

## Women and fisheries co-management

Nunan, Fiona; Cepic, Drazen

DOI:

[10.1016/j.fishres.2019.105454](https://doi.org/10.1016/j.fishres.2019.105454)

License:

Creative Commons: Attribution-NonCommercial-NoDerivs (CC BY-NC-ND)

*Document Version*

Peer reviewed version

*Citation for published version (Harvard):*

Nunan, F & Cepic, D 2019, 'Women and fisheries co-management: limits to participation on Lake Victoria', *Fisheries Research*, vol. 224, 105454. <https://doi.org/10.1016/j.fishres.2019.105454>

[Link to publication on Research at Birmingham portal](#)

### General rights

Unless a licence is specified above, all rights (including copyright and moral rights) in this document are retained by the authors and/or the copyright holders. The express permission of the copyright holder must be obtained for any use of this material other than for purposes permitted by law.

- Users may freely distribute the URL that is used to identify this publication.
- Users may download and/or print one copy of the publication from the University of Birmingham research portal for the purpose of private study or non-commercial research.
- User may use extracts from the document in line with the concept of 'fair dealing' under the Copyright, Designs and Patents Act 1988 (?)
- Users may not further distribute the material nor use it for the purposes of commercial gain.

Where a licence is displayed above, please note the terms and conditions of the licence govern your use of this document.

When citing, please reference the published version.

### Take down policy

While the University of Birmingham exercises care and attention in making items available there are rare occasions when an item has been uploaded in error or has been deemed to be commercially or otherwise sensitive.

If you believe that this is the case for this document, please contact [UBIRA@lists.bham.ac.uk](mailto:UBIRA@lists.bham.ac.uk) providing details and we will remove access to the work immediately and investigate.

## **Women and fisheries co-management: limits to participation on Lake Victoria**

Fiona Nunan<sup>a</sup> and Dražen Cepić<sup>b</sup>

<sup>a</sup>International Development Department, University of Birmingham, Edgbaston, Birmingham, B15 2TT, UK

<sup>b</sup>University of Zadar, Croatia

### **Abstract**

Despite women making up about half of the global fisheries workforce, it is believed that women are much less involved in community-based fisheries management than men. There is, however, limited evidence available on the extent and nature of their involvement. This paper responds to the gap by asking how representation of women is working in fisheries co-management, what the effects of their representation and participation are and by identifying constraints on their effective participation. Lake Victoria, East Africa, is an example of a fisheries co-management system with a quota set for the minimum inclusion of women in community-based structures. Research undertaken in the three countries bordering the lake, Kenya, Tanzania and Uganda, found that participation of women in fisheries co-management committees has generally been accepted at the landing site level. The participation of women allows different networks to be represented and reached and examples were given of advocacy and initiatives to strengthen women's livelihoods through representation in co-management committees. However, although the quota system was often complied with, and support for women's participation expressed, the effective participation of women is limited by prevailing gendered norms and relations.

## **1. Introduction**

Women are estimated to make up about half of the global fisheries workforce when trading and processing activities are included in addition to catching fish (World Bank, 2012), with local fish processing and trading being the areas where women are most likely to work (FAO, 2016). Despite their significant contribution to the sector, women are believed to be much less involved in community-based fisheries management than men, though the evidence available is limited (Alonso-Población and Siar, 2018; Leisher et al., 2016). What evidence there is suggests that “with notable exceptions, women’s participation and access to leadership roles in fisherfolk organizations are marked by enormous challenges” (Alonso-Población and Siar, 2018, p.33). This is of concern for meeting Sustainable Development Goal 5 on achieving gender equality, which includes a target to “ensure women’s full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life” (UN-DESA, 2018). Limited participation of women in fisheries decision-making is not only a concern at the local level. The 2015 FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries suggests that participation of women is also insufficient at policy-making levels, calling on states to “endeavour to secure women’s equal participation in decision-making processes for policies directed towards small-scale fisheries” (FAO, 2015, p.12).

Within the fisheries sector, fishing communities are often involved in management through co-management arrangements rather than solely community-based management. Co-management, defined as “the sharing of power and responsibility between the government and local resource users” (Berkes, 2009, p.1692), has been adopted in principle throughout the world to enable actors benefiting from fisheries to participate in management with government. The adoption of co-management often involves the formation of a local committee or user

group, with legislation or guidelines setting out the desired or required composition of this group, as well as their roles and responsibilities (Nunan et al., 2015). These guidelines may or may not refer to the inclusion of women or other specific groups.

This paper responds to the gap in evidence on the extent and nature of participation by asking how representation of women is working in fisheries co-management, what the effects of their representation and participation are and by identifying constraints on their effective participation. It does this by focusing on the case of Lake Victoria, East Africa, where fisheries co-management was introduced in the late 1990s, supported by several donor funded projects (Nunan, 2014). This case was selected as it is an example of a fisheries co-management system with a quota set for the minimum inclusion of women in community-based co-management structures. Fishing communities work with government in managing the fisheries through the formation of community-based Beach Management Units (BMUs). Each BMU has an elected committee, with regional and national guidelines requiring that at least three members of the 9-15 member committee are women. The setting of quotas to increase the representation of women is a well-used strategy in elected bodies, including parliaments. Although many parliaments have been successful in meeting the quotas, evidence is mixed on the impact that women have had on changing dynamics and policy agendas (Dimitrova-Grajzl and Obasanjo, 2019).

The article begins by reviewing literature to define gender, gender relations and patriarchy, thereby providing a framework for analysing the context and practice of representation and participation of women in fisheries co-management. Literature on the experience of women in managing marine protected areas and in community-based forest management is reviewed, which is more extensive than literature on women and fisheries co-management and from

which relevant insights can be learnt. Finally, literature on the impact of quota systems to increase the participation of women in parliaments is reviewed as lessons can be learnt from quota systems beyond the natural resource context. From this literature review, a structure is derived for the analysis of data, based on the experience of representation, implications of representation and participation of women in BMUs and constraints on their effective participation.

