



ANALYSIS OF GENDER ROLES IN PHILIPPINE FISHING COMMUNITIES

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Abstract: A gender analysis implemented to identify gender norms, resource use patterns and power relationships in fishing communities in the Philippines revealed that the roles of women and men are deeply integrated, but unequal, especially in relation to workload, leadership and decision-making. Reaching 666 individuals across 26 villages, the analysis found that men access high-value species whereas nearshore and shallow ecosystems are controlled by both women and men. Strengthening gender roles and forwarding ecosystem-based fisheries management will require challenging social constructs, growing women's confidence and recognizing the 'invisible' work of women in households and the fisheries sector. © 2020 The Authors. *Journal of International Development* published by John Wiley & Sons Ltd

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1 INTRODUCTION

The Philippines' marine ecosystems provide food, livelihood and recreation for millions of Filipinos. The annual capture fisheries catch is around 2 million metric tons composed of over 100 commercial species and species groups (FAO, 2018; Palomares & Pauly, 2014). Over half of the fish is caught by municipal fishers (Philippines Statistics Authority, 2018). The ocean economy contributes approximately 7 per cent to the nation's GDP and employs around 2.2 million Filipinos (Baling & Recide, 2017). The largest sectors within the ocean economy are coastal and marine tourism (25 per cent), fisheries and aquaculture (20 per cent), manufacturing (19 per cent) and ports and shipping (12 per cent) (Baling & Recide, 2017). The rich biodiversity across coral reef, mangrove and seagrass habitats has made the Philippines a global centre of marine biodiversity (Carpenter &

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Springer, 2005). Unfortunately, marine biodiversity is threatened by overfishing, destructive and illegal fishing, degradation of habitats, pollution and climate change (Pomeroy et al., 2015; DENR, 2016). Most of the negative trends are caused by human activities, and reversing them will require profound behaviour change. To design effective behaviour change programmes, it is critical to understand how men and women engage with coastal and fisheries resources and assess what motivates them to do what they do.

In coastal fishing communities, there are clear roles for men, women, old, young, rich and poor (Graziano, Pollnac, & Christie, 2018; Harper, Grubb, Stiles, & Sumaila, 2017). Gender relationships are determined by social structures and shaped by social relations (Choo & Williams, 2014). Examples of gender differences that influence men's and women's status, needs and priorities in fishing communities are as follows (Chandra et al., 2017; Torell, Owusu, & Okyere, 2016):

- Women and men have different roles in the fisheries sector.
- Women tend to have less access than men to formal decision-making authorities and are less involved in local decision-making structures.
- Women and men have different access to, and control over, fisheries resources.
- Women and men have different spheres of traditional knowledge and leadership.
- Women and men have different domestic responsibilities, including financial expenditures.

Unchallenged cultural norms and traditions perpetuate male-driven conversations in the Philippine fisheries sector. According to the Philippine Department of Labor and Employment, 90 per cent of those employed in fisheries are men. However, this number is based on a narrow definition of fisheries, which includes only fishing by boat (Choo & Williams, 2014; Kleiber, Harris, & Vincent, 2015; Siason, 2000). In fact, women command enormous value in the fisheries sector and play a vital role in its healthy function. Women who fish usually engage in gleaning (the gathering of benthic macroinvertebrates in intertidal areas) and nearshore fishing, including spear fishing in rivers and reef fishing using scoop-nets, traps and fish baskets (Kleiber, Harris, & Vincent, 2018; Siason, 2000; Yap et al., 2017). Most gleaning is not captured in fisheries statistics (FAO, 2015) and hence invisible to researchers and policymakers. Women's fisheries activities are very important for household food security, because seafood harvested by women is more likely to be for subsistence (i.e. consumed by their household members) (Kleiber et al., 2015). Women are also active in all aspects of the fisheries value chain. They engage in net mending, fish sorting and fish vending (Siason, 2000; USAID Oceans, 2018; Yap et al., 2017). They sell fish to local, small-scale retailers who service nearby communities and marketplaces (Prieto-Carolino et al., 2016). In the Visayan Sea (VS), women also dominate wholesale trading as *factoradors* (wholesale sellers of shrimp and first-class species) and *beneficiadors*, who deal with lower-value species. However, value chain studies of the Philippine abalone and tuna industries found that female traders have less access to profitable markets than men (Prieto-Carolino et al., 2016; USAID Oceans, 2018).

The 2020 Global Gender Gap Report, which was published in 2019, ranks the Philippines as number 16 out of 149 countries (World Economic Forum 2019). This makes the Philippines one of the highest scoring countries in the global south—scoring higher than many 'developed' countries, including the USA (ranked 53rd). However, gender equity is a multidimensional concept, and it varies between communities and domains (Akter et al., 2017). The Global Gender Gap Report, which measures the

relative gaps between women and men in four domains, reports that for the Philippines, there is virtually no gap when it comes to education and health and survival. However, there is a 20 per cent gap in economic participation (including participation, remuneration and advancement) and a 58 per cent gap in political representation. In coastal communities, women are generally underrepresented in fisheries management and leadership (Graziano et al., 2018; Harper et al., 2017; Kleiber, Harris, & Vincent, 2014). Hence, although the Philippines is doing comparatively well, there are still significant gender gaps. The Philippine government acknowledges that there are deeply rooted gender inequities and through the Magna Carta of Women (Republic Act No. 9710) adopted in 2009, it has mandated that at least 5 per cent of government resources should be spent on protecting, fulfilling and promoting the rights of women in all sectors.

As referenced earlier, multiple studies have analysed gender in the Philippine fisheries sector (e.g. Kleiber et al., 2015; Prieto-Carolino et al., 2016; Siason, 2000; Yap et al., 2017). However, there is a need to conduct more in-depth gender analyses to



Figure 1. Map of marine key biodiversity areas visited during the gender analysis

demonstrate the significant roles that women and men play in the fisheries sector and highlight how their access and control differ. A current knowledge gap is understanding how social constructs and misconceptions contribute to gender inequity in the fisheries sector. Understanding the context and norms is a necessary step in designing effective behaviour change interventions that can make fisheries management more gender balanced.

