



# Enhancing coastal livelihoods in Indonesia: an evaluation of recent initiatives on gender, women and sustainable livelihoods in small-scale fisheries

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## Abstract

In recent decades, there have been considerable efforts to enhance, diversify, or implement alternative livelihood activities in marginalized coastal communities, to ease reliance on deteriorating coastal resources, reduce poverty and improve well-being outcomes. To date, gender has been notably absent from the literature on small-scale fisheries and associated livelihood improvement programs, despite increasing evidence of the importance of gender equality and women's empowerment in achieving such outcomes in other contexts. In this paper, drawing from an evaluation of the effectiveness of 20 livelihood development projects implemented in coastal communities in Indonesia since 1998, we report on how gender was considered in these projects. We assessed whether and how gender was included in project rationales, and how men and women were included in project activities. We found that, despite the women being reached by many project activities, particularly efforts to increase women's productive capacity through training and group-based livelihoods enterprises, 40% of the projects had no discernible gender approach and only two of the 20 projects (10%) applied a gender transformative approach that sought to challenge local gender norms and gender relations and empower women beneficiaries. Our assessment suggests the need for greater understanding of the role of gender in reducing poverty and increasing well-being outcomes in coastal communities. Lessons from comparable agricultural settings suggest that this may be facilitated by locally situated gender social relations analysis, integration of gender throughout livelihood improvement project cycles, gendered capacity building activities and shared learning from the evaluation of the gendered outcomes of project activities.

**Keywords** Indonesia · Gender · Women · Coastal communities · Livelihood enhancement · Small-scale fisheries

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## Introduction

In recent decades, there have been considerable efforts to enhance, diversify or introduce alternative livelihood activities in marginalized coastal communities, to ease reliance on deteriorating coastal resources, reduce poverty and improve well-being outcomes (Pomeroy et al. 2017; Steenbergen et al. 2017). The approach to improving coastal livelihoods has mirrored development practice in agricultural settings, with livelihoods interventions often grounded in the Sustainable Livelihoods Framework (DFID 1999), which provides a conceptual framework of the process by which “people combine their capabilities, skills and knowledge with the assets at their disposal to create activities that will enable them to make a living” (Ireland 2004, p. 12). Application of the framework focuses attention on how the institutional and vulnerability context mediates people’s ability to achieve a desired livelihood outcome from a given bundle of assets. Livelihood interventions typically pursue one of three approaches: (1) enhancing livelihoods: improving current livelihood strategies to make them more productive and/or sustainable; (2) supplementing or diversifying livelihoods: adding new components to current livelihood strategies; and (3) finding alternative livelihoods: opportunities for adopting new strategies to support household livelihood diversification, in most cases with the objective of both improving incomes and relieving pressures on coastal resources (Ireland 2004; IMM Ltd. 2008; Pomeroy 2013). In each case, attention is directed to improving men’s and women’s asset endowments to support these livelihood activities in the given context.

Gender, the distinct roles, rights and responsibilities of men and women as determined by social and cultural norms and institutions (rather than biology) (Gutierrez-Montes et al. 2012), is increasingly recognised as an integral dimension of the institutional context affecting the achievement of livelihood outcomes (Okali 2011). Gendered social norms, “the informal and formal laws, beliefs and practices that help to determine collective understanding of what are acceptable attitudes and behaviours” (Harper et al. 2014, p. 2), affect the opportunities available to men and women, with such norms often constraining women to traditional caring ‘duties’ within a household and/or work within the more vulnerable and undervalued informal sector (Harper et al. 2014). Meanwhile, gender relations, the social relationships determined by expressions of power between men and women (FAO 2017), directly impact access to, and control over, livelihood assets (including natural resources), as well as influence the nature and distribution of benefits of livelihood activities. Recent research has for example considered how gendered social norms and relations impact on the capacity of men and women to adopt and innovate in alternative or enhanced livelihood strategies. Locke et al. (2007) identified gendered differences in reasons for innovation, with men

focused on increasing household income and women instead oriented to moving out of poverty and ensuring their families had sufficient food. Gender norms and relations affect men’s and women’s ability to participate in governance and policy processes (Leisher et al. 2016), with flow-on effects for the sustainability of the natural resource base and livelihoods dependent upon it (Frocklin et al. 2014; Gopal et al. 2015; Bene et al. 2016; Kawarazuka et al. 2017).

Changing approaches to gender in development practice have occurred along two broad rationales. First, the inclusion of women in development was seen as having economic efficiencies (The World Bank, FAO, and IFAD 2009). Recognising that gains in economic development during the 1970s were not reaching women in less-developed countries, ‘Women in Development’ (WID) livelihood programs sought to integrate women into the productive sphere by creating small-scale income generating activities deemed appropriate for women beneficiaries (Razavi and Miller 1995; Okali 2011). However, these types of programs—which took a binary approach to the practical differences in men’s and women’s asset endowments—were often not successful in reducing poverty at the household level, and in some cases increased women’s time burdens and exacerbated differences between men and women within households, the market and society (Razavi and Miller 1995; Okali 2011). More nuanced analysis of household dynamics and poverty led to an understanding of the importance of and the need to redistribute the power in the social relations between men and women (Okali 2011). Thereafter, the inclusion of women in development—and transformation of gender relations between men and women—was seen as instrumental for truly tackling poverty and in achieving the broader goals of gender equity and equality (Cole et al. 2014).