Following the literature review, the article sets out the status of women in Lake Victoria fisheries and a background to the co-management system before setting out the methods through which data was collected and the findings. The discussion section sets the findings within the context of existing literature, leading to a conclusion that although there is participation of women in co-management, this is minimal and often tokenistic. Participation of women in co-management is generally accepted around the lake, however this acceptance and their participation offers limited challenge to gendered norms and relations. As a result, gendered norms and relations developed within patriarchal systems constrain women's potential to participate in a meaningful and effective way in fisheries co-management. At the same time, however, the involvement of women in BMU Committees does offer opportunities for women's views and experiences to be represented, heard and acted on and for women to be empowered through their involvement and representation. The participation of women offers different networks to be represented and reached and examples were given of advocacy to protect and promote women's livelihoods through representation on the committees. However, given the mixed evidence on the degree and impact of the participation of women, purposeful support is needed to strengthen their participation and impact.

## **2. Gender and representation of women in management**

In addressing the question of how effective the quota system of representation of women is in fisheries co-management, this literature review develops an analytical framework informed by the concepts of gender, gender relations and patriarchy. The framework is further informed by review of the limited literature available on the participation of women in fisheries management, and conformity and non-conformity with gender norms and relations. The review draws on evidence from literature on the extent and nature of women's involvement in forest management, given similarities in representation systems and challenges. Finally, as many political systems have quotas for women in parliament and other elected bodies, literature on the effectiveness of these quota systems in Africa is reviewed.

In relation to environmental governance more broadly, it has been observed that governance spaces are not neutral; they are influenced by social and power norms. Arora-Jonsson (2013, p.21) cautions that “the power that men and women can exercise has as much to do with what happens outside these spaces as inside”. Wider gender norms and relations therefore affect the presence and role of women in environmental governance.

Kabeer (1999, p.4) defines gender as “the full ensemble of norms, values, customs and practices by which the biological difference between the male and female of the human species is transformed and exaggerated into a very much wider social difference”. Kabeer (1999, p.12) argues that gender relations “are an aspect of broader social relations” and “are constituted through the rules, norms and practice by which resources are allocated, tasks and responsibilities assigned, value is given and power is mobilised”. The concept of gender relations recognises that it can be unhelpful to focus on men and women separately when the relations between them influences attitudes, knowledge and behaviour. Whilst gender relations

then provides a framework for understanding how men and women interact within and across genders, Macé (2018) argues that gender relations cannot be considered without reference to the concept of patriarchy, whilst recognising that patriarchy is not monolithic or static. Whilst patriarchy has been broadly understood as “power relationships by which men dominate women” (Beechey, 1979, p.66), it is recognised that forms of patriarchy differ within social institutions and over time (Kandiyoti, 1988).

The influence of gender norms and relations operating within patriarchy is apparent in the evidence there is on the involvement of women in fisheries management. Baker-Médard (2017) found in marine protected areas in Madagascar that women were “7 times less likely than men to participate in any facet of marine resource management, and 17 times less likely than men to be involved in decision making concerning marine resource management” (2017, p.732). She goes on to report that conservation organisations that worked with local people in establishing community-based management structures for the MPAs were aware of the lack of participation by women but believed that they had to work within “local norms”, implying that these were not encouraging of women’s involvement in public affairs and could not be challenged (Baker-Médard, 2017). A further example is given by Di Ciommo and Schiavetti (2012), who found in Brazil that women reported that they were unlikely to attend meetings associated with marine management due to the meetings taking place in what was perceived to be “male space”. In addition, they attributed their limited participation to a lack of childcare and because husbands could represent the couple. Kleiber et al. (2018) also found that many women who attended MPA meetings in their study in the Philippines reported that they did so to represent their husbands. The cultural context therefore affects how women and men participate and interact in management meetings (Kleiber et al., 2018). Women are often constrained in what they can or cannot do, where they can or cannot go and what they can or

cannot be by gendered norms. Such constraints may sometimes not be apparent as women may willingly conform. Bikketi et al. (2016), for example, found in rural Kenya that women are often willing to comply with social expectations as the social costs of non-conformity are high, adversely affecting a woman's reputation.

Whilst the costs of non-conformity may be high, there is evidence that women can and do "bargain with patriarchy" to modify gendered roles and practices without directly challenging patriarchy. From research into a fishing community in the coast of Kenya, Kwarazuka et al. (2019) found that space for creating opportunities for decision-making was created by women through food provisioning, indirectly challenging local patriarchy. Kandiyoti (1988, p.275) explains the patriarchal bargain of any society as being reflected and defined in the "set of concrete constraints" within which women strategize. She concludes that "women's strategies are always played out in the context of identifiable patriarchal bargains that act as implicit scripts that define, limit, and inflect their market and domestic options" (Kandiyoti, 1988, p.285).

A similar example is provided by Overå (2003) in research into women's entrepreneurial activities in fisheries in Ghana. She found that whether men accepted women in their perceived domains for economic activity depended on whether they felt that their authority and position of power was threatened. When it was threatened, men argued that women should not be undertaking such activities, but when men benefited, they were more accepting of women entering traditionally male domains. The activities and approach taken by women were therefore mindful of how such activities and approach would be received by them, requiring careful strategizing on the part of the women entrepreneurs.



Research on forest management offers further insight into factors that constrain women's participation in management structures. These include socio-cultural norms (Samndong and Kjosavik, 2017), social class, level of education and age (Choudhury et al., 2018) and "lack of confidence, gender conflicts, experience, time, spousal support and community support" (Evans et al., 2017, p.45). Colfer and Minarchek (2013) bring these categories of constraints together into an analytical framework referred to as a "gender box". This identifies eleven factors at macro, meso and micro levels that influence the potential for women to participate in decision-making over forest use and management, including formal laws and policies, norms of behaviour and intra-household power dynamics. The macro-meso-micro categorisation of factors highlights the interconnected nature of these factors. Evans et al. (2017) also recognize this interconnection, arguing that constraints on the participation of women in communal areas cannot be addressed without responding to gender relations within households.

Even when women do gain access to forest management committees, their involvement may be nominal; they may have limited voice, power and influence (Samndong and Kjosavik, 2017). Agarwal (2009, 2010) found from her research in India and Nepal that other characteristics than gender also mattered, including age and class of the women involved and types of products extracted from the forest. Coleman and Mwangi (2013) took Agarwal's analysis further and found that "institutional factors, such as rules that require membership fees or that permit women's participation or that determine how individuals are assigned council positions, and individual characteristics, such as education and wealth inequality, are the significant predictors of women's participation in forest management institutions" (2013, p.202).

