheries science and management measures in relation to status of stocks and ecosystems [and also] livelihood development and policy work on gender and social inclusion". Responses indicated that some implementing organizations had shifted their priorities away from explicit biodiversity conservation agendas of the past. For example, a Program Manager for an international NGO working regionally reported that "Traditionally [name of organization] was firmly conservation focused. Now we've re-directed our focus to 'people need nature' as our moto". Similarly, a Director of an international NGO based in Solomon Islands reported "[We are] a conservation organization with a focus on biodiversity protection. But because of social impacts on the environment relating to human development, [name of organization] has expanded its focus to deal more with human development issues".

3.1.2. Situating gender equality priorities

Informants selected statements to best explain the reason their organization prioritized gender (Fig. 3). The most frequent response was to increase the likelihood of sustainably managed fisheries (28%), signifying a leaning "more on the environmental side of things" (Project Coordinator, international NGO, Vanuatu) and to "increase the success of conservation initiatives" (Program Manager, international NGO, Pacific region). The second most frequent response was to increase the number of women participating in fisheries programs (26%). A Country Coordinator for a regional agency reported "It's often the best bang for buck to work with the women and youth. Working with the *Nakamal* [Chiefs and leaders] is difficult".

3.2. Gender intentions

3.2.1. Overview of gender approaches

We identified 218 gender approaches applied in fisheries policy and practice (Table 2). These 218 approaches included those used within each fisheries initiative described by informants (n = 71), and those articulated in policy statements (n = 147). A more detailed summary of these approaches are located in Table A.1 (Supplementary material).

Although we identified the same type of approaches in both policy and practice, our analysis revealed differences in their intended purpose. In these cases, we recorded the gender approach types under multiple classifications. For example, we classified 'women-targeted fisheries initiatives' as both 'Tinker' and 'Tailor'. Referring to the inclusion of women in a pearl farming initiative, a Fisheries Advisor reported "we felt that women were better technicians [and participating in the initiative] gave them more to do than cooking or gossiping". We considered this a case of 'Tinkering' because the inclusion of women for reasons of improved technical outcomes, did not also acknowledge or challenge the gendered barriers to their participation. In other cases, we found the motive for targeting initiatives toward women to be more closely aligned with the 'Tailor' classification. For example, training women as community facilitators of sustainable natural resource use sought to "support a new generation of women leaders… to increase their involvement in decision-making about national resources" (promotional material, international NGO, Solomon Islands). This particular approach was accompanied by efforts to facilitate access to networks and learning opportunities otherwise inaccessible to women, more consistent with a 'Tailor' approach.

3.2.2. Gender intention assessment: Tinker, tailor or transform?

We assessed the descriptions of each approach listed in Table 2 according to the indicators in the Tinker-Tailor-Transform gender assessment typology (Table 1) to determine their intention. Our analysis revealed 51% (112 of 218) of the gender approaches 'Tinkered' with gender equality in that they either focused on bringing women into spaces occupied by men or advocated for women to conform to masculine norms (e.g., via research, organizational policies/practice or targeting initiatives toward women). For example, to overcome the dominance of men in community level fisheries discussions and decision-making, a common approach proposed in policy was to "ensure that equal numbers of men and women are invited to meetings and workshops" (program guide, international NGO, Fiji). We also found evidence of approaches that sought to encourage women into roles traditionally undertaken by men. For example, a program guide produced by an international NGO working in Solomon Islands reported that "involving community members, particularly women, in data collection and assessment helps them understand problems of

Fig. 2. Rating of the goals of implementing organizations (n = 66) along a social-ecological spectrum. Each circle represents a single informant response and the percentage they allocated towards social or ecological goals. The x-axis provides ratios of goals (ecological:social), with those to the left of the 50:50 midpoint having a greater focus on ecological goals (ranging from 71 to 100%), and those on the right focused more on social goals (71–100%). No response was provided by five of the 71 informants.
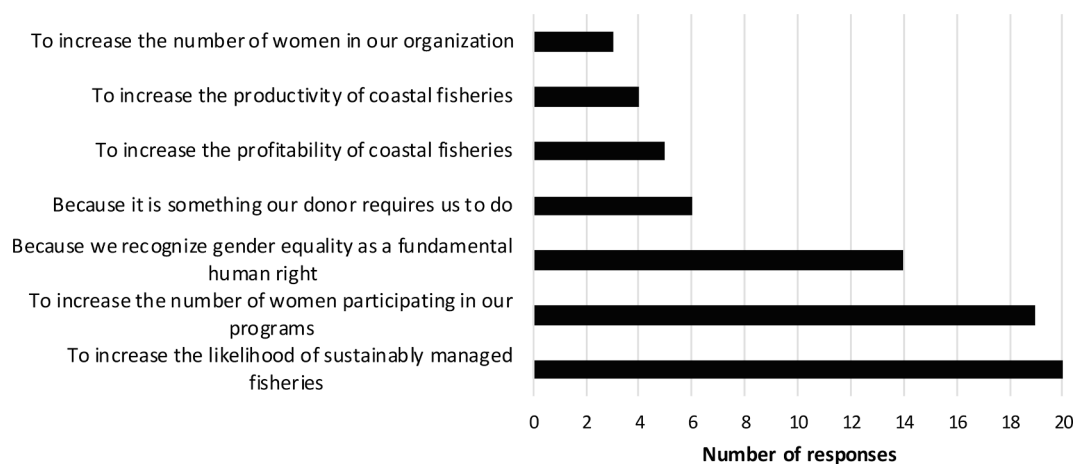
Fig. 3. Statements best representing why gender is prioritized by implementing organizations according to informant responses (n = 71).

overfishing, prepares them to implement appropriate management strategies, and allows them to monitor and obtain direct feedback on management actions". Similarly, a coastal fishery monitoring project in Vanuatu sought to "promote data collectors to be females [previously a role only undertaken by men]" (Fisheries officer, national government).