Approaches to gender can thus be conceptualised along a continuum from a ‘gender reinforcing approach’, to ‘gender accommodating approaches’, and finally a ‘gender transformative approach’ (Lawless et al. 2017) (see Fig. 1). Development programs applying a gender reinforcing approach may “reinforce, sustain or take advantage of inequitable gender norms and power imbalances to achieve their objectives” (Lawless et al. 2017, p. 7). These programs may have negative consequences for women, and different groups of men and women (e.g. youth, elderly, female-headed households, ethnic groups), and make assumptions about potential participants and their interests. Programs pursuing a gender accommodating approach recognise the differences in men’s and women’s roles and responsibilities, and asset endowments, but implement activities that do not seek to challenge the gender norms and relations that result in these differences. Activities implemented according to this approach may have unintended consequences—such as disaffected men undermining initiatives to increase the value of women’s post-harvest fisheries outputs (Okali 2006). On the other hand,

Gender reinforcing approach	Gender accommodating approach	Gender transformative approach
<p><i>Recognizes differences in men's and women's productive and social capacities and implements activities which reinforce these differences</i></p> <ul style="list-style-type: none"> <li>• Gender-specific livelihood training, or reference to training for 'households'</li> <li>• Provision of livelihood assets, mostly in support of men's livelihood activities and women's 'duties'</li> <li>• Invites women to project meetings but participation is constrained by local gender norms and relations</li> </ul>	<p><i>Recognizes and takes account of gender norms and relations in selection and delivery of project activities, but doesn't seek to challenge these</i></p> <ul style="list-style-type: none"> <li>• Gender-specific livelihoods training</li> <li>• Creation of gender-specific enterprise groups</li> <li>• Extended skill development for livelihoods activities through value-chains (e.g. financial management, marketing)</li> <li>• Tailoring of community consultation and other program activities to take into account local gender norms and relations (e.g. separate meetings for men and women)</li> <li>• Gender quotas for local project and community representatives, enterprise groups</li> </ul>	<p><i>Recognizes, takes account of and seeks to promote locally-led change in gender norms and relations to support achievement of local aspirations</i></p> <ul style="list-style-type: none"> <li>• Livelihood activities that are gender inclusive and intersectional (age, class, ethnicity)</li> <li>• Gender awareness (norms, assets endowments, activities and time burdens) training for project staff, community representatives and project beneficiaries</li> <li>• Gender strategy which embeds a gender transformative approach throughout the project cycle</li> </ul>

**Fig. 1** Summary of the characteristics of approaches to gender in development programs, with examples of typical project activities drawn from our study (after Lawless et al. 2017)

gender transformative programs are “designed to understand, take account and respond to existing gender norms and power relations” (Lawless et al. 2017, p. 6). Gender transformative approaches are “based on a more complex and conceptually robust understanding of gender as a social construct, embedded in how societies define women’s and men’s roles and relations and the distribution of resources” (Cole et al. 2014 p.7). Research demonstrates that gender-transformative approaches contribute to the achievement of gender equality, women’s empowerment and positive livelihood outcomes such as poverty alleviation, improved health and improved food security (Okali 2006; Greene and Levack 2010; Kantor 2012; Hillenbrand et al. 2015).

The evolution of approaches to gender in development programs reflects increasing awareness of the socially constructed drivers of inequality between men and women, and innovations in development practice that consider these inequalities and how they can be addressed (Kantor 2012; Lawless et al. 2017). Until recently, gender was largely been overlooked in the small-scale fisheries (SSF) and aquaculture sectors (Williams 2008; Harper et al. 2013; Kleiber et al. 2015; Gopal et al. 2015). It has been argued that a consequent

lack of understanding of gender issues in coastal fisheries development policies and programs has resulted in limited real and sustainable improvements in the livelihoods of project beneficiaries (Arenas and Lentisco 2011). However, gender transformative approaches are now being implemented in several livelihood improvement programs centred in small-scale fisheries in a number of countries, including Zambia and Cambodia (Cole et al. 2014; Rajaratnam et al. 2016). In doing so, these programs reflect best-practice approaches to livelihood enhancements (Torell and Tobey 2012; Pomeroy 2013; Pomeroy et al. 2017) and move beyond past approaches so as to “foster change in individual capacities (knowledge and skills), attitudes, agency and actions; the expectations embedded within relationships between people in the home, in groups and in organizations; and institutional rules and practices” (Cole et al. 2014:8).