A further insight into whether and how women may make any difference to natural resource management concerns the number of women involved in governance structures. Agarwal (2015) found in India and Nepal that a critical mass of women on committees is needed, of around a third of the total membership. She goes on to make recommendations for how the participation of women in forest management committees could be increased. These include forming federations of community-based structures so that there is interaction between committees and peer pressure for action on including women in management, and making connections between management committees and other civil society organisations, for example women's self-help groups (Agarwal, 2015).

Dyer (2018), however, questions the claim that a critical mass of women enables women to participate effectively and influence management outcomes. From her research in the Solomon Islands, she found that "gender parity does not equal gender equality at meetings because of cultural constructions of influence and gendered behavior" (Dyer, 2018, p.3). This suggests then having equal numbers of women to men in decision-making does not imply that women's voices will be heard or acted on. This finding reflects Cornwall's (2003) observation beyond natural resources that "requiring the representation of women on committees or ensuring women are consulted are necessary but not sufficient" (2003, p.1337). What is needed, Cornwall (2003) argues, are strategies that recognise and reflect gendered differences associated with the local context.

The evidence and discussion on representation in natural resource governance structures mirrors the setting of gender quotas in national parliaments and in local government. Many countries have set quotas, or minimum targets, in an attempt to increase the number of women in parliaments. Dimitrova-Grajzl and Obasanjo (2019) observe that certain countries in Africa

have emerged as leaders in representation of women in politics, though also observe that this is not a result of progress towards gender equality more generally but results from deliberate efforts to increase parliamentary representation. Research into whether and what difference an increased participation of women makes in political representation has found that women are not necessarily better represented even where deliberate efforts to increase the number of women in parliaments have been successful, at least partly explained by a lower level of legitimacy associated with the quota system (Dimitrova-Grajzl and Obasanjo, 2019). Refki et al. (2017, p. 75) found, however, that the increase in the number of women in the Ugandan Parliament has brought change and that women have “succeeded in gendering the policy agenda, its process and its outcomes”. What can be learnt from the experience of national politics is that quota systems do work in increasing the number of women but that this is not necessarily sufficient on its own.

The review of literature provides a structure and guide for the findings and analysis. The first area of findings and analysis will address the experience of representation of women in BMUs, followed by identification and analysis of the factors that affect the experience of representation and implications for fisheries co-management performance and outcomes. This analysis is informed by definitions of gender, gender relations and patriarchy, the concept of “bargaining with patriarchy” and the insights gained from analysis of representation in forest management and in parliamentary systems.

### **3. Women and the fisheries of Lake Victoria**

Lake Victoria is bordered by three countries, Kenya, Tanzania and Uganda, and is the largest supplier of fish in East Africa. There are three main commercial fisheries: Nile perch, most of which is processed by the private sector and exported, predominantly to Europe; Nile tilapia,

much of which is sold locally or regionally, either fresh or smoked; and, *dagaa*, a small sardine-like fish which is dried by local fish processors and sold as food or as an input into animal feed. As the second largest freshwater body in the world, the lake covers an area of 68,000 km<sup>2</sup>, with around 1,500 landing sites in total. There are an estimated 200,000 fishers (LVFO, 2015) and many more dependent on fisheries through processing, trading and other activities, such as boat and net repairs. The vast majority of boat crew, or labourers, are men and many boat owners are men, with the 2014 Frame Survey Report for the lake reporting that around 10% of boat owners are women (LVFO, 2015). Women are much more likely to be engaged in processing and trading fish, particularly Nile tilapia, dagaa and small Nile perch (Medard, 2012). It has been estimated that around 25% of BMU members are women (LVFO, n.d.), though this number does not include women who cook for fishers and provide accommodation, so more women are present at landing sites than this figure suggests. The large and better quality Nile perch are purchased by fish agents acting for fish processing plants, whereas women buy fish to be sold onto domestic and regional markets, often sun drying or smoking fish before selling. Gaining access to fish is not a straightforward process; women may have to pay boat owners and crew for the privilege of buying fish or may have to agree to sex to secure and maintain access to fish (Medard, 2012). Although engaging in sex is risky, particularly in terms of being exposed to HIV/AIDS (Nunan, 2010), other STIs and gender-based violence, women often report that overall they benefit from fish processing and trading by becoming more economically independent, able to pay school fees, provide food for their families and even buy plots of land (Medard, 2012).

The social status of women at the fish landing sites is influenced by their marital status, economic status, cultural norms and occupation. Those with more independent means, for example tailoring, are able to build up their businesses and operate on their own, whilst other

women, without capital, may have to take up work that makes them dependent on men, including participating in transactional sex (Pearson et al., 2013). At many landing sites, women form savings and credit schemes to enable them to help each other and provide access to credit when needed (Nunan, 2010). Onyango and Jentoft (2011) provide an example of a group of women at one landing site in Tanzania where the formation of a savings and credit scheme led to the development of economic and social activities, including trading agricultural products, owning a boat and gears and setting up a nursery. They detail the challenges and achievements experienced by the Tweyambe Fishing Enterprises group, observing how social norms regarding gender roles and status informed decision-making and behaviour. The group managed to keep going over time and develop their activities whilst working within gendered norms and relations, though these adjusted slightly over time as men began to appreciate the contribution of women within the group to household income and community development.

With regard to the establishment of Beach Management Units, national guidelines in each country developed to guide the formation of each BMU require that at least three of the 9–15 committee members are women (DFR, 2003; Republic of Kenya, 2006; United Republic of Tanzania, 2005). Figure 1 shows the structure and required composition of BMUs in all three countries until 2016. The BMU Committees were elected in accordance with the regional harmonized guidelines for the first time between 2006 and 2008. According to monitoring in 2008, two thirds of BMU Committees had the required number of women, 20% had two women and 13% one woman (IFMP, 2008). No lake-wide, or comprehensive, monitoring of BMU Committee membership and performance has since taken place and so no subsequent data is available. Given the social status of women within fisheries, and the fewer number of women at the landing sites, men dominate the BMU committees, particularly male boat owners, who have more power and money and a higher social status than boat crew and women (Nunan et

al., 2012). In 2016, the Government of Uganda revised the BMU Guidelines to further consolidate the dominance of boat owners, responding to apparent concerns of President Museveni that BMUs were not working well. The revised guidelines require the committee to be comprised of five boat owners (at least one nominee should be a woman), two boat crew, one fish trader and one from the other category, which includes fish processors (GoU, 2016). At least one from the non-boat owner group should be a woman. These new guidelines have yet to be implemented but demonstrate the thinking and potential direction of policy and practice in at least one of the countries bordering Lake Victoria and suggest that participation of women in fisheries co-management may be made even more challenging.