This paper presents the results of a gender analysis conducted in three marine key biodiversity areas (MKBAs) in the Philippines in 2018. MKBAs are areas designated by the Philippine Department of Environment and Natural Resources as priority sites for conservation. The three areas, which are in different corners of central Philippines (Figure 1), were chosen because together they cover a broad range of habitats and fisheries. A gender analysis is an analytic, social science tool that is used to identify, understand and explain inequities between males and females that exist in households, communities and countries, and the relevance of gender norms and power relations in a specific context (USAID ADS 205, 2017). There are many frameworks available for use when conducting gender analyses (GIDP/UNDP, 2000). The gender analysis presented in this paper builds upon the Harvard Analytical Framework and Social Relations Approach Framework (March, Smyth, & Mukhopadhyay, 1999) and focuses on men and women living in coastal fisheries communities. The two frameworks were selected because they are designed to explain gender differences in access, control and use of natural resources (Harvard Analytical Framework) and how the relationships between people influence their relationship to the environment (the Social Relations Approach).

This paper aims to contribute to the existing body of gender in fisheries literature by deepening the understanding of how and why men and women interact with coastal and marine resources and identify entry points for increasing women's empowerment in the fisheries sector. The gender analysis is based on eight research questions:

- (1) How do men and women living in Philippine fishing communities interpret the terms gender and sex?
- (2) What are the dominant norms and social constructs that influence men's and women's status in the fisheries sector?
- (3) To what extent do women participate in fisheries management?
- (4) Where in the fisheries value chain do men and women engage?
- (5) What coastal and marine resources are accessed and controlled by men and women?
- (6) How do men and women perceive the ecological status of coastal and marine resources?
- (7) What are the impacts of marine resources decline on men, women and families?
- (8) What are the barriers and bridges to reducing gender inequity in the fisheries sector?

Using a qualitative and inductive approach, the research questions were designed to explore how gender norms influence access and control over marine resources—and in the long run the condition harvested species and the well-being of fishing households. The first seven questions were meant to generate observations, patterns and relationships that together inform the last question related to barriers and bridges to reducing gender inequity in the fisheries sector.

1.1 Field Sites

The gender analysis was implemented in nine municipalities located in three MKBAs in the Philippines: the Calamianes Island Group (CIG), Southern Negros (SN) and the VS

(Figure 1). All three MKBAs are highly biodiverse with coral reefs, mangroves and seagrass beds that support municipal and industrial fisheries. Together, the three MKBAs had over 2 million coastal inhabitants in 2015, covering seven provinces and 44 municipalities. The nine municipalities included in the analysis were as follows: Coron, Culion and Busuanga in the CIG; Dauin, Siaton and Sipalay in SN; and Concepcion, Pilar and Manapla in the VS. The nine municipalities were selected to cover a wide geographical area and fisheries types and include communities with varying degrees of experience in fisheries management. The characteristics of the fisheries differ between the three sites. In the CIG, which has several indigenous communities, the fishery is primarily small-scale coral reef and mangrove-dependent whereas the fishery of SN centres around deep water fishery of large and small pelagics. With 32 municipalities and over 1.3 million inhabitants, the VS is the largest area of the three MKBAs, and it includes small-scale municipal fisheries as well as an industrial trawl fishery. The three sites are part of the five-year (2018–2023) Fish Right Program, which is funded by the United States Agency for International Development. The gender analysis was implemented by Fish Right team members as part of developing a programme-wide gender action plan. However, because of their diversity, the sites can provide insights of relevance to fisheries and international development practitioners beyond the Fish Right Program sites.

1.2 Methodology

The gender analysis methodology was designed to address the eight research questions. Primary data were collected in nine municipalities spread over three MKBAs. The research team visited three barangays per municipality, except one municipality in SN, where only two barangays were visited. In each municipality, the research team visited three types of barangays: barangays with already established marine protected areas (MPAs), barangays with MPAs under development and barangays without MPAs. The reason for selecting communities depending on their involvement with MPAs was to cover communities with a range of engagement in fisheries management.

A total of 74 key informant interviews with barangay chair persons, local community-based organizations, local government extension personnel and other

Table 1. Data collection methods

| Method (<i>n</i>) | Number of interviews and exercises per site | Number of participants |
|--|---|--|
| Key informant interviews (74) | Calamianes Island Group (31) | Women (19); men (12) |
| | Southern Negros (14) | Women (4); men (10) |
| | Visayan Sea (29) | Women (19); men (10) |
| Focus group discussions (52) | Calamianes Island Group (18) | Women only (88) |
| | Southern Negros (16) | Mixed: women (40); men (40) Women only (71) |
| | Visayan Sea (18) | Mixed: women (36); men (36) Women only (90) |
| Resource/time mapping (25 resource use maps and 17 time-mapping exercises) | Calamianes Island Group (9 + 6) | Mixed: women (45); men (45) |
| | Southern Negros (7 + 5) | Mixed: women (42); men (40) Mixed: women (34); men (34) |
| | Visayan Sea (9 + 6) | Mixed: women (45); men (45) |

community leaders, 52 focus group discussions (FGD), 25 resource use profiles and 17 time-mapping exercises were completed (Table 1) by a Philippine research team who spoke the local dialects and had experience working in the three sites.¹ The FGDs, resource use profiles and time-mapping exercises included 8–10 participants each. A few of the participants overlapped between the FDGs and participatory exercises, and the total number of individuals reached was 666 (74 key informants and 592 focus group/exercise participants). Secondary data were gathered from peer-reviewed journal articles, reports from international and local development agencies and from international and national government statistics. The literature review of secondary data provided an overview of the existing knowledge related to gender and fisheries in the Philippines.

The semi-structured FGD instrument was developed to document the local perceptions of gender, the role of women in fisheries and the relationship between gender and fisheries management. The key informant interview's asked questions to gauge how people perceive men's and women's roles in the household, fisheries value chain, and fisheries management. Resource use profiles identify whether women or men (or both) have access to resources and who controls their use (GIDP/UNDP, 2000). Assessing who uses and controls marine resources is essential when identifying who needs to be engaged in management interventions. Hence, the resource use mapping exercises were implemented to map the access and control that men and women have over locally available marine resources and estimate the perceived ecological status of those resources. The time-mapping exercises were implemented to analyse how men and women use their time and to what extent there are gender differences in time allocation.