This paper reports on the results of a collaborative research activity between Australian and Indonesian researchers which examined how gender was considered in the implementation of coastal livelihood improvement programs in Indonesia. The research questions were (i) to what extent (how and why) are women and gender

considered in coastal livelihood improvement programs in Indonesia and (ii) what are the knowledge gaps and future research needs to enhance gendered outcomes in coastal livelihood improvement programs in Indonesia. In remaining sections of this paper, we first describe the context of SSF-related livelihood interventions in Indonesia, then describe the method for our analysis and conclude by discussing our findings. We argue that gender can and should be better integrated into livelihood improvement programs to enhance gendered outcomes and the well-being of coastal communities.

## Gender and fisheries-based livelihoods in Indonesia

Indonesia is the world's largest archipelagic nation and the second highest marine fish-producing country in the world (FAO 2018). The FAO estimates that over six million people are involved in fisheries and aquaculture in Indonesia (from a total population of over 250 million), with approximately 95% of fishery production coming from small-scale fishers (FAO 2016). There is considerable diversity in small-scale fisheries (SSF) activities in Indonesia, depending on the species targeted, gear used, seasonality of catch and nature of markets (domestic or export). Men and women, and often children and youths, are involved in distinct aspects of pre-production, production, post-harvest processing and the trade of fish and other marine resources (henceforth fish). Further, different social groups adopt different fisheries-based livelihood strategies, influenced by cultural heritage and preferences, available alternative livelihood options, access to productive resources (e.g. boats, land) and geography (e.g. remote island vs urban coastal, distance from formal markets). SSF activities may therefore be the only source of income for a household or contribute to household income as part of an evolving portfolio of livelihood activities (Loneragan et al. 2018).

It has been estimated that women comprise up to 42% or more of the people engaged in fisheries in Indonesia (Ariadno and Amelina 2016); however, a lack of accurate and comprehensive quantitative data on the many and varied roles of women in SSF have likely led to an underestimation of the importance of women's contributions to the SSF sector in Indonesia (Fitriana and Stacey 2012; Alami and Raharjo 2017; Loneragan et al. 2018). Similar to the situation in other countries, women are under-represented in fisheries development and policy, governance, and marine and habitat management frameworks (Alami and Raharjo 2017), which restricts women's physical access to fish and ability to advocate for themselves within Indonesia's bureaucratic fisheries management framework (Fitriana and Stacey 2012).

Sustaining SSF-based livelihoods and developing new livelihood activities for coastal communities is an increasing priority

for Indonesia. Capture fisheries in Indonesia are largely at capacity or over-exploited in some fisheries management regions (Ferrol-Schulte et al. 2015), while there have been increasing restrictions on physical access to marine resources driven by the "crisis" conservation narratives underlying fortress-type marine protected area programs (Berdej et al. 2015). Together with a policy imperative of reducing illegal, unreported and unregulated fishing, and the uncertainties of managing the potential impacts on climate change in data-poor fisheries, coastal fishing households are facing increasing difficulty in realising their livelihood goals (Steenbergen et al. 2017).

Various approaches and initiatives have been implemented in Indonesian coastal communities by government, international development agencies and NGOs with the aim of enhancing, diversifying or introducing alternative livelihood strategies. These include activities generating new mariculture opportunities (e.g. seaweed, live reef fish, trochus, sponges, clams, aquarium fish or land-based aquaculture (e.g. shrimp ponds, milkfish)); improving wild harvest of pelagics (e.g. the deployment of fish aggregating devices (FADs)); environmental and fisheries management systems (e.g. ecosystem approach to fisheries management); marine eco-tourism and handicraft production; market-based approaches to enhance the value of marine products (e.g. strengthening value chain activities, third party certification (e.g. FairTrade)); and improving livelihood assets (e.g. training, equipment and micro-credit schemes).

To date, many of these initiatives have focused on increasing men's harvest in capture fisheries through the provision of equipment to increase and preserve the value of harvested resources (e.g. boats, ice) (Stanford et al. 2014). Only more recently have programs given some attention to increasing women's ability to participate in markets (e.g. preserving/processing fish for sale in local markets) or providing equipment to support improved harvest (e.g. mangrove crab fattening cages) (MDPI 2017). However, there is a dearth of scholarly studies documenting and evaluating livelihood intervention programs, particularly their gendered impacts, in Indonesian coastal communities (Loneragan et al. 2018).

## Research approach and methods

We applied qualitative methodologies throughout the research. We began with a comprehensive literature review of women's roles in SSF activities (with a focus on Indonesia), the evolution of development and gender theories and the guiding principles for and evaluation of the effectiveness of sustainable livelihoods intervention programs (see Loneragan et al. 2018). We then undertook a search for and compilation of information on coastal livelihood projects implemented across Indonesia since 1998. Information was sourced from project proposal and funding documents, project evaluation reports, project websites, and scholarly and grey literature.

To ensure the broader aims of the research were addressed, a final selection of 20 projects was made to encompass diversity across the characteristics shown in Table 1.

The final selection of projects and our subsequent analysis and review was limited by differences in the availability and quality of comparable information for the different projects and the inability to verify the sustainability of outcomes reported in project documentation and evaluation reports (i.e. to ground truth the reported impacts of projects). We acknowledge that there may potentially be numerous other projects—including some small-scale local projects that were more focussed on, or inclusive of, women and gender, but our selection was influenced by the need for a broadly representative sample where published English-language grey or scholarly literature was available.

