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Gender inequality in the ecosystem approach to fisheries management (EAFM)

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Gender inequality poses severe challenges to the socio-economic wellbeing and ecological wellbeing of the fisheries and aquaculture sector in achieving inclusive development globally. The lack of sex-disaggregated data in fisheries and aquaculture research reaffirms the perception that the fisheries sector is a masculine industry. This lack of sex-disaggregated data, strengthened the policy neglect of gender problems in the fisheries sector, leading to gender-blind policies that focus more on fish capture which is dominated by men rather than marketing and processing where women dominance is more pronounced. Even though millions of women are engaged in different activities within the fisheries value chain, yet their participation and contributions remain invisible. The research aims to amplify the importance of the Ecosystem Approach to Fisheries Management (EAFM) in addressing issues of gender inequality in the fisheries and the aquaculture sector with an emphasis on; management and decision making, and access and control of resources, which hinders the sustainable development processes in marginalized communities. The paper concludes that sex-disaggregated research can assist in achieving goal number five of the sustainable development goals (SDGs) in the fisheries and aquaculture sector.

Keywords: Gender, Inequality, Women, EAFM, Fisheries

INTRODUCTION

Women play a vital role in global fisheries, constituting an estimated 50% of the world fisheries sector (de Pryck, 2013) in both pre and post-harvest activities with limited involvement in management and decision making (Bennett, 2005; Harper et al. 2013; SOFIA, 2013; World Bank, 2012). Women's involvement in the fisheries sector is diverse. It has increased significantly with the emergence of fish processing, sewing nets, preparing bait and food for fishermen, which are unacknowledged or not considered as employment (FAO, 2008; Williams, 2005, 2008). Also, women's participation and contribution to the fisheries sector is mostly unrecognized and virtually invisible in

administration plans and fisheries data (Bennett, 2005). Despite women's central role, their access to fisheries resources is reduced by several factors, such as religious beliefs. These factors limit women from active participation pushing them to the bottom end of the fisheries value chain (FAO, 2006; Porter, 2006). Women's partial participation in the fisheries sector results in gender inequality in terms of socio-economic wellbeing, which in turn pushes women into poverty (FAO, 2008). The inequalities in management, decision-making, access to fisheries and capital resources as well as training and formal education have a multifaceted effect on both livelihoods of the women and that of the entire household (Weeratunge et al. 2010).

By definition, gender is regarded as a distinct right, role, and responsibility of both men and women which is determined by socio-cultural norms. Gender roles vary by definition in different cultural systems, its understanding differs among the academia and the policy-makers.

Gender roles built on socially constructed customs assigned to biological sex results in a gendered division of labor. Gendered division of labor in the fisheries sector made the participation and contribution of women workers invisible, leading to gender-blind policies and activities that disregard women's needs and welfare. Researchers have long ignored this issue because of the perception that fishing is men's job (Choo et al. 2008; Davis & Gerrard, 2000; Williams, 2008). However, various research confirmed that the fisheries sector is not particular to men, but also has a significant involvement of women (Choo et al. 2008; Kleiber et al. 2015; Satapornvanit, 2018; Siason, 2000; Williams, 2010). Although fish capture has been related with men, women also augment significantly to post-harvest, processing, and marketing (Choo et al. 2008; Weeratunge et al. 2010).

Previous literature on gender in fisheries focuses more on the roles of women and livelihood which has now been expanded to include broader aspects of gender in fisheries. The recent literature considers issues of participation, governance, decision-making, access to resources, rights, and ecological aspects (Máñez & Pauwelussen, 2016).

This paper reviews the state-of-the-art literature on gender inequalities within the fisheries sector and suggesting a more comprehensive approach to the study of gender in fisheries management by exploring gender inequalities across the three pillars of the Ecological Approach to Fisheries Management (EAFM).

EAFM is a broadly recognized approach to fisheries management that involves the acknowledgement of interface amongst the essential features of the fishery (i.e. fish and the fishers); habitats (coral reefs, sea grass, mangroves), ecological, oceanographic, and environmental conditions that interact with the fisheries; and the social, economic, and governance systems surrounding and affecting them (Pomeroy et al. 2013).

The extensive acceptance of EAFM has requires the acquisition of pertinent and high quality data which includes traditional fisheries information and knowledge, including science

based information and local knowledge from sophisticated and current methodologies (FAO, 2006, 2008, 2012b, 2016). The required data includes the status of fish stocks, economics of fisheries trade, livelihoods of fishing communities, and aspirations of stakeholder groups, to name just a few (Effenberger, 2019).