Once collected, the data were sorted in an Excel database, which was organized per site and method. The research team applied an inductive approach, where the research questions were used to group the data, interpret the differences and similarities in responses within and between sites, genders and stakeholder groups and identify and document themes and associations. This informed the identification of representative quotes and development of tables and graphics that demonstrate emerging patterns. Once the analysis was completed, the research team organized feedback sessions with municipal agriculture officers, local community-based organizations, the Bureau for Fisheries and Aquatic Resources, and Municipal Fisheries and Aquatic Resources Management Councils, some of which have started integrating the findings when revising their municipal integrated fisheries management plans.

2 RESULTS

This section is loosely organized around the first seven research questions. It starts by providing a summary of the participant demographics followed by an overview of how the key informants and focus group participants interpreted the terms gender and sex. It thereafter explores gender norms and constructs, gender roles in the fisheries value chain and gendered access and control of marine resources. Finally, this section presents data related to the impacts of marine resource decline on men, women and families. Findings related to the eight research questions are covered in the discussion.

¹The data that support the findings of this study are available from the corresponding author upon reasonable request.

Table 2. Focus group participant demographics

| Basic FGD participant information | SN | VS | CIG | All sites |
|---|----------|-----------|-----------|-----------|
| Number of men | 46 (35%) | 78 (32%) | 70 (32%) | 195 (33%) |
| Number of women | 86 (65%) | 166 (68%) | 146 (68%) | 400 (67%) |
| Total | 132 | 244 | 216 | 592 |
| Average age | 50 | 46 | 44 | 46 |
| Average number of children | 3.6 | 4.2 | 3.7 | 3.9 |
| Marital status | | | | |
| Married/cohabitating | 80% | 87% | 86% | 85% |
| Single | 13% | 7% | 7% | 8% |
| Divorced | 0.0% | 0.4% | 0.5% | 0.3% |
| Widowed | 8% | 4% | 6% | 6% |
| No response | | 2% | | 0.5% |
| Education | | | | |
| Elementary school or less | 36% | 31% | 41% | 36% |
| Some high school | 2% | 0% | 2% | 1% |
| High school | 37% | 48% | 38% | 42% |
| Vocational school | 2% | 5% | 2% | 3% |
| College | 20% | 15% | 17% | 17% |
| No response | 4% | 2% | 0% | 2% |
| Participant occupation | | | | |
| Fisher | 26% | 37% | 31% | 33% |
| Fish processing (including crab pickers) | 0% | 4% | 2% | 2% |
| Fish vendor | 6% | 21% | 9% | 13% |
| Bantay Dagat (community-based fish enforcement) | 2% | 0% | 0% | 1% |
| Other occupations and housewives | 66% | 38% | 58% | 52% |

CIG, Calamianes Island Group; FGD, focus group discussion; SN, Southern Negros; VS, Visayan Sea.

2.1 Participant Demographics

The FGDs involved 132 participants from SN, 244 from the VS and 146 from the CIG (Table 2). Approximately one-third of the participants were men and two-thirds were women. The average age was 46 years across the three sites (50 in SN, 46 in the VS and 44 in the CIG). Depending on the site, 34 per cent, 42 per cent and 62 per cent of the participants were active in the fisheries value chain as fishers, fish processors, vendors and community-based enforcement officers. The other participants had a variety of occupations, including small store owners, carpenters and tourist-boat owners. Approximately 24 per cent of the female participants were housewives. The FGD participants also included village (*barangay*) leaders and health workers as well as members of community-based organizations, such as fisherfolk organizations and women's groups. As shown in Table 2, over 80 per cent of the participants were married, and they had on average four children. On average, 36 per cent of the participants had an elementary school education or less, 42 per cent of the participants had graduated from high school and 17 per cent of the participants had attended college. The CIG participants were the least educated, and 19 per cent of those participants had not finished elementary school.

2.2 Perceptions Related to the Definitions of Gender and Sex

Focus group discussions revealed that there is a general understanding about what the terms gender and sex mean, although a small number of participants were unable to differentiate between gender and sex. In all FGDs, there were participants who explained that the term gender has a deeper meaning than merely identifying a person as a woman, man or transgender. Belonging to the male or female gender encompasses a person's capabilities, rights, know-how, identity, purpose and to what sex the person belongs. The focus groups revealed that there is a general acceptance of gender fluidity and that someone's gender can be manifested by 'acting like a woman or man' (CIG FGD participant). The participants defined sex as the physical attributes of being a man or a woman. However, they did not consider a person's gender as fixed and acknowledged that some people choose to adjust their sexual attributes (by removing gonads, etc.). This is illustrated by one female FGD participant from the CIG who stated, 'sex [attributes] can be changed like I am transgender'.

2.3 Gender Productive and Reproductive Roles and Time Use in Fishing Communities

The mixed and women-only FGD participants were asked if there are established productive and reproductive roles and responsibilities in fishing households. In general, the participants agreed that there are customary roles. It is expected that married couples should collaborate and divide tasks between them. 'It is a family custom; husbands and wives are used to helping each other.' 'Men are tired after fishing and therefore women are the ones to sell the catch' (CIG FGD participant). Table 3 shows the responses to 10 opinion questions related to men's and women's roles in fishing communities. To capture the opinions of both men and women, the questions were asked as an exercise during the mixed focus groups only. Depending on the question, between 151 and 261 participants volunteered to respond. The table shows that across all sites there is a perception that fishing is a job for men. Depending on the site, 66 per cent (VS), 82 per cent (CIG) and 92 per cent (SN) of the participants agreed that women should not get involved in fishing full-time, which indicates that fishing is perceived as a male occupation. However, in the CIG and SN, the FGD participants disagreed with the statement that women cannot own boats. Follow-up questions revealed that men were regarded as better suited for fishing, because they are mentally and physically strong and they are not bound to household chores. 'Fishing is a too heavy task for women, and it is a man's responsibility' (CIG FGD participant). When men return home after fishing, they must rest while women should clean and process fish as well as continue taking care of household chores. The focus group participants maintained that the general division of labour can be adapted when the catch is too large. In those circumstances, partners must work together to clean and gut fish, which is normally the women's job. Furthermore, if a husband or wife falls sick, their spouse may step in and attend to the sick person's tasks. Gender roles were more adaptable if there are no small children at home.