The information relating to each project was summarised using a standardised template (adapted from Ireland 2004), reflecting the key components of the Sustainable Livelihoods Framework (DFID 1999). These summaries were subsequently reviewed and analysed by the research team during two multi-day workshops held in 2016 and 2017. An Excel workbook was developed to summarise the attributes of each project in three key areas:

- (1) Project characteristics;
- (2) Project results, in terms of change in livelihood outcomes, gender approaches and activities/components, capacity building and/or institutional development, and the sustainability of project activities;
- (3) Lessons learned, including achievements, enabling factors, challenges, constraints and recommendations.

Focusing on gender aspects, we also categorised the projects based on:

- (1) How and why men and women were involved in the project activities (e.g. livelihood activities) and the purported impacts and outcomes of this involvement; and

- (2) The apparent gender approach ('gender reinforcing', 'gender accommodating' or 'gender transformative') evidenced in project cycle stages of planning, design, implementation and evaluation.

Projects were regarded as having a gender reinforcing approach (which sometimes meant there was no mention of gender at all) when project documentation indicated that there were activities for men and/or women, but gave no indication of the reasoning underlying selected activities other than poverty alleviation, or recognition of local gender norms and relations. In projects identified as having a gender accommodating approach, there was recognition of men's and women's different productive and social roles, but project activities did not challenge established socio-cultural institutions or power dynamics. In projects pursuing a gender transformative approach there was evidence of a conscious effort from project design through implementation to identify and redress differences in men's and women's access to livelihood assets and roles within society and to increase awareness of, and pro-active responses to, these differences between men and women in communities.

## Results

### Overview of projects and their characteristics

The projects reviewed varied greatly in their focus (rationale and type of intervention), scale, category, scope, geographic extent and the purported number of individuals or households benefiting from the project activities (Table 2; see [Supplementary Material](#) for sources of information reviewed as part of project evaluations). Four projects were implemented by government agencies (Indonesia or Australia), 8 by International agencies (with local government and NGO partners) and 8 by NGOS (Table 2). The projects assessed were

**Table 1** Characteristics considered in selection of projects

Characteristic	Variation
Intervention objective and focus of activities	Community development, conservation management, fisheries management including data and technology, market-based approaches to fisheries management
Scale of project	Regional, national, provincial, district, village
Value of project (\$)	In terms of investment from multi-million dollars to tens of thousands of dollars
Scope and breadth of project	Large multi-phase externally-funded development projects, national and provincial government initiatives include small grant programs, local NGOs
Location	Across the Indonesian archipelago
Access to and availability of information	Availability of documents containing desired comparable, and research collaborator's knowledge of projects

**Table 2** Summary of Indonesian livelihood program enhancement and diversification project characteristics

Project title <sup>a</sup>	Time frame <sup>b</sup>	Scale	Funding <sup>a</sup>	Main focus of activities	Beneficiaries
(a) Government of Indonesia or Australia #1: Alternative Livelihoods Project for Fishers on Rote and in Kupang Bay (AUSAID/ANU)	2004–2006	District (Rote and Kupang Bay, NTT)	AUS\$241,000	Development (trial of mariculture) and livelihoods	60 families
#2: Arafura and Timor Seas Ecosystem Action Program – Coastal Livelihoods Demonstration Project (ATSEA I) (UNDP/GEF)	2010–2014	Regional (Indonesia: Aru, Tanimbar)	US\$2.5 million with US\$200,000 for national demonstration project	Environment (sea ecosystem management)	Coastal communities (150 direct and 3520 indirect beneficiaries)
#3: Diversification of Smallholder Coastal Aquaculture in Indonesia (AG/ACIAR)	2010–2015	District (South Sulawesi and Aceh)	AU \$1,813,000	Development (trial of mariculture)	134 farmers
#4: Economic and Welfare Movement of Coastal Communities, West Sumatra (Provincial GoI)	2012–2016	Province (West Sumatra)	US \$2,205,000	Livelihoods	At least 1784 households
(b) International #5: Coastal Community Development and Fisheries Resources Management (ADB/MMAF)	1998–2005	Village (at least 35 villages in 5 districts in 4 provinces (Bengkalis, Tegal City, Trenggalek, Banyuwangi, East Lombok))	US \$41 million (incl. loan)	Fisheries and livelihoods	Households with fisheries-based livelihoods
#6: Sustainable Aquaculture Development for Food Security and Poverty Reduction Project (ADB/MMAF)	2007–2013	District (5 districts in 4 provinces (Lankgat, Ogan Komering Ilir, Kawawang, Sumedang, Boton))	US \$44.6 million (incl. loan)	Livelihoods	Coastal fishers and farmers (at least 14,585 households)
#7: Coral Reef Rehabilitation and Management Project (COREMAP – Phase II) (World Bank/GEF/MMAF)	2005–2011	National (selected villages in 7 districts (Selayar, Pangkep, Sikka, Buton, Wakatobi, Biak, Raja Ampat))	US \$53.3 million	Environment (coral reef protection)	357 communities
#8: Implementing an Ecosystem Approach to Fisheries (EAF) in Small-Scale Tropical Marine Fisheries (EC/WorldFish/MMAF)	2011–2014	Regional (Indonesia: government to village (2 villages in NTB))	EU \$330,000	Fisheries and livelihoods	Fishers and multi-level government stakeholders
#9: Regional Fisheries Livelihoods Programs for South and Southeast Asia (Kingdom of Spain/FAO/MMAF)	2009–2013	Regional (Indonesia: 4 districts in NTT)	US \$2.02 million	Fisheries and livelihoods	Households with fisheries-based livelihoods and multi-level government stakeholders
#10: Coastal Community Development Project (IFAD/MMAF)	2012–2017	National (selected villages in provinces of Papua, Maltaku, North Maltaku, North Sulawesi, Gorontalo, South Sulawesi, NTB, NTT, West Kalimantan)	US \$43.2 million (incl. loan)	Development and livelihoods	9900 households
#11: Indonesia Marine and Climate Support (IMACS) Project (USAID/MMAF/WWF/TNC/WCS)	2010–2014	District (10 in Southeast Sulawesi and NTB)	US \$31.9 million with US \$1.4 million Small Grants Programme	Fisheries	100 villages, 26 recipients of small grants (village to private company)
#12: Coastal Marine Planning and Livelihood Development in Rote-Ndao District, NTT (AG/TNC)	2013–2015	District (Rote Ndao, NTT)	AU \$981,000	Development	Not clearly identifiable
(c) Non-government organization					