<FIGURE 1 HERE>

In terms of what BMUs do, they are tasked with several activities such as keeping a register of people working in fisheries at the beach and their gears, receiving visitors, keeping the beach clean and any areas where fish is handled and sold, and participating in patrols with government fisheries officers to enforce regulations. The performance of BMUs has been viewed as mixed, with some BMUs seen as effective in reducing illegalities and others not functioning at all, or perceived as facilitating illegalities and being corrupt (Etiegni et al., 2017).

Whilst women play multiple roles within Lake Victoria fisheries, from trading and processing to cooking and providing accommodation, it can be seen that through occupational allocation of committee places and the higher number of men registered as BMU members than women, that men dominate the BMUs. Male dominance is also suggested at the beaches in the practice of requiring sex in exchange for access to fish. This male dominance would be expected to

influence the dynamics of BMU meetings and the potential for women to effectively participate in BMU Committees.

#### **4. Methods**

The article draws on data collected in 2015 in Kenya, Tanzania and Uganda, the three countries bordering the lake, as part of a larger study on how the personal networks of fisherfolk affect engagement in fisheries co-management. As part of the research, data was collected on the knowledge and experience of fisheries co-management of respondents, with questions on the extent of participation of women in the work of BMUs, whether they are actively involved and are listened to and whether participation of women is supported by the respondent and others. The drafting of the semi-structured interview guide was informed by literature on fisheries co-management and, as the interviews were semi-structured, different responses were received and subsequently different probing questions asked. Data was collected at six landing sites in each country, with interviews conducted with a sample of up to seven fisheries' stakeholders at each site, identified through convenience and purposive sampling, including two boat owners, two boat crew, two fish traders or processors and the chair, or other executive member, of the BMU.

In total, 36 boat crew, 34 boat owners and 32 traders/processors and 18 BMU committee members were interviewed. Of these, 85 respondents were men and 19 women, with most women being in the fish traders/processors category. The gender imbalance of the sample is a consequence of the occupation-based sampling, with the majority of boat crew and boat owners being men (LVFO, n.d.). Occupation-based sampling was undertaken to reflect the dominance of occupations in co-management and livelihoods, with national guidelines setting out committee composition by occupation. Data was analysed by identifying and coding themes

using NVivo software, with these themes clustered into key points, many of which are illustrated by quotes. Verbal consent was sought from each interviewee and where quotes are used these are attributed in terms the country and occupation of the respondent, with a number assigned to the landing site. The occupation of the respondent provides context to the quote and the country and landing site number illustrate the wide-ranging evidence-base.

## **5. Findings**

Following on from the research question, the literature review and the emerging themes from the data analysis, the findings are presented in the following sections: the experience of representation in BMUs; the perceived impacts of women being members of BMU Committees; and, constraints on the effective representation and participation of women in BMUs.

### *5.1 The experience of representation of women in BMUs*

The vast majority of respondents confirmed that women are involved in the BMU Committees, with only a very few suggesting that women are not involved or are committee members but are not actively involved. Respondents pointed out that since women work in the business of fisheries, they should be represented in BMUs. One boat crew observed that “women are part of the fishing communities and therefore it is good for them to have representation in BMU committee” (TZBC5) and another that “there are activities at the landing site such as drying mukene or fish trading that are handled by women and therefore they need people to represent their challenges in the BMU” (UGBC6). The majority of respondents also emphasised that women are respected and their views listened to, with one boat crew reporting that “one of them is an assistant treasurer. One woman is the vice chairman and there is also another one in the highest committee. They are listened to when they give their opinion” (KEBC3). However,



one boat owner suggested that women are not always respected and that education is the answer to this: “women participate in BMU and even my wife also is a committee member. They are very active although some people don't respect them. But that will change by giving more education to fishers communities” (TZBO5).

Women were reported to be involved in a wide range of BMU activities, from keeping the beach clean and planting trees to collecting taxes. Whilst many respondents reported that it would not be appropriate or possible for women to participate in patrols to stop illegal fishing activities, some claimed that women were involved in patrols and had even requested training on how to use boat engines to enable them to participate in patrols on water. One boat crew stated that “here at our beach, I can say women are the strength of the BMU. Women are very active in all the activities including in patrols, and they are very concerned with the hygiene of both fish and the beach and equality to all fishers” (TZBC3).

Although representation was seen as important, it was also suggested that such representation is at times tokenistic, with one boat owner claiming that “the participation of women here is very low, they do not talk. They are there to fulfil the one third majority but no participation” (KEBO4). One boat owner in Tanzania stated that “women participation is very low, approximately zero” (TZBO1) and a boat owner in Uganda stated that “actually even those on the committee hardly attend BMU meetings” (UGBO4). Such non-participation was not always seen as a bad thing, with one boat owner suggesting that “yes, women are present in BMU committee although they are not very active especially in expressing their opinions in the meeting, but me I think it is okay for them to be available in the committee as it is an opportunity for them to learn the leadership” (TZBO4).

Social networks were reported as being essential to the work of fish traders/processors, many of whom are women, and domestic life, with savings and credit groups amongst women providing opportunity for access to small amounts of credit which would otherwise not be available. These social networks were seen as being useful to women in their role on BMU committees. Fish traders/processors help each other out when in need, for example if they could not make it to the market or were in need of credit themselves and sometimes work together in accessing the fish from the boats, which gives them greater power in negotiations as well support in their working environment. Analysis of the personal networks of fish traders/processors were found to be dominated by people of the same occupation, reflecting high levels of interdependencies (Nunan et al., 2018). This reinforces the potential for women to effectively represent fish traders/processors in the BMU Committee.