We found 44% (95 of 218) of gender approaches were 'Tailored' to work around gender inequalities. These approaches intended to enhance women's status in the sector, for example, through improved understanding of women's contribution to fisheries value-chains, and the development or enhancement of productive and profitable livelihood opportunities for women. These approaches acknowledged differences in women's and men's needs and interests. A scientist from an international NGO in Fiji reported that "mud crabs were identified as a flagship species as they are mainly caught by women. This program sought to bring visibility to women's role in the fishery". Another informant reported "we tailor livelihood options [because] women's interests might be different [to men's] … women have different habitat target areas [for fishing] like nearshore and mangroves…" (Senior Official, national government, Solomon Islands).

Only 5% (11 of 218) of gender approaches intended to 'Transform' the norms, relations and social structures that perpetuated gender inequalities. For example, a Regional Program Manager for an international NGO reported that they offer gender-transformative training to their staff through "a series of activities to help the staff apply a gender lens to their own lives". These activities were intended to generate self-reflection on internal assumptions about gender roles and participate in activities that challenged power relations.

3.3. Gender approach impacts

3.3.1. Gender approach impact types

Informants were asked to describe whether and how application of the gender approaches led to any impacts. Our analysis showed that 81% of impacts (71 of 88, see circles 1–5, 7–11) were focused on women (Fig. 4). In Fig. 4, the individual formal and informal quadrants show that 27% of impacts (24 of 88, see circles 3, 4 and 9) brought more women into spaces predominately occupied by men (i.e., attending and participating in fisheries related meetings, initiatives and committees or employed in implementing organizations). In the individual-formal quadrant, 17% of impacts (15 of 88, circles 7, 10, 11) responded to women's relative structural disadvantages, for instance, by providing greater assistance to women in obtaining commercial fisheries licenses; the establishment of women's business collectives; and more women employed or occupying higher positions in the formal sector. There was also a reported increase in women's incomes in 7% of cases (6 of 88, circle 8).

In the individual-informal quadrant, 15% of impacts (13 of 88, circle 5) were reported to generate greater awareness of women's contribution to fisheries by regional agencies and national fisheries ministries. For example, a Regional Fisheries Advisor commented of a gender training they attended, "at the start of the workshop we asked the fisheries extension officers who was involved in aquaculture, and they all said only men. With analysis tools they realized that women are doing most of the work". Other impacts included more women consulted in fisheries initiatives in 8% of cases (7 of 88, circle 3); and increased productive capacities of women in 7% of cases (6 of 88, circle 1).

Access to gender related funding was one of the few impacts in the formal-societal quadrant (4%) (4 of 88, circle 12). A Program Manager for an international NGO in Fiji reflected on the need "to stay relevant in our work and our organization" citing shifts in "donor requirements and development more generally" that pushed for a greater focus on gender in their work. A Director of an international NGO in Solomon Islands reported that working with women's church groups to raise awareness of environmental threats, such as logging and mining, "attracts donors because it's unique. For example, [donors] are asking us to do more community awareness". Gender- or sex-disaggregated data collection and reporting (9%) was the only other impact we found in this quadrant (8 of 88, circle 13), however there was limited evidence of the planned uses of these data. For example, when referring to the inclusion of gender indicators in annual report cards, an Advisor to a regional agency reported "I admit that the indicators are not that transformative, there is always scope to improve and measure things more meaningfully. People do support them though, but it's just how they implement them… Less than half of countries responded to the gender indicators … I don't know if the report card has that much power [to change anything on the ground]".

Impacts within the informal-societal quadrant included how women were "valued" and the attitudes of individuals within implementing organizations (6%) (5 of 88, circle 6). Similarly, a Regional Fisheries Advisor reported that "Getting middle-aged Fijian men engaged in gender [through a gender training workshop] was nothing short of a miracle. We saw changes in men's attitudes after the training. This led to better inclusion of women". A Senior Technical Aid within an international NGO in Solomon Islands reflected on his involvement in a community gender research project, "It helped us think about gender. We started to realize that women have a lot of knowledge they were sharing out. We learned the value of women's voice and knowledge… It changed me a lot. It changed me with the work I do on the ground". However, we also found evidence of negative attitudes toward gender work, "Gender still receives sniggers and non-helpful feedback. But it's still on the agenda, but more work is to be done to shift this attitude" (Advisor, regional agency).

Table 2

Gender approaches (n = 218) identified in small-scale fisheries policy and practice, aggregated into seven approach types indicating whether their intention aligned with the 'Tinker', 'Tailor' or 'Transform' classifications.