**Table 2** (continued)

Project title <sup>a</sup>	Time frame <sup>b</sup>	Scale	Funding <sup>a</sup>	Main focus of activities	Beneficiaries
#13: Coastal Field Schools component, Restoring Coastal Livelihoods – Building Social and Ecological Resilience in the Mangrove Ecosystem of South Sulawesi (CIDA/OXFAM/Blue Forests)	2010–2015	Regional (Indonesia: 4 districts in South Sulawesi)	CA \$248,653	Environment and livelihoods	1476 participants
#14: Up-scaling Community-based Fisheries Management in Biak and Supiori Regencies, Papua (Packard/MacArthur/National Fish and Wildlife Foundations/CI, LLMMA)	2015–present	Village (8 sub-districts)	AU \$80,000 over five years for Biak program/AU \$250,000 over five years for expansion program	Environment and livelihoods	Coastal communities
#15: Sustainable Aquaculture Fishery and Aquaculture Project, Les, Bali (Yayasan LINI and various funders)	2008–present	Village (northern Bali)	N/A	Environment (coral reef restoration) and livelihoods	Community members
#16: Sustainable Mangroves and Coastal Livelihoods – Small Grant Facility (MMF/GoI – National Coordinating Body)	2010–present	Regional (Indonesia – villages in South Sulawesi, North Sulawesi, Gorontalo, Central Java, East Java, West Java, North Jakarta, Yogyakarta)	US \$800,000 (Small grants programme)	Environment (mangrove restoration) and livelihoods	Community members
#17: Fair Trade Seafood Project (Fairtrade USA, MDPI and various funders)	2015–present	National (Maluku, West Papua, NTB, NTT, Sulawesi)	N/A	Fisheries and livelihoods	Small-scale fishers and their communities
#18: Women’s Mud-crab Fishery Improvement Project (CI/MDPI)	2015–present	District (Arguni Bay, West Papua)	N/A	Fisheries and environment	140 women mud-crab fishers
#19: Lovina Dolphin Watching Nature-based Tourism (ICU PhD)	2008–present	Village (northern Bali)	N/A	Sustainable eco-tourism and livelihood	Village boatmen and local tourist industry
#20: Kurma Asih Sea Turtle Conservation (WWF & various private and government donations)	1998–present	Village (West Bali)	N/A	Sea turtle conservation and alternative livelihoods	Turtle conservation group (6 members)

*ACIAR* Australian Consortium for International Agricultural Research, *ADB* Asian Development Bank, *AG* Australian Government, *ANU* Australian National University, Australia, *AUSAID* now the Australian Government Department of Foreign Affairs and Trade, *AU* Australian, *CA* Canadian, *CI* Conservation International, *CIDA* Canada International Development Agency, *EC* European Commission, *GEF* Global Environment Facility, *GoI* Government of Indonesia, *IFAD* International Fund for Agricultural Development, *I-LMMA* Indonesia Locally Managed Marine Area Network, *JCU* James Cook University, Australia, *MDPI* Yayasan Masyarakat dan Perikanan Indonesia, *MMAF* Ministry of Marine Affairs and Fisheries, Indonesian Government, *MMF* Mangroves for the Future, *NTB* Nusa Tenggara Barat, *NTT* Nusa Tenggara Timur, *TNC* The Nature Conservancy, *US* United States, *WCS* World Conservation Society, *WWF* World Wildlife Fund, *Yayasan LINI* The Indonesian Nature Foundation