Fish traders/processors reported that they have good relationships with other fish traders/processors and with boat owners and crew, even if there are differences of opinion about price at times. There was recognition amongst respondents from all occupations that having good social relationships enables good business and means that help is available with difficulties are experienced, often related to ill health or when school fees are due. The range and intensity of social and economic relationships within the fisheries communities, whilst imbued with gendered norms and power dynamics, may account for acceptance of women participating in BMUs, even where this has not led to change in gendered practices and relations. The strength and range of social networks supports the case for the inclusion of women in BMU Committees and the potential effectiveness of their representation and participation.

## *5.2 Impact of women representation in BMUs*

Overall, women are seen to represent other women, bring views and challenges specific to women to BMU meetings and use their networks of female relatives, friends and acquaintances to help disseminate information and implement BMU policies. This brought a number of benefits from the participation of women in fisheries co-management. These included the ideas that they bring an ability to get things done through their networking, particularly with other women; they are perceived as having moral superiority; women are associated with being meticulous, with attention to detail; and, women play an important part in fisheries enforcement.

One fish trader/processor gave an example of how having women on a BMU Committee had helped to keep women in business at the site: “there was an accusation that women who are involved with trading of fish maws encourage crew to steal fish while they are at the fishing grounds and sell to them and therefore boat owners and fish agents wanted to stop those women in doing business at our landing site. Women in BMU struggled for their fellow women and were not prohibited in doing their fish maws business at the beach” (TZFTP5). And in another example, “there was a time when fish agents decided to process their reject fish themselves and we had no fish to process but women in BMU struggled to ensure we also get fish to process” (TZFTP6).

Women representatives on a BMU Committee were reported as being better placed than men at reaching out to other women and using their networks with other women to disseminate information and ideas. An illustration of this comes from an example given by a boat owner, who explained that “when the women suggested to visit the Agricultural Show to see how Mukene [dagaa] is handled, it was taken up in the committee and given a go ahead. After the show, the women came back and sensitized other women how to deep fry and crush it in

powdered form and this changed their livelihood” (UGBO1). In addition to bringing networks, women were reported to bring ideas to the BMUs. An example was given of a woman on a committee suggesting that the BMU buys chairs for people to rent for events such as weddings. This was agreed to and led to income generation for the BMU.

A further benefit of women’s participation in fisheries co-management relates to the perception of the greater integrity of women. Several responses referred to how women are more trustworthy than men. One boat owner insisted that “it’s very good to have women in BMU committees because women normally are very trustful and are hard workers” (TZBO5). A boat crew member referred to the honesty of women, saying “yes, women participate in the BMU and they are better than men because women normally don’t ask for corruption and they are very responsible in what they are doing” (TZBC6). Women were also referred to as being more caring and considerate, with a boat owner giving the following example: “a woman raised a concern about building houses near the roads around the landing site which risks the lives of our children. The idea was agreed by all members of the community and now we see people owning those buildings are taking down their buildings and rebuilding in good order” (TZBO6). Women were also reported to be meticulous, taking care to perform the duties assigned to them as a committee member with care and attention.

Finally, fishers supported participation of women on the basis of their role in enforcement of fisheries regulation. Women were reported to have played a role in relation to female perpetrators of illegalities with a boat crew member observing that “there can be scenarios where a woman has committed a crime and in such a case, it’s better to send a fellow woman to pick or arrest her” (UGBC6). One boat owner reported that women were involved in patrols despite many other respondents arguing that it was not appropriate or possible for women to

be involved in patrols. The boat owner reported that “yes, women participate in the BMU and are very active in all BMUs activities. In patrols we go three men and two women. I remember women they even asked to be trained how to operate boat engine in order to be ready to cover when man not around and there is illegal fishing” (TZBO3).

#### *4.3 Constraints on effective representation and participation of women in BMUs*

A number of constraints were identified by respondents relating to the effective representation and participation of women in BMUs. These included the other responsibilities that women have, particularly domestic, which limit the time they have available and their willingness to get involved, and their husbands either not wanting them to get involved or dominating their involvement when they do serve on the committee. One boat crew observed that “okay we need them on the executive but sometimes they become weak and also they are normally ruled by their husbands and that makes them not to work well” (UGBC6) and another that “women also can’t do certain things like patrolling on the lake to search for illegal gear and fish dealers and even their husbands can’t allow them to for example make night operations” (UGBC6).

Taboos associated with women in relation to fishing were also cited as reasons for women not being involved. Such taboos included: “women should not bath near boats. The boat will not catch fish. Some people go to witch doctors so that their boats catch more fish” (KEBO1), “women are not allowed to go fishing or directly enter into the boat take fish. It is the crew of the boat that should give them fish while standing at a distance” (KEBC5) and “women are not allowed to enter into a boat because it believed that if she is in her monthly period it might cause misfortune” (TZBC1). Even men who recently had intimate relations with women are thought to bring bad luck: “if a fisher had sex, he has to take a shower before going fishing otherwise this might cause misfortune in their fishing activity” (TZBC4) and “boat crew

members are not allowed to speak about issues concerning sex while fishing otherwise they will not get fish” (TZBMU4). These beliefs affect the attitude that both men and women have towards women and their status within fishing communities.

A further factor in preventing effective participation in BMUs was identified as the role women play in illegal fishing practices. One boat owner claimed that “women are the most people involved in illegal fishing. Because they do not have enough capital that would make one own a boat as a result they resort to illegal fishing as their start up job. Women also easily soften the enforcement officers by seducing them” (UGBO2) and a crew member that “true, we have a lady on the executive but she does not do much because she was carefully selected to condone illegal fishing. Actually, a woman being on the BMU helps her and other women to deal in immature fish” (UGBC4). In contrast, another boat crew suggested that fisheries officers were the ones not wanting women on BMU committees as they would not collude in taking bribes in exchange for turning a blind eye to illegal fishing, reported that “we have no lady on the current executive. They were there but fisheries officers failed them from performing. Fisheries officers saw that they would not gain from the women being on the executive” (UGBC3).