Gender approach type	Examples of gender approaches	Classification		
		Tinker	Tailor	Transform
Gendered identity targeting (n = 49)	Women-targeted fisheries initiatives	√	√	
	Ensuring women's project participation	√		
	Engaging men in gender change		√	√
Enhance women's agency (n = 42)	Capacity building of women fishers		√	
	Linking women to markets and value-adding to marine products		√	
	Building women's collectives or networks		√	
	Promoting women as leaders	√	√	
Gender research and evidence generation (n = 38)	Sex-disaggregated data collection	√		
	Quantification of women's contribution to fisheries	√	√	
	Women's participation indicators	√		
	Assess gendered impact of initiatives	√	√	
Gender sensitive community facilitation (n = 31)	Presence of women extension officers, trainers or facilitators	√		
	Focus-group discussion conducted separately with women and men	√	√	
	Consultation of women regarding fisheries initiatives	√	√	
	Theatre used to highlight and challenge harmful gender norms and relations			√
Gender sensitive organizational environments (n = 32)	Organizational gender policies (e.g., recruitment and sexual harassment)	√	√	√
	Gender budgets	√	√	
	Female employee professional development	√		
	Gender focal points within organizations	√		
	Monitoring and reporting of gender impacts	√	√	
	Assessment of the attitudes and will of staff to integrate gender	√	√	
Gender considered in regional, national or organizational fisheries policy or guidelines (n = 15)	Recognition of women and/or gender in fisheries policies and guidelines	√	√	
	Endorsement and/or implementation of organizational gender strategies	√	√	
Increase gender knowledge and capacity (n = 11)	Access to expert knowledge or partnerships to share lessons and best practice	√	√	
		√	√	√

Table 2 (*continued*)

Gender approach type	Examples of gender approaches	Classification		
		Tinker	Tailor	Transform
	Employee gender capacity building Availability and access to gender tools or resources	√	√	

3.3.2. Gender approach impact assessment: Tinker, tailor or transform?

Our assessment did not indicate any approaches that 'Transformed' gender inequalities in impact. Instead, 42% of approaches led to women's greater inclusion ('Tinker'), 31% led to increased recognition of women's needs and a rebalancing of opportunities ('Tailor'), 17% led to no changes, and for 10% of these approaches informants reported they did not know, or it was too early to determine what changes had occurred (see Fig. A.1 and Table A.2 in Supplementary material for detailed evidence of approach impacts).

The 'Tinker' approaches that intended to increase the physical presence of women in implementing organizations, fisheries projects or within community management bodies were able to achieve such changes, however women's agency to influence change in these spaces was limited. A Fisheries Officer in Vanuatu reported "… [name of organization] has taken more women onboard [in terms of employment]. There is more of a gender balance [in staff], but they [women] are mainly doing data entry". Similarly, in the Solomon Islands, a Fisheries Officer reported that "there is an observer program, and women are now included [as observers on fishing vessels]. But [women] still need permission from their husbands [to do so]".

Impacts of the 'Tailor' approaches included greater recognition and reporting of both women's and men's contributions to the fisheries sector (i.e., sex-disaggregated data that illustrated gender nuances of fishing activities, habitats and species targeted). A Fisheries Officer in Fiji reported "when we created a database to capture women's roles in fisheries, we realized that we [previously] had not captured it very well. So [this new data and reflection] led to the Division Heads thinking about gender in their research". There was also more attention to the differential needs of women related to fisheries livelihoods, for instance, "By helping both men and women look at livelihood options [after a tropical cyclone] using the skills and resources they had… [which] empowered the women. Women set up their own livelihoods" (Project Manager, national government, Vanuatu).

Over a third (35%) of gender approaches had poorer impacts than anticipated in that they met a lower assessment criterion than originally intended or led to no changes. Some informants attributed this inability to reach intended goals to a lack of willingness by individuals within implementing organizations to engage with gender issues. For example, a Gender Focal Point who was embedded within a fisheries ministry to "deal with issues inside the ministries including equal opportunity [and] issues with sexual harassment" reported they did not generate any changes in their role because "gender is the last priority" when working with more senior staff. In other cases, limited impacts corresponded with a lack of knowledge and capacity to work on such issues. A Regional Fisheries Policy Specialist reported that "…we don't know how to do it [gender]. We've never been trained … we don't know how to integrate it into our work… National fisheries officers don't know what gender is. In fisheries policies from 5 years ago you wouldn't even see the word 'gender'". A Fisheries Advisor also expressed this sentiment when explaining the integration of gender within regional fisheries policies and roadmaps, "gender is largely seen as a tick box … No one is really sure how to talk about gender in these forums or how to do it productively… We just insert a phrase here and there. The depth of the discussion is not really there".