Many of the focus group participants, especially SN, disagreed with the statement that maintaining a healthy family is primarily the responsibility of women. This indicates that men, as the primary breadwinners, are also responsible for keeping their families healthy. Across all sites, most (75 per cent, 94 per cent and 92 per cent, respectively) of the FGD participants disagreed that men should control fisheries earnings. '[Men and women] both

Table 3. Opinion statements regarding men's and women's roles

| Opinion statement | VS | | | CIG | | | SN | | |
|---|-----|-----|----|-----|-----|----|-----|-----|-----|
| | Yes | No | DK | Yes | No | DK | Yes | No | DK |
| Women should not get involved in fishing full-time; this is a man's responsibility | 66% | 28% | 6% | 82% | 18% | 0% | 92% | 8% | 0% |
| Women should not own boats, fishing nets and other means to fish | 71% | 29% | 0% | 11% | 83% | 6% | 47% | 47% | 6% |
| Women should primarily be the ones who clean and process fish | 72% | 28% | 0% | 49% | 51% | 0% | 33% | 67% | 0% |
| Women should primarily be the ones who trade or market fish, not men | 72% | 28% | 0% | 48% | 52% | 0% | 44% | 56% | 0% |
| Men should mostly be the ones who belong to fisheries clubs, organizations or associations, not women | 41% | 56% | 3% | 17% | 80% | 4% | 13% | 70% | 17% |
| Men should primarily be the ones who transport fish to a market for sale | 63% | 38% | 0% | 62% | 38% | 0% | 14% | 80% | 5% |
| Men should primarily be the ones who control the earnings obtained from the sale of fish | 25% | 75% | 0% | 5% | 94% | 1% | 8% | 92% | 0% |
| Women should primarily be responsible for the health of the family | 53% | 47% | 0% | 44% | 53% | 2% | 24% | 76% | 0% |
| Women should focus on taking care of the children and the family needs to make sure family is healthy | 81% | 19% | 0% | 48% | 50% | 2% | 59% | 41% | 0% |
| Women should primarily be the ones who prepare meals (including fish) for the family or if guests come to visit | 94% | 6% | 0% | 55% | 45% | 0% | 65% | 35% | 0% |

CIG, Calamianes Island Group; SN, Southern Negros; VS, Visayan Sea.

rely on making decisions when it comes to credit loans, on children's schooling, family planning, buying and what fishing gears are to be used' (VS FGD participant). In the VS, most of the focus group participants (81 per cent) agreed that women should prepare meals and take care of children, whereas in the other sites, the responses were more mixed with 48 per cent of the CIG participants and 59 per cent of the SN participants agreeing with the statement. In follow-up discussion, FGD participants explained that women are responsible for household chores. 'Women are the ones who take care of their children while men earn for them' (SN FGD participant). Women are taught how to cook, clean, provide childcare and attend to other household chores—and because they are better at it, they are regarded as better suited for the task. Household chores are rarely monetized and thus 'women don't work'. This gets compounded with the belief that managing the household is a wife's 'duty', rather than a choice. 'It's a [woman's] obligation to manage the home, especially if your married. [Women] they have seen and adapted it from their parents. It's what they have grown up with' (VS FGD participant). 'Men and women learned from school and from the priests during wedding ceremonies that men are pillars of a home (haligi ng tahanan) and women are the light of a home (ilaw ng tahanan)' (SN FGD participant).

The FGDs included an exercise to determine how men and women allocate their time. Table 4 summarizes the findings from the three sites. In general, it is consistent with the points made about men's and women's work—showing that men spend more time on paid work while women spend more time on family chores across all sites.

2.4 Perceptions Related to Fisheries Management and Gender Policy

The majority of FGD participants (56 per cent, 80 per cent and 70 per cent depending on the site) disagreed with the statement that men should be the only ones who belong to fishing clubs, organizations and associations (Table 3). 'Both men and women have rights on fisheries management, especially the youths because they are the future generations. As humans we are all involved with the surroundings and to gain benefit from it. Both [men and women] have knowledge on its protection' (CIG FGD participants). 'Both [men and women] have control over fisheries management because both engage in the protection of it' (SN FGD). Participation of women in fisherfolk associations and Barangay [village] Fisheries and Aquatic Resources Management Councils is recognized and necessary, especially as an alternative when men are not available. 'There are female members because their livelihood, such as selling fish, is also related to the fisheries. They also attend meetings in behalf of their husband who is away fishing' (SN FGD participant).

Table 4. Daily time allocation per site and gender

| Site | Gender | Rest and sleep | Paid productive work | For family | For community | Church/religious obligations |
|------|--------|----------------|----------------------|------------|---------------|------------------------------|
| SN | Men | 6.7 | 6.1 | 5.0 | 4.4 | 1.1 |
| | Women | 7.8 | 3.6 | 6.5 | 2.8 | 1.9 |
| VS | Men | 7.2 | 7.3 | 3.9 | 2.2 | 1.5 |
| | Women | 7.5 | 4.1 | 5.6 | 1.9 | 1.7 |
| CIG | Men | 6.8 | 7.3 | 2.8 | 4.8 | 2.2 |
| | Women | 7.4 | 6.2 | 5.3 | 2.8 | 2.1 |

CIG, Calamianes Island Group; SN, Southern Negros; VS, Visayan Sea.

The participants described that some women play a supportive role in fisheries management. 'They can engage through participating in coastal cleanups and doing information campaigns on how to protect the seas' (SN FGD participant). 'Men focus on park protection, guarding, and being park rangers. Women are focusing on finance and collection, coastal cleanup, and help in the monitoring of illegal fishers and activities' (CIG FGD). Women also mentioned that women are regarded as better negotiators and more level headed in handling conflicts than men.

Focus group discussion participants also stated that women participate in Bantay Dagat patrolling, but 'women find the dilemma of not getting respect when they rebuke violators' (SN FGD participant). The minority that stated that only men should engage in fisheries management maintained that men are the fishers, they are stronger, they are natural leaders and their voices are stronger. 'Men should be the ones who have control over the fisheries management, because women don't know anything about protection, and men are stronger and more respected' (SN FGD participant). However, more common responses were that women can also engage in fisheries management and act fish wardens, at least from the beach, 'Women can also join as fish wardens and enforce fishing laws along the beach by reporting the violators to the authorities' (SN FGD participant). However, lead fish wardens are often men, 'Female fish wardens are led by the [male] official of the organization, but there are many female members' (VIS FGD participant). Asking why some women choose not to join fisheries management efforts, a common response was that women are not interested and do not have time. 'Women do not participate because they are busy, too many kids and no more time to join and they see no benefit in joining' (CIG FGD participant).