<sup>a</sup> Main funding source and main implementing partner is indicated in brackets; investment as stated in project documentation, with N/A where not stated or otherwise available

<sup>b</sup> Project status as at December 2016.

implemented between 1998 and 2017, with durations ranging from 12-month single-phase projects to 5-year multi-phase projects. Seven of the 20 projects were still being implemented at the time of this research and project evaluations were not available or had not been completed. The scale and funding for projects varied considerably from significant multi-million dollar regional or national programs to small village-based projects in the tens of thousands of dollars. The focus of projects also varied considerably, depending on the rationale or theory of change underlying the project. These included trials of aquaculture and mariculture methods and species, with a view to increasing the resource base and household income of participants. Others focused on resource management initiatives and comprised multiple aligned components aiming to embed sustainable resource management approaches into government policy and implement activities to enhance the livelihoods of coastal fishers. Other projects were designed to increase the availability of information about fisheries, or to enhance the value of fisheries projects implemented by local NGOs and were generally narrower in scope and reach than those by other organisations.

### Gender and women-focused aspects of initiatives

The degree to which project activities were implemented for, or involved women and/or related to gender varied considerably across the 20 projects (Table 3). Two projects had clear gender participation targets for various project activities or nominated quotas for women through membership or positions within community and enterprise groups. For example, the Coastal Field Schools programme [#13] established a target of 50% women's participation in field schools, while the Coastal Community Development Project [#10] established the following targets for women's participation: 30% of community facilitators, 30% of participants in village groups and 20% of enterprise groups to be women's groups. A larger number of projects merely reported on participation by women and men in project activities and groups.

The projects included a range of activities directed at or inclusive of women's participation (Table 3). Eighty-five percent of projects (17) included livelihood training to enhance existing livelihood activities or to introduce alternative livelihood activities. In some cases, livelihood training activities were directed at households (e.g. training for seaweed mariculture) and men and women are assumed to have been involved. In other cases, alternative livelihood training was clearly directed at women (e.g. post-harvest processing, micro-enterprise groups producing fish-based or seaweed-based snack foods, food preparation for ecotourism development) (Table 3). In 45% of projects (9), groups and/or individuals were provided with equipment (e.g. cooking sets, ice boxes, fishing vessels) to support the uptake of livelihood activities. Sixty percent of the projects (12) established

village/community level groups and focused the delivery of project activities towards these groups (reflecting the Indonesian government's policy of not providing individual assistance), although in one project [#10], the creation of multiple groups contributed to a lack of clarity about the purpose of groups and lead to overlapping roles and responsibilities across the groups.

One quarter of projects (5) included the provision of community-level infrastructure to address basic needs, such as access to clean water and sanitation, and one project, MDPI's Fairtrade Certification [#17], was designed so that a proportion of increased income (the "Fairtrade Premium") had to be invested in community infrastructure, which is assumed to benefit women. Eight of the projects (40%) included environmental activities, such as replanting degraded mangrove areas or beach clean-up activities.

The documentation reviewed indicated that only three of the projects (two international agency and one NGO) provided gender awareness training to project partners (e.g. government agencies and NGOs) and project staff [#6, #10 and #13], and only one project clearly sought to raise awareness of gender issues within beneficiary communities by completing gender awareness modules around men's and women's household and community roles, responsibilities and access to productive resources [#13].

No clear gender approach (i.e. gender reinforcing) could be identified in our review of documentation relating to eight of the 20 projects. It was unclear whether activities were targeted specifically at women or whether women were included merely as part of a fisher/mariculture household. Further, while one NGO project concerned a fisheries improvement project in a mud crab fishery [#18], involving 140 women fishers organised into four fisher groups, it was not clear how project activities—such as the provision of motor boats for personal use to one woman in each of the groups—sought to address institutional barriers which had previously limited access to fisheries extension services.

The gender approach in a further 10 projects could be described as "gender accommodating". These projects included women in income-generating activities (either through training and creation of enterprise groups for alternative livelihoods or livelihood enhancements—often women-exclusive post-harvest processing groups) to increase women's productive capacities, and in a smaller number of cases, increasing women's participation in community-level institutions. Among these projects, there was diversity in the degree to which gender relations were considered—from proactively inviting women to participate in consultation or training activities, to recognising gender as a cross-cutting theme [#9, #16], to the more comprehensive gender mainstreaming approach evidenced in the IFAD project [#10], where a gender action plan with participation targets guided and supported project



**Table 3** Summary of Indonesian livelihood project activities for or involving women, or relating to gender, and the underlying project gender approach