Key

1. Increased productive capacities of women within fisheries value-chains (7%)
2. Diagnosis and development of women's alternative livelihoods (8%)
3. More women consulted on community-based fisheries projects (8%)
4. More women actively participating in fisheries projects or meetings (i.e. decision-making influence and leadership) (11%)
5. General awareness and acknowledgment of women's contribution to fisheries by fisheries actors (15%)
6. Attitude and behavioral shifts of fisheries actors, including more acceptance to work on gender issues (6%)
7. Assistance for women to obtain commercial fisheries licenses (1%)
8. Women's increased income (7%)
9. Increased number of women attending project meetings or represented in resource management committees (8%)
10. More women employed, occupying higher paid positions or with increased salaries in the formal sector (8%)
11. Women's business collectives, associations or advocacy groups established (8%)
12. Organizations have increased access to funding for gender work (4%)
13. Sex or gender-disaggregated data collection and reporting (i.e. on women's contribution to fisheries) by fisheries organizations and ministries (9%)
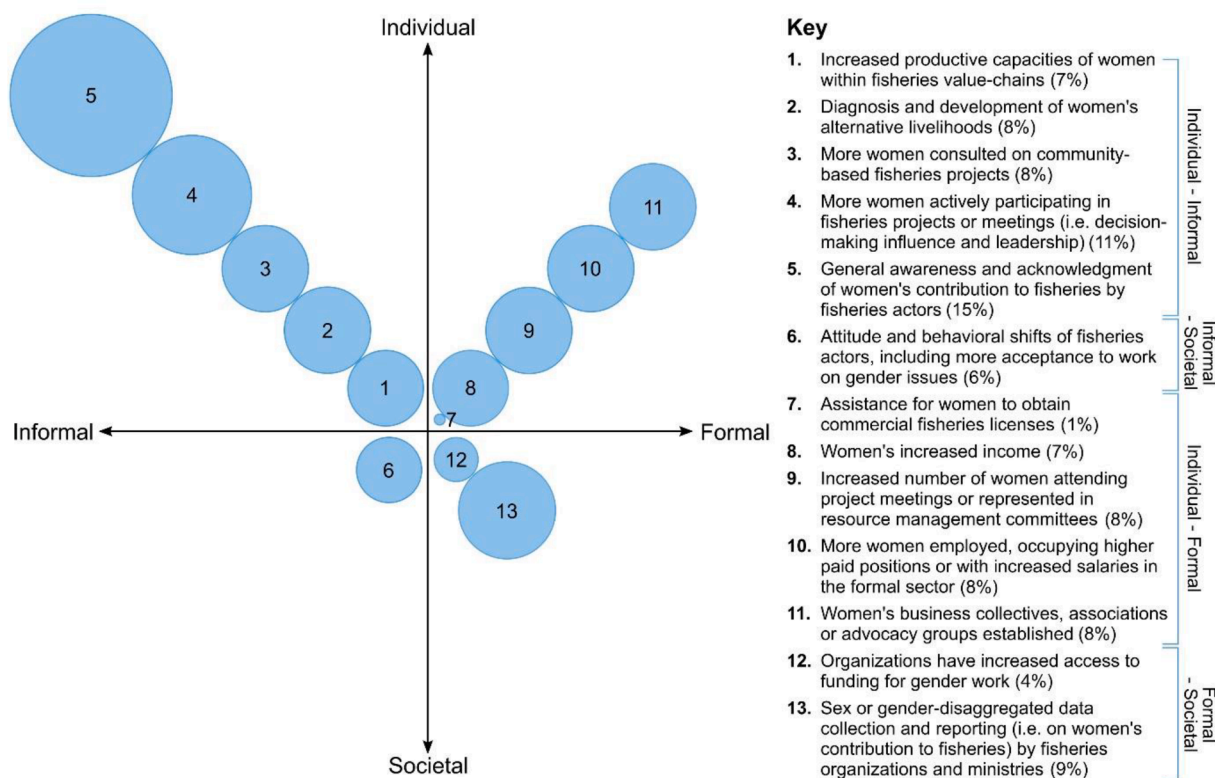
**Fig. 4.** Gender approach impact types achieved from small-scale fisheries initiatives.

3.4. Gender equality amidst social-ecological narratives

Through a disaggregated analysis of each informant's interview (n = 71) (described in section 2.3.3), we detected general trends about gender equality priorities, intentions and impacts of implementing organizations based on three social-ecological narratives (Fig. 5). Our application of the 'Tinker-Tailor-Transform' gender assessment typology highlighted the dominant use of 'Tinker' approaches by implementing organizations aligned with the ecological narrative. This finding is consistent with the proposition that social-ecological narratives shape the way gender equality goals become operationalized. However, for organizations oriented toward the social-ecological narrative, intention and impact fell short of articulated priorities, breaking away from the broad proposition. This disparity became even more evident in our findings under the social narrative. For instance, only two approaches were considered to 'Transform' (i.e., seek the displacement of unequal gender norms, relations, structures and systems), and there were no changes deemed transformative in impact despite our proposition. These results suggest the rhetoric about valuing gender equality for intrinsic reasons is not matched with depth of action. In fact, we found 17% (n = 10) of gender approaches led to no changes. Of these approaches, almost all (8 of the 10) were applied within initiatives aligned with the social-ecological narrative, suggesting that there is a lack of impetus around the directive for gender equality under this narrative. Further analysis revealed that external donor or project requirements may prompt gender 'box ticking'. For example, a Regional Fisheries Advisor reported "We are influenced by donors, [as] they have more requirements for gender. We need to show donors that gender issues are being addressed". A Fisheries Officer in Fiji reported "Gender is not really considered [within a pearl farming initiative]. But we had to report back to the Ministry of Fisheries on how many women are involved in the programs".

4. Discussion

Gender equality is a powerful determinant of human experiences and environmental outcomes in social-ecological systems (Leach et al., 2018, Resurrección and Elmhirst, 2009). As this recognition permeates through environmental governance and development realms, gender equality features more prominently in the visions and commitments of organizations working within social-ecological systems (e.g., IUCN, 2018). Gender equality is increasingly accepted as integral to the narratives of environmental agendas, particularly as they espouse more human-centric objectives (Mace, 2014, Jones et al., 2016, Brown, 2014). However, little is known about how the articulation of social-ecological narratives has actually advanced (or hindered) progress toward gender equality. Our study has generated a range of insights into the type and depth of priorities, intentions and impacts toward gender equality, in this case, by organizations implementing actions that impact upon small-scale fisheries in the Pacific Islands region.