When asked if they are aware of any laws or policies that promote women's participation in fisheries management, none of the participants in the mixed and women-only FGDs were able to provide examples, but they were aware of more general laws and policies promoting women's rights. The Magna Carta for Women and the Violence Against Women and Their Children Act of 2004 were mentioned by participants in every FGD. There was also a general agreement that women are not equally represented in local councils and other political organizations. 'Men and women are not equally represented because women can't handle the responsibilities of a barangay councilor; Men are fit for politics because women easily get discouraged, politics is just for men' (SN FGD participant). Women said that it is important to encourage women to run for office, because that will increase the number of women represented within the barangay leadership. Respondents also stated that men are physically stronger and more competent than women. 'Women and men are not represented equally because men are more tough and strong in principle' (CIG FGD participant). Furthermore, men are perceived as having the self-confidence needed to make their voices heard. In focus groups with only women, participants maintained that one reason for the unequal political representation is that there are too few female candidates during elections, which in turn is due to women being too burdened by home and family obligations to take on the responsibility of being an elected official. 'There are more men than women in the council. More men are running for positions during election. There should be a law that would require an equal number of men and women' (CIG FGD participant).

2.5 Men's and Women's Engagement in the Fisheries Value Chain

The gender assessment found that both men and women use and benefit from the resources derived from fisheries—and thus, both men and women have the obligation to care for and

Table 5. Men's and women's engagement in the fisheries value chain

| Value chain step | Fishing activity | Men | Women | Legend |
|------------------|---|---|---|-------------------|
| Before fishing | Prepare to go fishing | Purchase gasoline, mend nets | Prepare meals, put together clothes for the man who will go fishing, etc. | Engaged |
| Harvesting | Fishing by boat | | Only if husband is sick or need a companion | Sometimes engaged |
| Post-harvest | Gleaning and nearshore fishing Cutting and gutting fish Sorting and classifying fish Fish processing (salting and drying) Fish value added processing (e.g. fish cakes) Selling fish | Male children and youth may help Only if the harvest is large Occasionally Selling fish within the community | Transport and sell fish at external market | Not engaged |

protect fisheries ecosystems. Men's and women's roles in the fisheries sector are interlinked and have been established based on family traditions and gender norms. Table 5 provides an overview of men's and women's engagement in the fisheries value chain. It shows that men and women are engaged in almost all value chain nodes. In the cases where both men and women are engaged in a node, but their roles differ, this is indicated with notes in the table.

Corresponding with the opinion statements presented in Table 3, there is a perception that men fish, while women do the marketing and processing. Women are perceived as the physically weaker sex: 'Females are tasked with less work because they are [physically] weak. Males are tasked to do heavy work like fishing because they have more strength to pull a net' (VIS FGD participant). This indicates that social constructions of male strength and authority limit women's opportunities when it comes to capture fisheries. However, as shown in Table 5, looking deeper at the roles of women and men in the value chain reveals that the roles are more complex. Echoing the findings of other gender and fisheries research, the analysis found that both genders are involved in all steps of the value chain. For example, women are active harvesters, particularly gleaning and

Table 6. Perceived current status of resources in the three field sites

| Resources | Perceived current status of resource | | | Status of resource in the past | | |
|--------------|--------------------------------------|---------------------|---------------------|--------------------------------|--------|--------|
| | CIG | VS | SN | CIG | VS | SN |
| Corals | Poor/ recovering | Poor/ recovering | Poor/ recovering | Worse | Worse | Worse |
| Abalone | Poor | Poor | Poor | Better | Better | Better |
| Clam | Poor | Poor | Poor | Better | Better | Better |
| Crabs | Poor | Poor | Poor | Better | Better | Better |
| Fish | Poor | Poor | Poor | Better | Better | Better |
| Giant clam | Poor | Poor | Poor | Better | Better | Better |
| Lobster | Poor | Poor | Poor | Better | Better | Better |
| Mangroves | Poor | Poor | Moderate | Worse | Better | Better |
| Octopus | Poor | Poor | Poor | Better | Better | Better |
| Oyster | Poor | Poor | Poor | Better | Better | Better |
| Prawn | Poor | | | Better | | |
| Sea cucumber | Poor | Poor | Poor | Better | Better | Better |
| Sea grapes | Poor | | | Better | | |
| Seahorse | Poor | Poor | Poor | Better | Better | Better |
| Shark | Poor | Poor | Poor | Better | Better | Better |
| Squid | Poor | Moderate | Moderate | Better | Better | Better |
| Coral fish | Moderate | | | Better | | |
| Dugong | Moderate | Moderate | Moderate | Better | Better | Better |
| Jellyfish | Moderate | Good | Good | Better | Same | Same |
| Nipa | Moderate | Poor | Moderate | Better | Better | Better |
| Ray | Moderate | Poor | Moderate | Better | Better | Better |
| Sea turtle | Moderate | Poor/recovering | Poor/recovering | Better | Worse | Worse |
| Sea urchin | Moderate | Good | Good | Better | Same | Same |
| Seaweed | Moderate | Moderate | Moderate | Better | Better | Better |
| Shellfish | Moderate | Poor | Poor | Better | Better | Better |
| Seagrass | Good | Good | Moderate | Same | Same | Same |
| Shrimp | Good | Moderate | Moderate | Same | Better | Better |

The table is sorted from very poor to good using the CIG for ease of comparing the three sites. CIG, Calamianes Island Group; SN, Southern Negros; VS, Visayan Sea.

nearshore harvesting, but they may even go out on fishing boats if their husbands are sick. Hence, there are situations when women are obliged to fish to help and assist their husbands. Men are generally not regarded as post-harvest processors, but they occasionally help, especially if the harvest is large. The FGD participants also explained that men's and women's roles in the value chain depend on the size and type of catch, where men are more likely to market higher-value species.