Gendered norms and relations within personal relationships and within the fisheries sector affect the potential for women to participate in BMUs and influence how both men and women behave and interact. Responses suggest that women are not beyond being involved in illegal fishing practices, buying and trading undersized fish, with consequently mixed experience reported on attitudes to illegalities and consequently willingness to condone illegal practices or engage in corruption.

## **6. Discussion**

The findings provide new insights into how representation of women is working in fisheries co-management, what the effects of their representation and participation are and what constrains their effective participation.

In terms of how representation of women is working, it was found that women were still involved in the BMUs, mainly through membership of committees, at the time of the data collection and that there was mixed experience of how effective this is in terms of the level of their participation and extent to which women's voices are heard. There was no significant rejection of the requirement that women have at least three positions on the BMU Committees, and very often this requirement was reported as being welcomed, but their involvement is often tokenistic, with male boat owners remaining dominant in fisheries management and decisions. Men were generally accepting of the participation of women, though the leadership of BMUs remains largely male, suggesting that men accept women into what they may perceive as their space as long as they are not threatened, as found by Overå (2003) in Ghanaian fisheries. Representation of women on the BMUs was found to be perceived as being important for at least two reasons: they represented fish trading and processing to an extent that may not happen with men only on the committee, particularly if the committee is dominated by boat owners, as landing site committees had been in the past (Nunan et al., 2012); and, due to their occupation, largely, of being fish traders/processors, women interact with people of all occupational groups, with the potential to represent and reach out to these networks.

There is insufficient evidence from the research though to make firm conclusions on whether women are better represented when there are more women in co-management structures. The mixed picture on the degree to which women are actively involved and are listened to suggests

that their involvement is not always seen as legitimate, reflecting the experience of efforts to increase representation of women in some parliaments through quota systems as reported by Dimitrova-Grajzl and Obasanjo (2019).

Given the larger representation of fish traders/processors resulting from the inclusion of women, examples were given in the research of the effects of representation being that the livelihoods of women were protected and promoted. Women were seen as having different ideas about what activities could be undertaken and prioritised from their experience in trading and processing and the spaces they operate in. They were reported as being able to get things done through their networks, both with other women and through their trading networks, and were perceived as having integrity and attention to detail. Women were also able to participate in enforcement when other women were accused of illegalities.

Constraints on the effective representation and participation of women included the number and range of domestic duties expected of women, in addition to their income-generating activities, and to taboos associated with women and sexual relations within fisheries. Such taboos within the fishing communities influence attitudes to women participating in the BMU. These types of factors that affect the participation of women reflect those found in forest management by Evans et al. (2017) and identified by Colfer and Minarchek (2013) in their multi-level “gender box” of factors influencing the degree and nature of participation by women in forest management. The domestic and productive work burdens of women have been found in other cases to limit the participation of women in governance. Lyon et al. (2017) found that although the participation of women in coffee producer associations in Oaxaca, Mexico, had increased to 42% of members in 2013, up from 9% in the mid-1990s, their participation in the governance of the associations had not risen in the same way. This was reported as being



due to the significant time poverty of women resulting from having a disproportionate share of domestic responsibilities as well as being involved in coffee production.

The findings confirm the observation of Arora-Jonsson (2013) that gender norms and relations outside environmental governance structures affect the representation and participation of women. The dominance of men over women, reflected in patriarchy, was found in the prevalence of men in BMU committees, that men overwhelmingly held the position of Chair and the references to women on the committees being influenced by their husbands and being unwilling to speak, as well as sometimes not listened to. The reference to women acting on issues related to the livelihoods of women suggests that women have used the male-dominated spaces of BMU committees to “bargain with patriarchy” (Kandiyoti, 1988; Kawarazuka et al., 2019), creating opportunities for decision-making within patriarchal systems that are beneficial to the position and livelihoods of women.

## **7. Conclusion**

The research reported on here provides further evidence that participation of women in fisheries co-management is challenging in terms of scale, i.e. number of women, and extent of participation, in terms of position in committees, involvement in activities and influence on decisions and outcomes. This suggests that although the introduction of co-management opened up opportunities for the participation of women in fisheries management, this has been done within existing gender norms, as found elsewhere (Resurreccion, 2006). Gender norms and relations influence the extent to which it is acceptable for women to participate in fisheries management. They also influence the extent to which they are able to participate, given the range and number of domestic responsibilities in addition to income-generating activities, as also found in forest management.

The social status of women in many fishing communities, arising from the male domination of the sector, and local gender norms and relations mean that it will inevitably be challenging to see widespread, meaningful participation of women in fisheries co-management. This suggests that although participation of women in co-management is accepted around the lake, this acceptance and their participation does not challenge gendered norms and relations and so these norms and relations limit the practice of participation.

From the findings, however, there are widespread shared perceptions of the benefits of women being on co-management committees. These include the different networks represented and reached by women, particularly through their work as fish traders/processors, and their advocacy for women's livelihoods, acting to protect and promote the interests and livelihoods of women. These could be more widely promoted and built on, emphasising the ideas, networks, skills and, at times, positive behaviour they can bring to fisheries management and the development of fishing communities. The evidence that women spoke out and acted on livelihoods of relevance to other women suggests that participation of women in co-management structures can be beneficial for social and economic development. The evidence in the paper supports the call in the 2015 FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries for greater participation of women in decision-making as well as their wider role in fisheries to receive greater recognition. Efforts are being made globally through the Gender Strategy of the CGIAR Research Program on Fish Agri-Food Systems (FISH) led by the WorldFish Center (2017) to inform gendered approaches to policy and practice in aquaculture and small-scale fisheries. One of its three pathways is "innovation for inclusive governance and agri-food systems", recognising the need for a gendered approach to fisheries governance.

The findings do not provide sufficient evidence on the level of participation in terms of the number of women on each committee. Data from more sites would be needed to generate conclusions on whether the requirement that a third of the members are women has an impact on management and on livelihoods. Whilst Agarwal (2015) suggests that at least a third of the membership of community-based forest management committees should be women to make a difference, Dyer (2018) suggests that gender parity is insufficient for gender equality. Instead, Dyer (2018) suggests that alternative forms of meetings are needed that are more conducive to participation of women, potentially including women-only meetings.