This can be achieved by integrating the research findings on human wellbeing, ecological wellbeing, and good governance. Therefore, incorporating a gendered ecological, political and socio-economic methodology is essential for all-encompassing development outcomes for marginalized user of various resources. It draws the attention of stakeholders and policy-makers working towards achieving a sustainable and gender-balanced fisheries sector.

We use the social relations framework (Kabeer, 1994) which highlights human well-being as the ultimate goal of development and targets to evaluate current gender inequalities in the sharing of responsibilities, power, resources, interpersonal relationships, relationship to resources and activities in an institution. An institutions is termed as divergent structures of procedures for doing things, equally, organizations are viewed as the explicit structural systems which every institution adapts. Institutions guarantee the production, strengthening and duplication of social relationships, and thereby, social differences and inequality (Effenberger, 2019). The imbalanced social relationships comprising gender relations that leads to uneven distribution of claims, resources, and responsibilities is viewed among the causative agents of poverty. Thus, gender analysis necessitates viewing how institutions keep reproducing inequalities.

The paper is divided into four (4) sections; Section I discusses the gender inequality in women participation in fisheries management and decision-making. In section II, we discuss gender inequality in access and control of fisheries resources. Section III discusses the gender inequality in the ecosystem and Section IV concludes the paper.

Gender inequality in women participation in fisheries management & decision-making

Fisheries management and policies are conventionally based on direct, formal, and paid fishing services while ignoring the indirect, informal, and/or unpaid. The formal sector is mostly dominated by men while the informal sector of the fisheries is where women are focused. This dichotomy resulted in a condition

where men and women's contributions to the sector are measured unequally, or unrecognized, resulting in women being mainly barred from decision-making roles in the fisheries sector.

The literature suggested the inclusion of gender in fisheries management and ensuring women participation in monitoring, implementation, evaluation, and decision-making in the fisheries sector (Agarwal, 2010; Barclay et al. 2018; Westermann et al. 2005). The diverse knowledge, decision-making roles, and experiences possessed by women may enrich management as well as provide new perspectives when evaluating issues and when coming up with solutions (Klugman et al. 2014). However, the invisibility of women's participation in fisheries statistics and the negative impacts of gender-blind policies in the fisheries sector exposed women to marginalization and discrimination within the sector (FAO, 2013). Women's productive potentials are unrealized and remained deprived throughout the fisheries values chain.

An estimated 48% or more of the global fisheries workforce are women (FAO, 2013), however, the roles and contributions of these women are undervalued due to a lack of accurate and comprehensive data (Alami & Raharjo, 2017; Ariadno & Amelina, 2016; Fitriana & Stacey, 2012). Women's contribution in the administration and decision-making in fisheries management may lead to a sort of governance that can simplify the direction finding of challenging policy issues (UNEP, 2015). Government institutions play a vital role in encouraging women's active participation in the fisheries sector (Bagsit & Jimenez, 2013; Frangoudes et al. 2008; Nunan, 2006), these policies are aimed at integrating the marginalized group such as women in fisheries management and decision-making.

Women participate actively in almost all the stages of the fisheries value-chain. However, women's participation, access to leadership, and decision-making roles are marred by massive tasks. The presence of these obstacles eventually reflects that in spite of having responsibilities, women do not enjoy absolute rights.

Among these challenges is the lack of representation in various fisheries organizations, which excludes women from management and decision-making that mostly affects the resources they depend on for their daily activities in the fisheries sector. This explains why women's necessities are misrepresented in the fisheries sector (Duflo, 2012).

Women are restricted to less visible roles,

even though they are always present in the fisheries value chain where their participation is neither acknowledged socially nor remunerated economically (WWF-UK, 2012). This is mainly due to the stages at which they are involved are not the visible ones within and outside the fisheries value chain.

Many projects such as the Sustainable Fisheries Livelihoods Programme (SFLP) in Africa and the Regional Fisheries Livelihoods Programme (RFLP) in Asia emphasized the important role women played in the fisheries sector looking beyond their roles as fish processors and marketers by involving them directly in the management and decision making.

To improve the role of women in fishery management and decision-making at all levels, there is a need for their active participation in fisheries organizations, capacity development across different fisheries value chains as well as mitigating institutional challenges and socio-cultural barriers.

To utilize the untapped potentials of women in fisheries management and decision-making, some important steps should be taken such as gender mainstreaming in governance policy and approaches, documentation of the entire processes used, and developing gender discourses.