We explored the proposition that when gender equality is prioritized and pursued with the goal to drive human development outcomes in social-ecological systems, gender is likely to be valued intrinsically, and implement approaches, impacts and measures of success that are likely to progress gender equality (Locke et al., 2014). In contrast, when priorities are oriented toward the ecological, gender is perceived as instrumental to this aim. As such, the ways gender is approached and measured are, at best, likely to lead to gender balanced management processes, with limited potential to make meaningful advancements toward gender equality (Rees, 1998, Squires, 2003). Our results illustrate that priorities and intentions alone are insufficient in making progress toward gender equality. Even in cases where the intrinsic goals of gender equality were prioritized (notably in the social-ecological and social narratives), the approaches used were shallow and tended to 'Tinker' with gender in impact. In the following section, we discuss the areas of convergence and divergence with our proposition (section 4.1). Next, we discuss the shortcomings of current engagement with gender
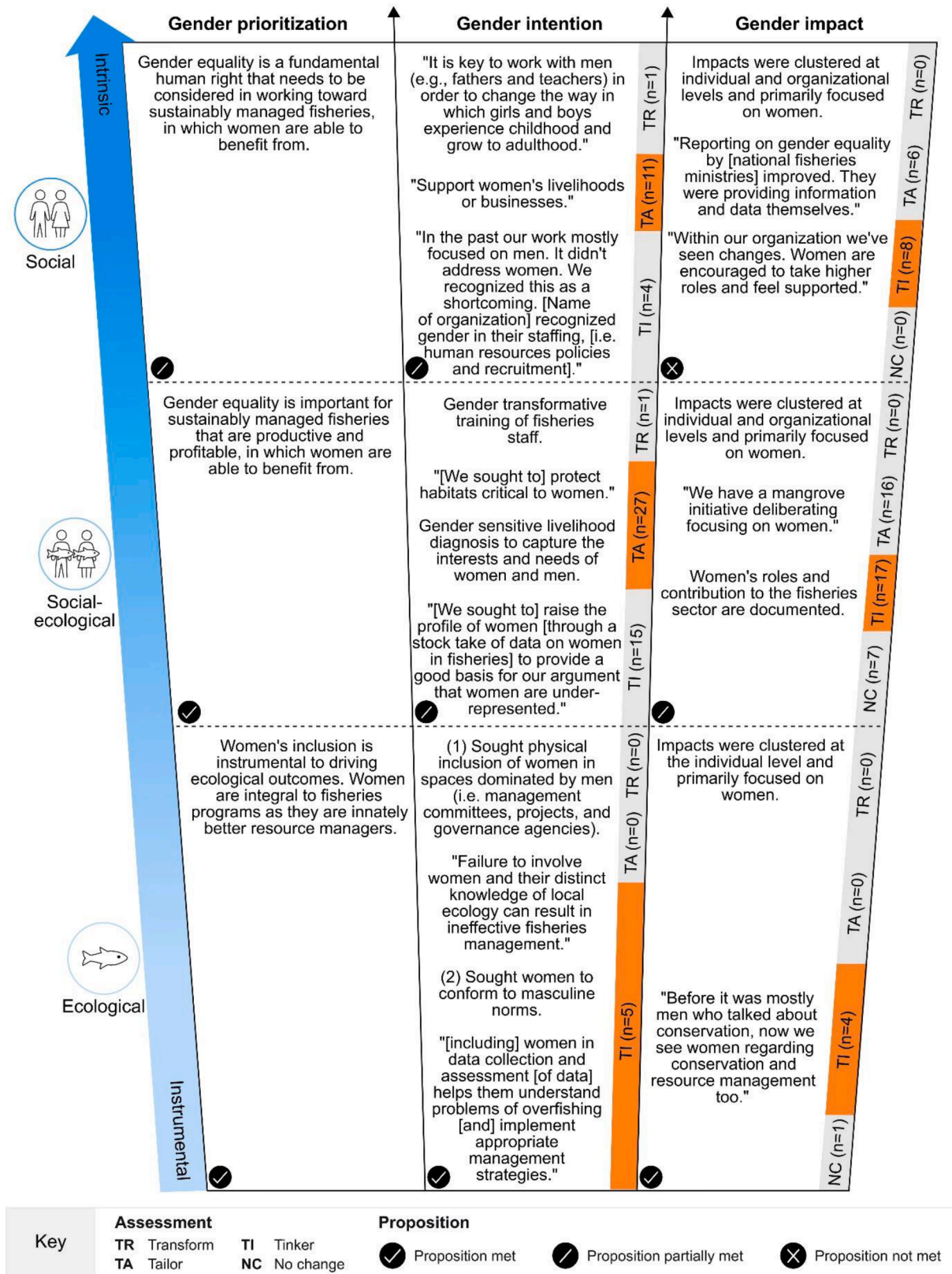
Fig. 5. Evidence of trends in gender equality priorities, intentions and outcomes of small-scale fisheries implementing organizations along a spectrum of social-ecological narratives. Ecological narratives tended to prioritize gender for achieving instrumental (i.e., non-gender) goals, social narratives tended to prioritize gender for intrinsic (i.e., socially just and fair) goals, and social-ecological narratives sought to balance both goals. Gender intentions (middle column) and impacts (right column) were assessed using the 'Tinker-Tailor-Transform' assessment typology (n = number of approaches), with illustrative examples provided. The orange bars indicate approaches most commonly 'Tinkered' with gender in intention and impact within the ecological narrative, and that under the social-ecological and social narratives intentions were predominately 'Tailored' around gender, and 'Tinkered' with gender in impact. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

equality across social-ecological narratives (section 4.2). We round out our discussion by highlighting three opportunities for small-scale fisheries implementing organizations to orient more toward intrinsic visions of gender equality, embrace more robust measures of impact, and interrogate their own discursive positions (section 4.3).