The prevalence of locally-initiated savings and credit schemes within the fish landing sites could provide an opportunity for government and civil society organisations to work with women's groups within fisheries and, over the course of time, generate greater interest in participating in fisheries co-management and willingness of both men and women to listen to women's voices in fisheries management. Self-help groups, such as these local savings and credit schemes, have been found to lead to "independence in financial decision-making, solidarity and improved social networks and respect for household and other community members" (Brody et al., 2017, p.36). Women could be engaged in co-management processes through such groups as well as these groups supported for the potential to empower women through access to credit, opportunity to save and expand social networks. Empowerment of women working within fisheries may contribute to improving the social status of women and creating further space for participation in fisheries co-management.

**Key words:**

Women, co-management, fisheries, Lake Victoria

**Declarations of interest:** none

## **Acknowledgements**

This work was supported by the Leverhulme Trust under Grant RPG-2013-375, ‘Networking for fisheries co-management on Lake Victoria, East Africa’. The authors thank the fisherfolk and fisheries staff of Lake Victoria who participated in the research through lengthy interviews and researchers of the fisheries research institutes of Kenya, Tanzania and Uganda for their collaboration in the research.

## **References**

Agarwal, B. 2009. Rule making in community forestry institutions: The difference women make. *Ecological Economics* 68(8-9), 2296–2308.  
<https://doi.org/10.1016/j.ecolecon.2009.02.017>

Agarwal, B. 2010. Gender and green governance: The political economy of women’s presence within and beyond community forestry. Oxford, UK: Oxford University Press.

Agarwal, B. 2015. The power of numbers in gender dynamics: illustrations from community forestry groups. *Journal of Peasant Studies* 42(1), 1-20. DOI: 10.1080/03066150.2014.936007

Alonso-Población, E., Siar, S.V. 2018. Women’s Participation and Leadership in Fisherfolk Organizations and Collection Action in Fisheries: A review of evidence on enablers, drivers

and barriers. FAO Fisheries and Aquaculture Circular No. 1159. Rome: Food and Agricultural Organization.

Arora-Jonsson, S. 2013. Gender, Development and Environmental Governance: Theorizing Connections. London: Routledge.

Baker-Médard, M. 2017. Gendering Marine Conservation: The Politics of Marine Protected Areas and Fisheries Access. *Society & Natural Resources* 30(6), 723-737.

<https://doi.org/10.1080/08941920.2016.1257078>

Beechey, V. 1979. On Patriarchy. *Feminist Review* 3, 66-82.

<https://doi.org/10.1057/fr.1979.21>

Berkes, F. 2009. Evolution of co-management: role of knowledge generation, bridging organizations and social learning. *Journal of Environmental Management* 90(5), 1692–1702.

<https://doi.org/10.1016/j.jenvman.2008.12.001>

Brody, C., de Hoop, T., Vojtkova, M., Warnock, R., Dunbar, M., Murthy, P., Dworkin, S.L.

2017. Can self-help group programs improve women's empowerment? A systematic review.

*Journal of Development Effectiveness* 9(1), 15-40.

<https://doi.org/10.1080/19439342.2016.1206607>

Choudhury, M-U-I., Haque, C.E., Habib, S. 2018. Participatory exclusion of women in natural resource management: silent voices from wetland communities in Bangladesh. *Community Development Journal* 53(1), 42–60. <https://doi.org/10.1093/cdj/bsw007>

Coleman, E.A., Mwangi, E. 2013. Women's participation in forest management: A cross-country analysis. *Global Environmental Change* 23(1), 193-205. <https://doi.org/10.1016/j.gloenvcha.2012.10.005>

Colfer, C.J.P., Minarchek, R.D. 2013. Introducing 'the gender box': a framework for analysing gender roles in forest management. *International Forestry Review* 15(4), 411–426. <https://doi.org/10.1505/146554813809025694>

Cornwall, A. 2003. Whose Voices? Whose Choices? Reflections on Gender and Participatory Development. *World Development* 31(8), 1325–1342. [https://doi.org/10.1016/S0305-750X\(03\)00086-X](https://doi.org/10.1016/S0305-750X(03)00086-X)

Department for Fisheries Resources (DFR). 2003. Guidelines for Beach Management Units. Entebbe, Uganda: Ministry of Agriculture, Animal Industries and Fisheries.

Di Ciommo, R.C., Schiavetti, A. 2012. Women participation in the management of a Marine Protected Area in Brazil. *Ocean & Coastal Management* 62, 15-23. <https://doi.org/10.1016/j.ocecoaman.2012.02.010>

Dimitrova-Grajzl, V., Obasanjo, I. 2019. Do parliamentary gender quotas decrease gender inequality? The case of African countries. *Constitutional Political Economy* 30(2), 149–176. <https://doi.org/10.1007/s10602-018-09272-0>

Dyer, M. 2018. Transforming communicative spaces: the rhythm of gender in meetings in rural Solomon Islands. *Ecology and Society* 23(1), 17. <https://doi.org/10.5751/ES-09866-230117>

Etiegni, C.A., Irvine, K., Kooy, M. 2017. Playing by whose rules? Community norms and fisheries rules in selected beaches within Lake Victoria (Kenya) co-management. *Environment, Development and Sustainability* 19(4), 1557-1575. <https://doi.org/10.1007/s10668-016-9799-2>

Evans, K., Flores, S., Larson, A.M., Marchena, R., Müller, P., Pikitle, A. 2017. Challenges for women's participation in communal forests: Experience from Nicaragua's indigenous territories. *Women's Studies International Forum* 65, 37–46. <https://doi.org/10.1016/j.wsif.2016.08.004>

Food and Agricultural Organization (FAO). 2015. Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication. Rome: FAO.

FAO. 2016. The State of World Fisheries and Aquaculture 2016. Contributing to food security and nutrition for all. Rome: FAO.

Government of Uganda (GoU). 2016. Statutory Instruments 2016 No. 73. The Fish (Beach Management) Rules, 2016. Entebbe: Government of Uganda.

Implementation of a Fisheries Management Plan (IFMP). 2008. Report of the First Annual Monitoring of Performance of Beach Management Units on Lake Victoria. Jinja: Implementation of a Fisheries Management Plan, Lake Victoria Fisheries Organisation.