2.6 Perceived Status of Marine Resources and Who Uses Them

Participatory gendered resource use profiles were conducted in 25 out of the 26 barangays that took part in the gender analysis. During these exercises, the focus group participants listed the major coastal and marine habitats and resources found in their coastal areas, outlined the status of each resource and noted if the resources are used by men, women or both. The FGD participants noted 36 resources in the CIG, 23 in SN and 22 in the VS. Resources that were only mentioned by one focus group were removed from the analysis, which ended up with 27 habitats and resources. The FGD participants were asked to note if they perceived the resources to be in poor, moderate or good condition and recall if the status were the same, better or worse in the past. Table 6 summarizes the perceived current and past state of resources in the three field sites. There were some variations between the focus groups, and the status shown in the table is the most common response in each site. It shows that the perceived status of resources is similar across the three sites, with most resources being in poor or moderate condition. Jellyfish, sea urchins, seagrass and shrimp were the only resources that were perceived to be in good condition, although none of those resources were considered good across all sites. It should also be noted that coral reefs were considered as 'recovering' in all three sites, meaning that although they are still in poor condition, they used to be worse. Mangroves and sea turtles were also perceived to be recovering in the CIG and SN (turtles only).

Table 7 summarizes the findings of the participatory resource use profiles across all sites. The table shows who uses the 27 different habitats and resources that were mentioned in more than two focus groups. The participants were asked to note if the resource is accessed by men (M), women (W), both (B) or neither (N). The table also shows the number of focus groups that recalled a certain resource and stated that the resource was accessed by men, women, both or neither. There are some interesting differences between the three sites. In the CIG, 14 out of 26 resources (54 per cent) are accessed by both genders whereas 10 (38 per cent) are primarily accessed by men. In the VS, men are more dominant, accessing 68 per cent of the resources. In SN, 43 per cent of resources are dominated by men and 35 per cent are used by both women and men. An interesting finding for SN is that five resources (22 per cent) were not considered controlled by neither gender. No resources were the sole domain of women, but single focus groups noted that women dominate mangroves, nipa and seagrass. In general, men dominate high-value species (lobster, octopus and squid) whereas women/both dominate nearshore habitats such as mangroves and seagrass. Species without market value (e.g. jellyfish) and those that are more likely to be protected (e.g. sea turtle and seahorse) were most likely to be utilized by neither gender. Comparing the status of marine resources with gender access and control indicates that resources that are perceived to be in poor condition are primarily controlled by men, while the resources that are utilized by both genders are in better condition.

Table 7. Gender access and control profiles

| Resources | CIG (26 resources) | | | | Visayan Seas (22 resources) | | | | Southern Negros (23 resources) | | | |
|---|--------------------|----------|---|---|-----------------------------|---------|---|--------|--------------------------------|---------|---|---------|
| | M | B | W | N | M | B | W | N | M | B | W | N |
| Abalone | | | | | 3 | 3 | | | | 3 | | |
| Clam | 2 | 4 | | | 2 | 2 | | | 2 | 3 | | |
| Coral fish | 3 | 1 | | | 5 | 2 | | 3 | 6 | | | |
| Corals | 2 | 7 | | | 6 | 1 | | | 2 | 1 | | |
| Crabs | 6 | 2 | | | 4 | 2 | | | 4 | 1 | | 2 |
| Dugong | 2 | 3 | | | | | | | | | | |
| Fish | 3 | 5 | | | | | | | | | | |
| Giant clam | 4 | 2 | | | 5 | | | | 2 | 1 | | |
| Jellyfish | 1 | | | | 2 | | | 5 | | | | 6 |
| Lobster | 7 | | | | 7 | | | | 6 | | | |
| Mangroves | 1 | 8 | | | 2 | | 5 | | 1 | 2 | 1 | |
| Nipa | | 8 | 1 | | 3 | 3 | | 1 | 1 | 3 | | |
| Octopus | 6 | 1 | | | 7 | 1 | | | 6 | | | 5 |
| Oyster | 2 | 2 | | | | 5 | | | 2 | | | |
| Prawn | 2 | 1 | | | | | | | | | | |
| Ray | 3 | 1 | | | 6 | | | | 3 | | | 2 |
| Sea cucumber | 4 | 4 | | | 6 | 2 | | | 2 | 3 | | 1 |
| Sea grapes | 1 | 4 | | | | | | | | | | |
| Sea grass | 2 | 8 | | | 4 | 3 | 1 | | 2 | 3 | | 5 |
| Seahorse | 2 | 3 | | | 3 | 1 | | | | | | 5 |
| Sea turtles | 1 | 1 | | | | | | | | | | 3 |
| Sea urchin | 1 | 4 | | | 3 | | | | 1 | 2 | | 1 |
| Seaweed | | 5 | | | | 1 | | | 1 | 2 | | |
| Shark | 3 | | | | 6 | | | | 1 | 2 | | |
| Shellfish | 1 | 8 | | | 4 | 2 | | | 1 | 6 | | |
| Shrimp | 1 | 3 | | | 6 | 1 | | | 5 | 1 | | |
| Squid | 5 | 1 | | | 6 | 1 | | | 6 | | | |
| Per cent of species controlled by one group | 38% (10) | 54% (14) | | | 68% (15) | 14% (3) | | 4% (1) | 43% (10) | 35% (8) | | 22% (5) |

CIG, Calamianes Island Group.

2.7 Resource Decline and Its Perceived Impacts on Men, Women and Families

The gender analysis aimed to understand how resource decline, measured by low catch volume, is perceived to affect fishing households and the relationships between men and women. There was a consensus across all communities that the fish catch volume affects family relationships. ‘The whole family benefit from the sea. If there is a catch, the family is happy, because there is food for them’ (CIG FDG). The participants agreed that the smaller the catch, the greater the negative effect on families who have less to cover their daily needs, including repaying informal loans. Women tend to be the household money managers, and during times when income is short, it usually falls on them to find ways to make ends meet. Low fish catch puts stress on fishing households and can lead to verbal conflict and physical abuse between the husband and wife. Focus group participants anecdotal evidence indicates that the effects of low fish catches are more pronounced for large families.

Table 8 presents a few representative quotes that have been translated to English from the local dialect. The quotes explain how men and women expressed how fish catches affect family relationships. It illustrates how the responses differed depending on whether there were men present in the group. When men were present, the participants (primarily voiced by men) put more blame on women, indicating that women have trust issues and lack initiative—and they stressed that conflicts are primarily verbal. With only women present, the participants talked about how reduced catches lead to physical abuse and that women must take initiative to find other income sources, including loans. Women also mentioned that lower fish catch leads to illegal fishing and alcohol abuse among men.

