

Gender participation in fisheries management of Lake Victoria, Kenya

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Abstract

Gender plays an important role in the artisanal fisheries, therefore it is critical for both men and women to participate in fisheries management. This paper analyzes gender responses to introduced or enhanced fisheries regulations and constraints to compliance so as to facilitate gender participation in the management of Lake Victoria. Both primary and secondary data have been used. Results indicated that in Lake Victoria, there is a clear-cut division of labor differentiated by gender, which is culturally defined. Men and women respond to management measures differently due to differentiated roles and space they operate in. Poverty emerged as a constraint to both men and women but affecting the women much more due to lack of economic and status empowerment. Fishers have organized themselves into groups that act collectively. These organizations are crucial in the establishment of co-management for Lake Victoria. The study observed that women's effective and meaningful participation in fishery management is greatly hampered by their subordinate positions at the household and community level. They have minimal access to and control over production resources and even much less, over benefits. Women should be empowered economically and socially to participate effectively in fisheries management. Further, they should be encouraged to organize themselves into support groups to; attain access to credit and fishery resources; to encourage appropriate fishery practices; and to diversify in non-fishing activities to ease pressure on the fishery.

Introduction

Lake Victoria, which is the second largest fresh water lake in the world, covering 68,800km², is a source of livelihood for about 3 million people of the lake Victoria basin in Kenya, Uganda, and Tanzania. Lake Victoria is also an important source of income to the fishing community and earns the nation a foreign income. Fish production for Kenya in 1995 amounted to 193,789 tones with Lake Victoria accounting for 94.6% of the total catch. Foreign currency earned from fisheries in 1995 amounted to 1.5 billion Kenyan shillings. (Ikiara, 1999). On the lakeshore, income is derived from selling fish and its products, boat building, net making and repairs, actual fishing, employment in fish factories and many others. Small beach markets have also been established on fish landing beaches.

Lake Victoria is faced with a number of problems, which affect the sustainable use of its resources. The problems of this fishery are 'common problems' which include overfishing, leading to reduced stocks, pollution from industrial effluent and sewage, infestation by water hyacinth, poverty of the fishing communities, poor infrastructure, use of illegal fishing methods among others. With reduced stocks,

there is increased effort to maximize profits from the resource. Individuals continue investing hoping that the effect of reduced stock will fall on others. With everybody scrambling to increase his or her share of the declining resource, the fishery ends up being an object of a much greater effort. The net result is over-fishing, declining catches, destruction of fish stocks and over-capitalization. Indicators showing this decline in stock include the decreasing size of fish caught, further use of small mesh size than the required one, the increasing number of fishing gear per person and the rising costs of fishing (SEDAWOG, 2000).

The government mainly manages Lake Victoria through a Fisheries ACT that focuses on gear regulation, licensing, taxation, and prohibition of fishing in some areas and seasons. This kind of system was introduced during the colonial period and continued even after independence. This top-down approach of management has been implemented without the involvement of the fishing communities who utilize, and live with the resource, having good mastery over it. This command and control system has not been very effective because of the constraints the government has had, such as lack of capital, understaffing, poor infrastructure, and lack of appropriate technology. The regulations fail to capture the diversity within the communities and assume homogeneity in application and adaptation. An alternative suggestion of co-management has been suggested for involving more than one institution in the management of the lake's resource with the fishing communities playing an important role.

Gender *per se* has been left out from studies of Lake Victoria fishery. It has to be recognized that different people derive differing needs from the fishery, which determine how they utilize the resource. The traditional perception of gender *per se* has been misconceived to mean lessening the powers traditionally held by men. It should be appreciated that empowering women means working alongside men without discrimination or victimization. In other words, it means accepting gender issues as part of development. It is now evident that given equal access to opportunities and resources, women have proven to be equally efficient and dynamic as men and indispensable partners in development. Therefore, the output of the discussion will contribute to management policies that are sensitive to the needs of the whole community rather than to one gender.

Traditionally, both women and men were involved in fisheries but each performing different roles. As regards gender, the traditional division of labor in most parts of the third world dictates that men spend more time fishing than is the case for women. To some extent, women tend to fish occasionally, close to the beach or in rivers (though with less efficient technologies). This is because of the cultural division of labor that requires them to be near home to take care of the family. Today men play a dominant role in actual fishing as in the past, while women take a major role in post harvest activities. Despite the fact that men dominate the fishing sector, more women are also buying fishing gears and getting involved in this sector. Therefore, women alongside with men participate in the continuous processes of exploiting the fishery environment and challenging regulations governing fisheries.