Kabeer, N. 1999. From Feminist Insights to an Analytical Framework: An Institutional Perspective on Gender Inequality, in: Kabeer, N. and Subrahmanian, R. (Eds.), *Institutions, Relations and Outcomes: Framework and Case Studies for Gender-Aware Planning*, Zed Books, London, pp 3-48.

Kandiyoti, D. (1988) Bargaining with Patriarchy. *Gender & Society*, 2(3), 274-290.

Kawarazuka, N., C. Locke and J. Seeley. 2019. Women bargaining with patriarchy in coastal Kenya: contradictions, creative agency and food provisioning. *Gender, Place & Culture*, 26(3), 384-404.

Kleiber, D., Harris, L., Vincent, A.C.J., 2018. Gender and marine protected areas: a case study of Danajon Bank, Philippines. *Maritime Studies*, 17, 163-175.

Lake Victoria Fisheries Organisation (LVFO). n.d. *People in Lake Victoria Fisheries: Livelihoods, Empowerment and Participation*. Information Sheet No. 1. Jinja: Lake Victoria Fisheries Organization.

LVFO. 2015. *Regional Status Report on Lake Victoria Bi-ennial Frame Surveys between 2000 and 2014*. Kenya, Tanzania and Uganda. Jinja, Uganda: LVFO.



Leisher, C., Temsah, G., Booker, F., Day, M., Samberg, L., Prosnitz, D., Agarwal, B., Matthews, E., Roe, D., Russell, D., Sunderland, T., Wilkie, D. 2016. Does the gender composition of forest and fishery management groups affect resource governance and conservation outcomes? A systematic map. *Environmental Evidence* 5, 6. <https://doi.org/10.1186/s13750-016-0057-8>

Lyon, S., Mutersbaugh, T., Worthen, H. 2017. The triple burden: the impact of time poverty on women's participation in coffee producer organizational governance in Mexico. *Agriculture and Human Values* 34, 317–331. DOI 10.1007/s10460-016-9716-1

Macé, E. 2018. From Patriarchy to Composite Gender Arrangements? Theorizing the Historicity of Social Relations of Gender. *Social Politics* 25(3), 317-336. <https://doi.org/10.1093/sp/jxy018>

Medard, M. 2012. Relations between People, Relations about Things: Gendered Investment and the Case of the Lake Victoria Fishery, Tanzania. *Signs* 37(3), 555-566. <https://doi.org/10.1086/662704>

Nunan, F. 2010. Mobility and fisherfolk livelihoods on Lake Victoria: implications for vulnerability and risk. *Geoforum* 41(5), 776-785. <https://doi.org/10.1016/j.geoforum.2010.04.009>

Nunan, F. 2014. Wealth and welfare? Can fisheries management succeed in achieving multiple objectives? A case study of Lake Victoria, East Africa. *Fish and Fisheries* 15(1), 134-150. <https://doi.org/10.1111/faf.12012>

Nunan, F., Cepić, D., Onyango, P., Yongo, E., Mbilingi, B., Salehe, M., Odongkara, K., Mlahagwa, E., Owili, M. 2018. Community cohesion: social and economic ties in the personal networks of fisherfolk, *Society and Natural Resources* 31(3), 306-319. <https://doi.org/10.1080/08941920.2017.1383547>

Nunan, F., Hara, M., Onyango, P. 2015. Institutions and co-management in East African inland and Malawi fisheries: a critical perspective. *World Development* 70, 203-214. [doi.org/10.1016/j.worlddev.2015.01.009](https://doi.org/10.1016/j.worlddev.2015.01.009)

Nunan, F., Luomba, J., Lwenya, C.A., Ntambi, B., Odongkara, K., Yongo, E.O. 2012. Finding space for participation: fisherfolk mobility and co-management of Lake Victoria fisheries. *Environmental Management* 50, 204-216. DOI: 10.1007/s00267-012-9881-y

Onyango, P.O., Jentoft, S. 2011. Climbing the Hill: Poverty Alleviation, Gender Relationships, and Women's Social Entrepreneurship in Lake Victoria, Tanzania. *Maritime Studies* 10(2), 117-140.

Overå, R. 2003. Gender ideology and manoeuvring space for female fisheries entrepreneurs. *Institute of African Studies Research Review* 19(2), 49-66. <https://hdl.handle.net/10520/EJC45946>

Pearson, G., Barratt, C., Seeley, J., Ssetaala, A., Nabbagala, G., Asiki, G. 2013. Making a livelihood at the fish-landing site: exploring the pursuit of economic independence amongst

Ugandan women. *Journal of Eastern African Studies* 7, 751-765.  
doi: 10.1080/17531055.2013.841026

Refki, D., Abbas, D., Avci, B., Kim, E., Berger, I., Faerman, S. 2017. Erosion and transformation in the ecology of gender: women's political representation and gender relations in the Ugandan parliament. *Journal of Modern African Studies* 55(1), 55-78.  
DOI: <https://doi.org/10.1017/S0022278X1600080X>

Republic of Kenya. 2006. National Beach Management Unit Guidelines. Nairobi, Kenya: Department of Fisheries.

Resurreccion, B.P. 2006. Rules, Roles and Rights: Gender, Participation, Community Fisheries Management in Cambodia's Tonle Sap Region. *International Journal of Water Resources Development* 22(3), 433-447. DOI: 10.1080/07900620500482949

Samndong, R.A., Kjosavik, D.J. 2017. Gendered forests: exploring gender dimensions in forest governance and REDD+ in Équateur Province, Democratic Republic of Congo (DRC). *Ecology and Society* 22(4), 34. <https://doi.org/10.5751/ES-09753-220434>

UN-DESA (2018) <https://sustainabledevelopment.un.org/sdg5> Accessed 02/07/2018.

United Republic of Tanzania. 2005. National Guidelines for Beach Management Units. Dar es Salaam, Tanzania: Fisheries Division.

World Bank. 2012. Hidden Harvest. The Global Contribution of Capture Fisheries. Washington, D.C.: World Bank.

WorldFish Center. 2017. CGIAR Research Program on Fish Agri-Food Systems (FISH): Gender Strategy. FISH-2017-13. Penang, Malaysia: CGIAR Research Program on Fish Agri-Food Systems.