The differences between the responses provided in the mixed and women-only groups illustrate that women were more candid, confident and straight forward when they speak in a group with just women, whereas they were timid and overshadowed by men in the mixed groups.

Table 8. Focus group discussion quotes regarding family impacts of resource decline

| Question | Responses with men present | Responses with just women |
|--|---|---|
| How do you think that fish catch affects the relationship in the family? | Our wives have trust issues. For example, women blame them for low fish catch because they might have given a big portion of the fish to other women, but these arguments do not lead to physical abuse. They just exchange hurtful words that leads to a shouting match between them. (SN FGD) Women just wait for the income that men will give. (CIG FGD) | If the family is big and the fish catch is low, women will have no income to buy for their other household needs. Because of this, they access loans to sustain the family. Worst, the lack of budget also results to fights that led to physical abuse. (SN FGD) |
| Any bad effects like abuses on women and men that you may have witnessed, observed or heard about? | No, there are just simple discussions between men and women. (CIG FGD) | There are negative effects like men resort to drinking alcohol due to depression caused by the less or no catch. Some engaged in illegal method of fishing just to increase the catch. (CIG FGD) |

CIG, Calamianes Island Group; FGD, focus group discussion; SN, Southern Negros.

3 DISCUSSION: BARRIERS AND BRIDGES TO EQUITABLE GENDER REPRESENTATION IN FISHERIES MANAGEMENT

The gender analysis used a qualitative and inductive approach to understand how social relationships and norms influence men's and women's access and control over marine resources. In general, the gender analysis supports the findings of past studies, including Prieto-Carolino et al. (2016), Yap et al. (2017), Siason (2000), Kleiber et al. (2015) and Kleiber et al. (2018). However, it also provides new insights, especially related to social norms, resource access and control and fisheries management. Analysing the qualitative data revealed several patterns and themes related to how men and women interact with, benefit from and manage coastal and marine resources. Some are barriers while others can serve as bridges to increasing equity in the sector.

Analysing the norms and values that determine gender roles in fishing communities reinforced previous research, which found that social constructs, myths and misconceptions contribute to unequal power relationships between men and women (Akter et al., 2017; Graziano et al., 2018; Prieto-Carolino et al., 2016). Key social norms and misconceptions, presented in Section 2, that hold women back from engaging fully in the fisheries sector include the following:

- Housework is women's duty. This corresponds with Siason (2000), Prieto-Carolino et al. (2016) and Kleiber et al. (2018) who found that norms dictate that women need to manage their households, which means that they can only engage in nearshore fishing, such as gleaning.
- Men are good at fishing because they are physically strong. They are natural leaders, self-powered and action oriented. The social belief that men are physically stronger and more fitted for some work was also found by Ferrer et al. (2017).
- Men's work is harder than women's; their work is necessary to provide for the family. Household work is not considered work, and it is less tiresome than fishing.
- Women are not brought up to be leaders; culture dictate that they should play a supporting role.

These misconceptions show that gender equality is a relational issue that involves both men and women. As stated by Van Eerdewijk and Davids (2014), women cannot empower themselves in isolation. It is important to understand to what extent men, as leaders and decision makers within households, become 'gate keepers' of current gender roles. Furthermore, challenging the social constructs through behaviour change communications efforts targeting both men and women can contribute to strengthening women's roles, participation and power in fisheries management. Could it be possible to turn some of the gender roles and misconceptions into a positive movement—for example, can women's nurturing role in the household become a role model for how men and women should behave towards the environment?

As stated by Choo and Williams (2014), a major constraint to greater gender equity is that many women have low self-esteem and perceive their subordinate position as natural. These are deep issues that can only be addressed by challenging the internalized oppression (Choo & Williams, 2014) perhaps through leadership training and peer education. It is also important to challenge more general perceptions. For example, focus group participants stated that men and women did not participate in fisheries management because they were lazy. This is probably not a correct perception, and it is very polarizing.

Unpacking such negative perceptions is critical to broaden participation and create new champions, especially among youth.

Corresponding with previous research (Kleiber et al., 2018; Prieto-Carolino et al., 2016; Siason, 2000; USAID Oceans, 2018; Yap et al., 2017), the gender analysis found that women are involved in almost every step of the fisheries value chain and some already participate in MPA committees and as fish wardens. A positive finding is that both men and women in all sites are open to having women engaged in fisheries management and enforcement, especially in activities that are land based (e.g. being part of a committee, looking out for violators from shore and engaging in coastal clean-ups). This is an important finding that future gender strengthening programmes can build upon.

Women's workload is heavier than men's, because in addition to their productive roles (e.g. selling and processing fish) and volunteer work (e.g. participating in coastal clean-ups and participating in MPA committees), women bear the primary burden for reproductive work (e.g. child rearing and household chores). In line with Floro (1995), USAID Oceans (2018) and other past research related to time allocation by gender, the analysis found that women spend much more time on non-marketed household activities than men. Women are expected to clean and process fish along with their household chores because men must rest after fishing. This is an indication that household work is not considered 'work' and that household chores are less tiresome than fishing. In order to reduce the burden on women, it is critical to involve men—and to help men see that strengthening women is not only a moral obligation and 'the right thing to do' but that by advancing towards gender equality, men will find that their own lives, relationships and communities will improve (Flood, 2007). This may mean creating gender strategies targeting men, while also giving women the capacity to translate their choices into actions and outcomes (Akter et al., 2017). It may also help to identify and work with male and female champions that can serve as role models in their communities.

Numerous Philippine laws and policies, such as the Magna Carta for Women, outline the government's commitment to achieving greater gender equity. They can act as bridges to empowering women. Most of the respondents are familiar with these instruments, but they do not fully understand their content. For example, many FGD participants interpreted primarily violence as physical, and they did not consider the verbal, emotional, psychological and economical aspects of violence that is included in The Anti-Violence against Women and their Children Act of 2004. Furthermore, the Magna Carta for Women states that women can form organizations and participate in diverse community-based management bodies, including the Municipal/City Development Council. The assessment found that some women who participate in such bodies attend as proxies for their husbands. However, by providing more information about women's rights, it may be possible to strengthen women's participation in community-based organizations and management committees. It could also deepen the discourse about issues such as gender-based violence.