4.1. Coherence of social-ecological narratives with gender priorities, intentions and outcomes

There is a mosaic of environmental, development and fisheries-focused organizations implementing initiatives that impact upon small-scale fisheries. These organizations differ in the degree to which they align with ecological, social-ecological or social narratives. The few implementing organizations we found to identify more strongly with the ecological narrative described their priorities, intentions and impacts for gender equality as instrumental to accelerating or improving the efficacy of environmental outcomes (i.e., biodiversity conservation or sustainable resource management). Literature sympathetic to these pragmatic goals has perpetrated this as a legitimate rationale, for instance by suggesting that women are innately better stewards of the natural environment than men, and that ascribing responsibility to women would lead to more sustainable natural resource use (e.g., Cook et al., 2019, Leisher et al., 2016). Our analysis revealed approaches sought to increase the attendance of women in initiatives, activities, meetings, committees or agencies, often achieved via participatory targets or quotas (see also 'reach' strategies described by Johnson et al., 2018). Our typology positions this as 'Tinkering', given there is little evidence that this rationale or associated approaches alone will lead to greater gender equality or women's empowerment.

Under the social-ecological narrative, we found evidence that gender equality was valued intrinsically and instrumentally and prioritized for both social and ecological reasons (i.e., to ensure sustainably managed fisheries and productive and profitable benefits). This notion is consistent with Leach et al. (2018) who articulate the complex interplay between addressing rising inequalities whilst maintaining a stable and resilient planet. The literature prescription supporting the social-ecological narrative highlights the need to consider the norms, beliefs and formal regulations in which gender inequalities are embedded and perpetuated (Yang et al., 2018, Cole et al., 2018). Consistent with this proposition, we found almost all examples of gender approaches under the social-ecological narrative aligned with the 'Tailor' typology in that they sought to accommodate the different roles and needs of women and men (i.e., related to livelihoods or capacity building opportunities including enhancing women's productive capacities, income earning potential, and links to different nodes of fisheries value-chains). These approaches indicate there is recognition among implementing organizations that driving equitable social change requires working around existing gender inequalities (IGWG, 2017). However, accommodating the different roles and needs of women and men, also requires attending to the social and cultural environments in which individuals are embedded. Specifically, these environments refer to the unwritten and invisible social expectations or norms about how women and men should behave and their associated power relations. These norms and relations operate and are maintained at multiple levels, including within the household, community, institutions and society, and determine an individuals' ability to access, use and benefit from development initiatives (Resurrección and Elmhirst, 2009, McDougall et al., 2021, Cornwall, 2003). Yet in impact, we found that the majority of approaches did not account for these influential environments, and instead, focused on the individual (predominately women) and their representation, consultation or participation in fisheries initiatives, agencies and data, which is likely explained by the presence of strong social and cultural norms that are not easily 'worked around' (see for example MacIntyre and Spark, 2017).

Those organizations that aligned with the social narrative indicated that gender equality was valued intrinsically and perceived as fundamental to upholding human rights. However, in contrast to the literature projections (Cote and Nightingale, 2012, Locke et al., 2014), the main impetus for the work described by informants was to improve the ecological sustainability of fisheries more so than using fisheries as an entry point to govern for socially equitable outcomes. Despite the social narrative being dominant amongst this group of implementing organizations, their actions in policy and practice did not translate with the degree of social nuance anticipated for this position in the typology. For instance, we did not find evidence of, or intentions for, shifts or transformations in the norms, relations and structures that underpin and perpetuate gender inequalities characterized within the 'Transform' classification (IGWG, 2017). Gender approaches were predominately 'Tailored' to work around gender inequalities in intention and tended to focus on women. Despite intrinsic values being evident in the type of gender impacts (i.e., increased number of women working within fisheries agencies, and increased commitment to reporting on gendered impacts of initiatives), the approaches used were narrow and only 'Tinkered' with gender in impact. The majority of changes were also at the individual level, rather than spanning household, communal and societal domains (Locke et al., 2014, McDougall et al., 2021). Our results suggest a disconnect between the socially-oriented ambition by many implementing organizations, their actions and the impacts that ensue. Whilst this disconnect is likely unintentional, we discuss some potential reasons in the following section.