Gender inequality in access and control of fisheries resources

Access is defined as "right and opportunity to make use of, obtain, or take advantage of something while control is the ability or authority to manage something (Nofriyanti, 2017). Women have limited access and control over fishery resources due to gender-blind policies, cultural and religious customs, and their position in the fisheries value chain (FAO, 2016; Porter, 2006; Porter & Mbezi, 2010; Weeratunge et al. 2010). Even with the important role, women played in the fisheries sector, yet they are faced with a certain amount of restrictions that hinder their access to fisheries assets and resources, such as low-paid or unpaid wages (FAO, 2016). Limiting women's role within the fish value chain results in income disparity causing them to remain poor. The consequences of this disparity affects both women and the entire family (Weeratunge et al. 2010). Additionally, women largely experienced limited or no access and control over resources, which as a result emanates to gender inequality.

Recent research in small-scale fisheries establishes that economic asymmetries are a

common feature in small-scale fisheries and have enormous challenges in management (Barclay et al. 2018). Women engaged in small-scale aquaculture farming in Nigeria and Vietnam experience difficulties in accessing capital loans to procure inputs such as feeds, medicines, and other fish production and processing equipment (Veliu et al. 2009). Restrictions on access to land made it difficult for women to take part in the small-scale fisheries as owners of earthen ponds, even though, Muslim women have more rights over land ownership than their Christian counterparts, this lack of rights is an obstacle for women to access financial resources (Veliu et al. 2009) which in turn results in economic inequalities.

Economic inequalities are found to be at the core of many gender studies (de la Torre-Castro, 2019). These economic inequalities affects women in particular as well as the community at large. This is due to the fact that women's incomes are mostly devoted in the household augmenting the men's responsibilities (Weeratunge et al. 2010). As confirmed in research work by Fröcklin et al. (2013) economic gender inequalities are present in market activities of fish traders especially women traders.

Women's access and control on fisheries resources are limited due to various views, cultural, religious, lack of ownership of fishing gears, access to fishing grounds, financial and other services, lack of recognition, lack of representation within the fisheries sector. Besides, they are also faced with marginalization, invisibility, and exploitation especially among women that are secondary or tertiary users of fisheries resources.

Women who partake in various fisheries activities in many fishing communities frequently finance fishing operations to enable them access fresh fish. However, the absence of reliable data on access and control of resources such as boat ownership, access to fresh fish, and comparative profit margins within the value chain gives an unclear picture of women's access and control of resources (de Pryck, 2013; Weeratunge et al. 2010). It is therefore of paramount importance to have more information to comprehend the level of access and control that women have on fisheries assets.

Women can achieve recognition and bargaining power through organizing themselves into fisheries associations and or unions which will improve their participation in access and control of

fisheries resources as well as improved livelihoods.

Gender inequality in the ecosystem

Climate change and overexploitation of fisheries resources locally and globally exhibit diverse impacts to both men and women. The depletion of marine resources such as low fish catch, contamination, and decreased soil fertility affects the livelihood of both women and men.

According to FAO, (2012) climate change drastically affects coastal regions, forcing inhabitants to migrate to less vulnerable areas which in turn results in conflicts. Women are mostly affected by such conflicts due to the lopsidedness in social structures. Climate change considerably affects the catch and marketing of fish products, causing political and economic consequences especially for women in households that depend on the fishery sector. Migration is the solution taken by most men when faced with declining fisheries resources, it is linked with a high risk of HIV/AIDS which causes a negative impact on household vulnerability (FAO, 2012a).

Changes in water temperature and other climatic conditions have direct effects on the catch potential. This climate changes effects affect women the most since any redistribution in fish species requires a different technique in harvesting, processing, and marketing (Iwmi & WorldFish, 2016).

CONCLUSION

The fisheries sector is still patriarch in nature, with little or no consideration of the various roles women played except for post-harvest roles. Much emphasis is given in the literature on how to improve the post-harvest activities which are majorly dominated by women. From the reviewed literature, it is evident that most women have only secondary or tertiary access and control to fisheries resources with limited or no access to management and decision-making in the sector. It is very difficult to draw strong conclusions on women's participation, access, and control of fisheries resources based on the available literature especially as a result of insufficient gender-disaggregated data.

There is a need for an in-depth exploration of the inequality issue in the fisheries sector through revising and adaptation of policies, laws, and fisheries management plans to consider gender equality within the fisheries value chain to achieve

equitable participation, decision-making as well as access and control of fisheries resources.

Failure to address gender-specific limitations in the fisheries sector policies resulted in substantial economic losses to the fisheries sector in terms of production, income, and food security mostly for the poor households that depends on the small-scale fishery.

Future research work should look inward on power distribution among fishing communities, with emphasis on decision-making, access, and control of fisheries resources.

CONFLICT OF INTEREST

The authors declared that present study was performed in absence of any conflict of interest.

AUTHOR CONTRIBUTIONS

AMA designed, collected information, analysed data and wrote the manuscript. CFK designed the review framework and reviewed the manuscript. All authors read and approved the final version.

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