Furthermore, although most respondents had a general sense of the Philippine gender laws and policies, the focus group and key informant interviews revealed that people do not know how to apply them in their own contexts. This indicates that there is a need to provide practical tools and information related to how to integrate gender and fisheries. This could, for example, be done by developing modules or a certification programme related to gender mainstreaming in ecosystem-based fisheries management.

A unique contribution of the gender analysis presented in this paper is the detailed resource use profile, which mapped to what extent men, women, both or neither use coastal

and marine resources and connect these profiles to the perceived status of those resources. As shown in Table 7, most resources are accessed by either men or both genders. Analysing the differences between the three sites shows that coastal and marine resources and habitats were more likely to be dominated by men in the VS than in the CIG and SN. The VS participants were also more likely to agree with opinion statements such as 'men should fish', 'women should cook' and 'women should focus on taking care of their families'. This could indicate that gender roles are more traditional and biased in the VS MKBA. It is a finding that could be explored further in a deeper site or fisheries-based analysis.

The assessment found that across all sites, most of the species controlled by men are perceived to be in poor condition as a result of overharvesting, population growth, climate change and human activities (e.g. infrastructure and tourism development). One reason behind this trend may be that men control most of the high-value and high-demand species marketed internationally, whereas women are more likely to harvest lower-value resources for household consumption that are under less pressure. If the resource trends are not reversed, there is a risk that men will move into collecting bivalves and other women dominated species, which are perceived to be the least overfished.

Nearshore and shallow ecosystems, such as mangroves and seagrass beds, are the domain of women or both men and women. This finding makes sense as previous research (Kleiber et al., 2018; Prieto-Carolino et al., 2016; Siason, 2000) found that women engage in nearshore gleaning. The nearshore ecosystems play critical roles in household food security, but they also serve as nursery ground for higher-value fish species, which makes it logical to protect them. Because women are the dominant users in these ecosystems and they are traditionally not the focus of Philippine fisheries management (which is more focused on coral reefs and pelagic fisheries), it may be a good entry point for engaging women in fisheries management. Understanding that women are the primary users of mangrove and seagrass areas supports the idea of establishing the so-called women-managed areas (WMAs) in these ecosystems. WMAs have been initiated up in multiple sites across the Philippines, including in Surigao del Sur in the Mindanao Providence and in one of the study sites in Busuanga, which is part of the CIG. WMAs are explicit efforts to engage women resource users who often fish for subsistence and whose fishing go unnoticed in the official government fisheries statistics.

Reviewing at the status of marine resources and habitats, there is a clear need to implement ecosystem-based fisheries management that includes both the high-value species controlled by men and the supporting ecosystems controlled by women. However, reducing fisheries output will, at least in the short term, put stress on fishing households, which may lose nutrition and income. It may be prudent to investigate how to reduce post-harvest loss, improve fish processing and improve packaging and labelling to increase the product value (and hence household income). Women's participation is crucial because women play an important part in the post-harvest domain. From an equity perspective, it also makes sense for women (who are less mobile and expected to stay closer to home) to engage more in marketing and trading of high-value species.

The analysis corroborated the perception that women are expected to manage household finances (Ashraf, 2009; Kleiber et al., 2018; Prieto-Carolino et al., 2016). Supporting the findings of a study of the tuna value chain (USAID Oceans, 2018), the analysis found that many women resort to taking loans, using microfinance or informal money lenders, to fund (sometimes illegal) fishing activities and general household needs when cash is short. This means that women should have an interest in understanding the financial impacts of

different fisheries management measures and it could be a good entry point for working with both men and women to address how to manage the potential short-term financial impacts of restricting fisheries outputs. Including men in dialogues about managing household finances could increase men's sense of responsibility for household finances and reduce the risk that men 'hide' funds for personal spending, which is a trend found by Ashraf (2009). It could also be an entry point for discussing rights issues, such as who benefits and who might suffer financially if stricter fisheries measures are implemented. The study team observed how women end up in debt and lending cycles where loans are taken to repay other loans, not dissimilar to the credit card debt cycles found in the West. Hence, another entry point for strengthening women's participation in the fisheries sector may be to provide financial literacy, business development planning and access to finance. This should include reviewing microfinance institutions policies to ensure that they are socially, environmentally and financially just.

As women take on a larger fisheries leadership role, they are still disproportionately burdened with managing household economics, especially in families with many children. If women are too busy tending to their children and household chores, the necessary time commitment may be a barrier to women's participation in fisheries management. Hence, if men do not increase their role in ensuring that households are healthy and financially secure, while women spend more time on fisheries management and enhancing fisheries-related livelihoods, the responsibilities between women and men will become more unbalanced. By taking a 'men as partners' (Mehta, Peacock, & Bernal, 2004) approach, it may be possible to increase men's support and create a more equitable division of household responsibilities. This should include increasing men's sense of responsibility and engagement in household budgeting.

4 CONCLUSIONS

The gender analysis presented in this paper set out to identify and understand the gender norms, resource use patterns and power relationships that exist between men and women in fishing communities in three MKBAs in the Philippines and analyse the impact that the social constructs have on fisheries households and biodiversity conservation. The analysis revealed that the roles of women and men in fishing communities are deeply integrated, but unequal, especially when it comes to leadership and decision-making. Women's resource use is less visible, but mangroves, seagrass beds and other resources that are largely controlled by both women and men provide critical breeding and nursing grounds for the high-value fish species controlled by men. Hence, an ecosystem approach to fisheries management needs to be at a scale that encompasses the nearshore areas.

Implementing broader-scale co-management arrangements that include women resource users will require working with both men and women to challenge social constructs, grow women's confidence and recognize the 'invisible' work of women in households and the fisheries sector. Building on the premise that if both men and women demand good fisheries management practices, implementation will be timelier, more enduring and more effectively diffused; another opportunity for improving gender equity in fisheries is deeper engagement of value chain actors and fisher wives. The gender analysis revealed that in general, men have a stronger voice and are considered natural leaders in the fisheries space. However, as value chain actors and wives who are responsible for household finances, women have strong incentives to maintain fisheries-based livelihoods and incomes.

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DATA AVAILABILITY STATEMENT

All data are available upon request.

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