4.2. The shortcomings of engagement with gender equality across social-ecological narratives

Broadly, we found the impacts of gender equality efforts were clustered, pursued via narrow approaches and instrumental priorities. In this section we discuss each of these shortcomings in turn. Our use of quadrants (adapted from Rao and Kelleher, 2005) revealed gender approaches led to both formal changes (i.e., women were included in management committees, fisheries data collection or received benefits from employment) and informal changes (i.e., enhanced the productive capacities and livelihoods of women, more women were consulted and participating in fisheries initiatives). However, across all three narratives, gender approaches and impacts were predominately clustered at the individual level and targeted women as primary beneficiaries. A women-only focus can often be explained by organizations and their staff holding the (naïve) view that women are individual objects whose agency operates autonomously to their social environments, rather than embedded within, and impacted by, dynamic social systems (Rao, 2017). For example, our results pointed to an increase in the number women employed in fisheries agencies, yet informants indicated these women were often in lower level positions (i.e., data entry). Women's inclusion within male dominated spaces alone does not equate to gender equitable outcomes, particularly if women's agency is curtailed by gender differentiated decision-making power (Cornwall, 2003). Whilst we do not discount that these efforts for women's greater inclusion may be a precursor to more gender-inclusive management processes, the approaches pursued by implementing organizations pay insufficient attention to how individuals are differentially affected by existing or changed social-ecological systems configurations (Fabinyi et al., 2014, de la Torre-Castro, 2019). Similarly, Rao and Kelleher (2005) caution that changes in one quadrant area will not necessarily lead to change in another. For example, we found changes in the formal-individual quadrant included an increase in women's attendance and participation in fisheries meetings, initiatives or committees, yet this does not mean that their contributions, and rights are automatically reflected in the policies that govern this social-ecological system.

Consistent with other gender and fisheries analyses from the Pacific Islands (Lawless et al., 2021, Mangubhai and Lawless, 2021), and those undertaken in other geographies and environmental sectors (Lau, 2020, Stacey et al., 2019, James et al., 2021, de la Torre-Castro et al., 2017), the vast majority of approaches are neither meeting nor advancing

gender best practice frontiers. The 'Tinker' approaches can be understood in terms of implementing organizations intentionally or unknowingly aiming for and measuring how many women are 'reached' (i.e., included or represented) (Johnson et al., 2018), and assuming this is equal to gender equality or women's empowerment (Cornwall, 2018). The strong prioritization of social goals, and intrinsic value of gender equality within both the social-ecological and social narratives, suggests that perhaps inadvertently, implementing organizations are setting the bar low (see also Mangubhai and Lawless, 2021). This could be a result of the non-prescriptive nature of the concept leading to subjective metrics of what successful gender goals might mean and look like (see Lawless et al., 2020, Lombardo et al., 2010). As such, among implementing organizations there may be a genuine belief that they are addressing gender issues. For example, a related study found a mismatch between perceived versus actual capacity to work on gender, whereby fisheries managers and practitioners ranked their organizations' gender capacity as high despite practical evidence suggesting capacity was low (Mangubhai and Lawless, 2021).

In other cases, the use of 'Tinker' or 'Tailor' approaches may be pursued as they are perceived as more culturally appropriate, applied in ways that do not disrupt existing social and cultural systems. 'Transform' approaches by design seek to challenge the structures that underpin and perpetuate gender inequality (IGWG, 2017). Social and cultural structures influence gender norms and identities in different contexts, and therefore, to fully contribute to progressing gender equality, efforts need to go 'below the surface' to tackle the deeper normative and structural barriers (McDougall et al., 2021). Without doing so, the risk is that gender approaches may be applied without substance, lacking the potential for effective influence (Wong et al., 2019). In fact, we found several instances where gender approaches did not lead to any impacts, the majority being within the social-ecological narrative. Our deeper analysis revealed that external donor or project requirements to work on gender may lead to approaches that 'Tinker' with gender equality. In these cases, gender approaches tend to quantify women's roles and contribution to small-scale fisheries or monitor their physical inclusion in fisheries projects, meetings and workplaces. These approaches may be appealing as they are the easiest to achieve because they do not require significant alteration to plans for project implementation, or heavy adjusting of project goals (IGWG, 2017, Johnson et al., 2018).

We found 'Tinker' approaches were also commonly used in cases where gender equality was framed instrumentally. The instrumentalization of gender equality is a tactic often used to facilitate or accelerate progress toward non-gender goals (Lombardo et al., 2010, Cornwall, 2018). A common instrumental proposition is that "If women had the same access to productive resources as men, they could increase yields on their farms by 20–30 percent. This could raise total agricultural output in developing countries by 2.5–4 percent" (FAO, 2011). This type of framing essentially promotes the 'investment return' of making progress toward gender equality (Cornwall, 2018). Gender equality as a concept is essentially made more palatable to those working in sectors without a history of working on gender, aiding integration of the concept into policy agendas (Nazneen and Hickey, 2019). Similarly, within the ecological narrative women were depicted as innately connected to the environment. This 'connectedness to nature' assumption positions women as responsible for, and natural saviors of, the environment (Lau et al., 2021, Leach, 2007). Our findings, similar to others (e.g., Lombardo et al., 2010), highlight the risks of such a purely pragmatic orientation in that the intrinsic qualities of gender equality are depoliticized and diluted. In these cases, gender equality is only valued based on whether it leads to the achievement of other goals (Nazneen and Hickey, 2019).

4.3. Forging dynamic new pathways

If driving sustainable and equitable social-ecological change is the

crux of a globally sustainable future (Biermann et al., 2012, Leach et al., 2018, Raworth, 2017), then the small-scale fisheries sector needs new ways of thinking and acting. Specifically, we provide three recommendations for small-scale fisheries implementing organizations to play a role in achieving more robust and meaningful gender equality impacts.