		Project type			Overall
		Government	International	Non-government	
Project activities for or involving women, or relating to gender					
(a) Livelihood training	• Alternative livelihoods	4/4–100% # 1*, 2, 3*, 4	7/8–87.5% # 5, 6, 7, 9, 10, 11*, 12*	5/8–62.5% # 13*, 14*, 15*, 16*, 20*	16/20–75%
	• Enhancement to existing livelihood activities	2/4–50% # 2, 3*	8/8–100% # 5, 6, 7, 8, 9, 10, 11*, 12*	4/8–50% # 13*, 15*, 16*, 20	14/20–70%
(b) Livelihood activity assets		2/4–50% # 2, 4	4/8–50% # 5, 9, 10, 11	3/8–37.5% # 16, 18, 20	9/20–45%
(c) Community groups	• Women’s	0/4–0%	1/8–12.5% # 7	2/8–25% # 14, 16	3/20–15%
	• Conservation	1/4–25% # 2	1/8–12.5% # 10 <sup>Q</sup>	0/8–0%	2/20–10%
	• Livelihood	1/4–25% # 3	5/8–62.5% # 6 <sup>Q</sup> , 7, 9, 10 <sup>Q</sup> , 12	3/8–37.5% # 18, 19, 20	9/20–45%
	• Infrastructure	0/4–0%	1/8–12.5% # 10 <sup>Q</sup>	0.8–0%	1/20–5%
(d) Community infrastructure		0/4–0%	3/8–37.5% # 5, 7, 10	2/8–25% # 17, 20	5/20–25%
(e) Environmental activities		1/4–25% # 2	3/8–37.5% # 8, 9, 11	4/8–50% # 13, 16, 19, 20	8/20–40%
(f) Gender awareness training	• Program level	0/4–0%	2/8–25% # 6, 10	1/8–12.5% # 13	3/20–15%
	• Community level	0/4–0%	0/8–0%	1/8–12.5% # 13	1/20–5%
Gender approach					
(a) Gender reinforcing		2/4–50% # 1, 3	3/8–37.5% # 5, 11, 12	3/8–37.5% # 15, 17, 18	8/20–40%
(b) Gender accommodating		2/4–50% # 2, 4	4/8–50% # 6, 7, 9, 10	4/8–50% # 14, 16, 19, 20	10/20–50%
(c) Gender transformative		0/4–0%	1/8–12.5% # 8	1/8–12.5% # 13	2/20–10%

Notes: Proportion and percentage relates to the number of projects within the specified project category, and the total number of projects

Part A–Project activities for or involving women, or relating to gender, provides a summary of the activities or project components that were delivered as part of the projects reviewed. Livelihood training activities marked with an \* indicate that it was not possible to discern from project documentation reviewed whether the training activity was specifically directed at women or that women were included as part of a household (with husband and wife attending, or having the option thereto). Livelihood activity assets refers to physical assets that were provided to support adoption of the livelihood training and activity. Community groups refers to groups established to support project activities, some of which had quotas for women’s participation or membership or as office-bearers (marked with Q)

Part B–Gender approach provides an indication of the gender approach apparent in the review of available project documentation

activities and a gender consultant provided support for gender activity at implementation level.

Only two of the projects were considered as potentially pursuing a gender transformative approach; the EU/WorldFish/MMAF’s pilot project on implementing an ecosystem approach to fisheries management (EAFM) [#8] and Blue Forests’ Coastal Farmer Field School component of the Restoring Coastal Livelihoods program [#13]. In the EAFM pilot project, the NGO-implementing partner has a comprehensive gender transformative strategy; however, it was unclear how this strategy affected project activities and whether the actual project activities resulted in gender transformative outcomes at the community level. The Coastal Farmer Field School program was supported by a gender strategy which

was implemented through activities which sought to create awareness of and achieve change in gender norms and relations at the household and community level in conjunction with project activities seeking to improve livelihoods of men and women.

While project evaluation documentation did include reference to ‘lessons learned’, only three of these related to gender. These were firstly, the need for gender strategies developed for regional programs (i.e. multi-country) to be contextualized at the local level [#8]; secondly, the need to deliver gender awareness training within communities prior to project implementation so as to increase community awareness of gender norms and relations, and improve social acceptance of the need to increase women’s access to resources and

participation in governance or decision-making [#14] and to extend women's networks for marketing their products [#10]; and thirdly, the need for completion of thorough value chain and gender analyses prior to project commencement [#10].

## Discussion

In our assessment of the approach to gender and the involvement of women in a suite of SSF-related livelihood interventions implemented in coastal Indonesia, we found that gender was conflated with women. A review of project documentation indicated that very few of the projects identified and sought to address institutional and socio-cultural factors contributing to inequalities in men's and women's access to livelihood resources and participation in governance and natural resource management processes. Further, there appeared to be limited consideration of the impact of engaging women in additional productive activities beyond their existing household and community roles, with the risk that activities increasing women's time burdens without suitable compensation (e.g. income gains, change in household care workload) are likely to be abandoned once the project has concluded. While documentation from several projects acknowledged the need for care in scheduling activities to maximise women's participation (i.e. balancing participation against a woman's need to care for children), only one project drew attention to the problem of seeking to increase women's participation in community-level governance process without first challenging local gender norms [#14].