Traditionally, the division of labor within lake communities dictates that men spend more time fishing, while women roles in the fishery were mainly concerned with post-harvest activities and marketing. In the past women have been marginalized in decision-making, yet they are important users of the same resources. Every member of the community should have a sense of belonging to have the incentive to develop and use the fisheries resources sustainably. Gender roles are now dynamic and fast changing. Women's role in harvesting, post-harvest handling of fish and marketing is a central position that can be used to influence critically every aspect of resource allocation in this fishery.

Understanding gender means understanding opportunities, constraints and the impacts of change as they affect both men and women" (World Bank). Partnerships and equality between men and women are the basis of strong families and viable societies in a rapidly changing world. Yet misogynistic views lie at the heart of continued discrimination against women. Women have been consistently excluded from decision-making across history and societies. Indeed, in all social groups women are being systematically discriminated against within systems of governance that allow for the dominance of a few social groups to the expense of others. It is such power structures that cause further imbalance, marginalization, suffering and conflict. Creating greater gender equity will contribute to building peaceful, democratic and prosperous societies.

Women play key roles in the fisheries processing and marketing sections, aquaculture sector, research and development and Networking activities. However their work and social space they occupy in the fisheries has remained invisible to researchers and policy makers because it is not directly connected to the capture fishery. This omission has been enhanced by the national policy agenda, which focuses on the production sector that is male dominated rather than the processing sector (female dominated). It is also difficult to extract

information pertinent to the fisheries sector in general and to gender in particular at the national level as the data is not gender disaggregated. The lack of information on gender roles and spaces in the fishery sector has led to women being left out in matters of policy and development hence make worse the already unstable position of, and contribute to underused and undervalued the relationship between men and women.

Recently gazetted fisheries management instruments

Due to various regional projects on lake Victoria, the three countries Kenya Uganda and Tanzania have instituted new regulations and enhanced some which were not being enforced in an effort to manage the fisheries. Some of the new measures include (a) Introduction of slot size for Nile Perch; (b) Involve the stakeholders in managing the fisheries, thus co-management, and (c) Closed season for *Rastreneobola argentea* ("dagaa"). Regulations were also introduced to enhance the quality standards of fish landed after the European Union ban in 1998.

Kenya Gazette Supplement No. 55, (2000): Set of regulations and conditions to ensure hygienic handling and processing of fish and fishery products . The mandate to the Ministry responsible for fisheries to become the Competent Authority (CA) on the trade of fish and fishery products . Requirement for health certification by CA for fish and fishery products for all products destined for export market.

Kenya Gazette Supplement No.105, (2003), The Prohibitions on Fishing for, landing, processing, moving and trading in Nile Perch fish whose total length is not less than 50 cm and not more than 85 cm. It also prohibits Fishing, landing, processing, moving or trading in *Rastreneobola argentea* ('dagaa') from the Kenya waters of Lake Victoria during the closed season (1st April to 31st July) every year.

These management measures have impacted differently on both men and women whose response in return is also differentiated by gender in their space of work. There are constraint that have hindered some fishers from implementing these measures as well some of these measures have been imposed without providing alternatives to fishers or enabling environment to change.

Overall objective

To assess the level of participation by gender in fisheries management of Lake Victoria and how various management tools affect them.

Objects

1. To assess gender response to introduced/enhanced fisheries regulations

2. To assess the impact of these management tools on gender.
3. To identify areas which require support to improve the skill and knowledge of women and men for effective management

Methodology

Both secondary and primary data was collected for this paper. To determine the impacts of the slot size measure, a survey was carried out which involved 156 artisanal fish processors and traders of Nile perch and tilapia selected from 13 fish markets in the 7 districts bordering Lake Victoria. Another study was also contacted which involved 300 fishermen from 14 beaches along Lake Victoria. Respondents were randomly selected.

Questionnaires were used during the interviews of respondents. Photographs were also taken. Data

was analyzed in SPSS and Excel. Data was segregated by gender and sector e.g. traders and fishers. Secondary data was collected from various government publications.