First, implementing organizations need to question and potentially reorient their theories of change. For example, under the ecological narrative, gender approaches may be perfectly executed to increase the attendance (i.e., physical presence) of women in environmental management efforts, and this may indicate progress toward more gender-equal participation. However, without commitment to intrinsic outcomes (i.e., justice, equity or empowerment), these efforts are only likely to achieve the ecological narratives' (limited) visions and ambitions for gender equality (Lau et al., 2021, Lawless et al., 2021). Reorientation toward the intrinsic value of gender equality is important because when fundamental human rights, including gender equality are secured, *all* people are far more able to benefit from natural resources and efforts to manage them (Allison et al., 2012). A first step would be situating and scrutinizing the goals of implementing organizations, and then using the 'Tinker-Tailor-Transform' typology we develop to assess the extent proposed gender approaches are likely to progress gender equality. This requires opening up framings to make more room for plurality of knowledge, and avoiding the propensity to reduce problems to observable phenomena (e.g., the numbers of women attending or participating) (see for example Lau, 2020, Locke et al., 2014).

Second, gender approaches need to move away from a narrow focus on reaching greater numbers of women, to multiple dimensions of empowerment (Malapit et al., 2015, Johnson et al., 2018). This step may require reimagining what gender equality 'success' looks like and how it should be measured. To do so, well-established and tested frameworks including the Women's Empowerment in Agriculture Index (Malapit et al., 2015), the 'Reach, Benefit, Empower, Transform' framework (Johnson et al., 2018, Kleiber et al., 2019) and the gender integration continuum (IGWG, 2017) offer guidance. To move toward deep and sustained social change, these approaches need to challenge and reconfigure system attributes that perpetuate gender inequalities (McDougall et al., 2021). For example, efforts must also be directed across all levels of governance, and influence the informal (e.g., values, attitudes, beliefs and skills) and formal (e.g., laws and policy) domains (Rao and Kelleher, 2005). This degree of change involves addressing inequalities in gender power relations at all levels (e.g., Murunga, 2021, Morrison et al., 2019, Wong et al., 2019).

Finally, implementing organizations need to consciously interrogate their own discursive positions and beliefs to unsettle habituated ways of thinking and acting (Lau, 2020, Locke et al., 2014). Our analysis revealed instances where fisheries officers came to 'realize the value' of gender work when given the opportunity to engage with external experts, trainings or undertake gender research. This form of self-reflexivity (or internal process of inquiry) is an opportunity for people to see the world differently, adjust their frames and openness to gender sensitivities (Lombardo et al., 2010). Our case provides initial evidence that this process may lead to deepened engagement with gender, embracement of different forms of knowledge and critical reflection. The tools and methodology we use in this paper may be useful in further facilitating this process. Although our methodology was designed for a scientific exploration of the gender approaches applied by multiple organizations working in ways that influence small-scale fisheries, there is an opportunity to test its utility for assessing programming and implementing organizations themselves. Specifically, such use could include application and/or adaptation of the 'Tinker-Tailor-Transform' assessment typology to examine and enhance gender priorities, intentions and impacts across the varied dimensions of individual organizational operations and initiatives.

5. Conclusion

We explored the proposition that differences in social-ecological narratives shape gender equality engagement and impact. To perform this task, we developed the 'Tinker-Tailor-Transform' gender assessment typology, and used it to analyse policy and practice impacting upon small-scale fisheries in the Pacific Islands region. Respondents indicated a range of successes in progressing gender equality across ecological, social-ecological and social narratives. This progress tended to be related to the greater inclusion of women and consideration of their needs and interests. Accounts from this research, and broader evidence, suggest that this type of progress may make certain experiences of livelihoods, management and governance efforts linked to small-scale fisheries more equitable, and provide important precursors to deeper social change. However, we found most approaches and impacts to be modest relative to what we know from gender and development literature to be possible and needed. The modesty of progress and approaches was surprising given the surrounding dominant rhetoric about the importance of social change (i.e., human development) in the social-ecological and social narratives. The methodology we apply, including the 'Tinker-Tailor-Transform' typology we develop, offers a critical tool for implementing organizations to engage in more self-reflexive processes, reorient toward more intrinsic visions of gender equality, embrace more ambitious (and current) theories of change, and measure and assess progress against more robust indicators of impact. Such shifts are essential to adequately confront the dual social-ecological challenge of reversing rising social inequality and maintaining a stable and resilient planet (Leach et al., 2018).

CRediT authorship contribution statement

Sarah Lawless: Conceptualization, Methodology, Validation, Formal analysis, Investigation, Resources, Data curation, Writing – original draft, Writing – review & editing, Visualization, Project administration, Funding acquisition. **Philippa J. Cohen:** Conceptualization, Methodology, Formal analysis, Writing – original draft, Writing – review & editing, Visualization, Supervision, Funding acquisition. **Cynthia McDougall:** Methodology, Visualization, Writing – original draft, Writing – review & editing. **Sangeeta Mangubhai:** Methodology, Validation, Investigation, Resources, Data curation, Writing – original draft, Writing – review & editing, Visualization, Project administration, Funding acquisition. **Andrew M. Song:** Methodology, Writing – original draft, Writing – review & editing, Visualization, Supervision. **Tiffany H. Morrison:** Conceptualization, Methodology, Formal analysis, Writing – original draft, Writing – review & editing, Visualization, Project administration, Supervision, Funding acquisition.

Declaration of Competing Interest

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

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Appendix A. Supplementary data

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