We were not able to identify any major patterns between funders and projects with regards to consideration of "women" versus "gender". In most cases, the livelihood programs were framed in terms of poverty alleviation or improving various aspects of natural resource management, and increasing women's productive capacities were identified as an avenue for increasing household income (including when projects aimed to shift men's livelihoods away from destructive and unsustainable fishing practices) and reducing poverty. Further, we did not deduce the application of intersectional approaches, given that gender is one of the many factors (others include age, class, race/ethnicity, religion) that shape "interactions within a context of connected systems and structures of power" and affect one's experience of inequality (Hankivsky 2014, p. 2). Our analysis did not show any clear associations or outcomes between the gender approach applied in the project and the overarching gender policy or strategy of the implementing agency. Often gender was referenced and the engagement of women was considered in project scoping and planning, however an emphasis on delivering activities or distributing resources within required timeframes, and difficulty in recruiting and retaining local gender experts and 'gender focal points', lead to the abandonment of plans for

gender strategies. This "evaporation" of gender during implementation limits the impact of project activities on men's and women's lives, and importantly the failure to adequately evaluate the gendered impacts of project activities, including any unintended negative consequences (DFID 2008; Kleiber et al. 2015). DFID (2008) note the commitment, understanding and skill required for nuanced gender analysis and practical translation of gender policies into project implementation, with mainstreaming of gender equality often reduced to an adjunct "women's component" in projects. There is a clear need for greater systematic consideration of gender throughout project cycles (Cole et al. 2014).

We found that, to date, livelihood improvement projects in Indonesian coastal communities have applied gender reinforcing or gender accommodating approaches. These projects have been gender blind or, at best, gender neutral, and coupled with the failure to adequately document and learn from past projects have resulted in the implementation of consecutive projects which reinforce existing inequalities between men and women (FAO 2017). In some cases, the 'gender' components of projects aimed to increase women's productive output in isolation from the socio-economic context and without adequate linkages to fisheries value chains. This is consistent with findings in other areas of agriculture (see Cole et al. 2014) and demonstrates a lack of understanding of the complexity of the conditions under which livelihoods are constructed, incorrect assumptions underlying the needs and aspirations of men and women in communities (Sayer and Campbell 2004) and an inadequate consideration of gender norms and relations and their consequences.

It is acknowledged that achieving and measuring gender transformative change poses a number of challenges (Morgan 2014; Hillenbrand et al. 2015). Noting that the projects included in our analysis were generally not framed as seeking gender transformative outcomes, project evaluations—prepared by the project implementer immediately at the conclusion of the project—tended to present gender outcomes in terms of women's and men's participation in training activities and enterprise groups, and as recipients of physical assets. Johnson et al. (2018) observe the gap between past agricultural livelihood projects which integrated gender and yet failed to benefit or empower women. They propose a framework which distinguishes between projects which reach women (where women are invited to participate in project activities, with participation used as an indicator), benefit women (where there is consideration of gendered needs, preferences and constraints on aspects of women's well-being, so as to ensure women benefit from project activities), and empower women (where women's agency is enhanced, so as to strengthen their ability to make and enact strategic life choices). This framework highlights the need for an appropriate impact evaluation methodology to

demonstrate the gendered outcomes of project activities (Johnson et al. 2018), and for independent evaluation of and sharing of project outcomes.

Best practices for strengthening the integration of gender into agricultural research and development programs also needs to address gaps between an implementing agency's organisational strategies and policies and practice. Njuki (2016) identifies four areas for improving the process of strengthening the integration of gender into agricultural development programs. These are (1) improved focus on the needs and aspirations of men and women in improving agricultural livelihood outcomes; (2) gender sensitive research and gender equity opportunities throughout the research process/program cycle; (3) capacity building to undertake gender integration and gender research including gender awareness, gender integration skills, gender research methods and training for gender transformation for program staff; and finally, (4) accountability of organisations/staff for gender outcomes through monitoring and evaluation to achieve gender goals. These strategies could all be applied to coastal livelihood programs.

## Conclusion

The results of this study show that many attempts have been made to improve or develop new livelihoods for coastal communities in Indonesia, yet the consideration of gender in these has often been lacking. There has been considerable recent progress towards gender transformative approaches in fisheries and aquaculture research and development initiatives (e.g. Kleiber et al. 2018) and at the international policy level (e.g. FAO's Voluntary SSF Guidelines and Gender implementation handbook, FAO 2017). However, there remains a need for more applied, gender-balanced, action-driven research and development in Indonesia. The incorporation of gender approaches in livelihood improvement programs would have synergistic benefits for gender equitable governance, natural resource management and policy in Indonesia (Koralagama et al. 2017).

A starting point for improved gender integration in Indonesia includes the development of systematic approaches including gender awareness capacity building for program staff, communities and beneficiaries, and clear articulation of gender strategies and objectives, and indicators to monitor and evaluate gender outcomes of programs. These should build on and complement those which have been developed for other contexts, such as in other fisheries and agricultural research contexts, and countries (e.g. Kleiber et al. 2018; Lawless et al. 2017; Johnson et al. 2018; Njuki 2016). Enhancing gender integration as a core element of program design, implementation and evaluation will support the transformation needed for sustainable coastal livelihoods in Indonesia.

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## Compliance with ethical standards

**Conflict of Interest** The authors declare that they have no conflict of interest.

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