Gender role in the fisheries

Both men and women play differential roles in the fisheries. Women play an important role in post harvest sector (75%) while males dominate the production sector (86%). However there are changing roles in the fisheries where men have seized opportunity to enter into fish trade, which was once a female domain. Thus we find men dominating the Nile Perch fishery, which is more profitable, and export oriented pushing women to the less profitable fish species of dagaa and other indigenous fish species.

Table 1: Gender Participation in the fisheries.

Occupation	(% of respondents by gender n=119)	
	Male	Female
Boat owners/ fishers	86	20
Trader / Processor	14	75
Other (petty traders)	0	5

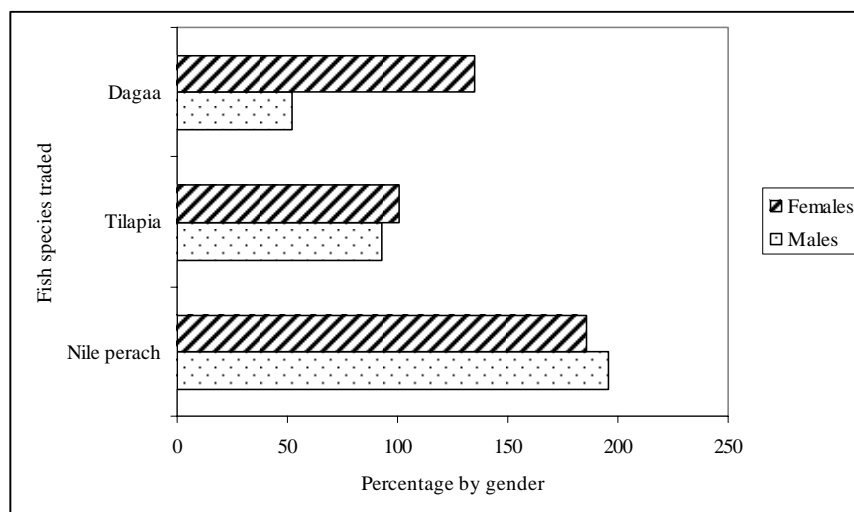


Figure 1: Principal fish species traded in by gender.

Figure 1 illustrates the principle fish species traded in by gender and women dominate the dagaa and the tilapia trade. Where women participation in Nile perch, it is mostly in fish that is less than 50 cm. In Lwenya and Abila (2001), women prefer to deal in dagaa fishery because it is affordable and easy to handle. Tilapine fishery has declined hence it has become expensive and fewer women deal in it.

1. Enhanced management

Sustainable management requires the full and equal participation of women at all levels.

It is inappropriate to try and address problems, to identify the appropriate strategies, or to implement the solutions if only half of the people concerned are involved in the process. Gender equity is an essential building block in sustainable management and development of the fishery. Indeed, none of the three "pillars" of sustainable development can be

achieved without solving the prevailing problem of gender inequity:

Fisheries management requires a solid understanding of women's relationship to environmental resources, as well as their rights and roles in resource planning and management. It also requires acknowledgement and incorporation of women's knowledge of environmental matters, as well as an understanding of the gender specific impacts of environmental degradation and misuse

a) Slot size increase for Nile Perch

The slot size management measure for Lake Victoria fisheries has been in place since 2001. This regulation allows for the catching of fish (Nile perch) only of size range 50-85 cm total length, thus, protecting both young fish and brooding stock

This paper indicates that the level of awareness about the slot size measure is 95% of fishers. Despite the fact that fishers understood this measure to protect the fish stock, the level of implementation was about 75%. While implementing this measure, about 38.6% of the fishermen who are males, indicated that they had been forced to change gears they used so as to meet the factories' and the Fisheries Department demand of fish that is 1 kg and above

On the other hand there is a low level of adoption of the slot size amongst women fish traders. Only 30% of the women stated that they implement slot size fish measure compare to 70% who don't comply.

Despite the slot size regulation being put in place fishers still catch Nile perch of less than 50cm. Figure 2 indicates that artisanal traders/processors who are mainly women and factory agents still form a big market for Nile Perch less than 50cm. Factory agents claimed that they buy this undersize when they can not get enough fish that is above 50cm. Artisanal traders claimed that they do not have money to compete with the factory agents.

These fishers who cannot afford to change from illegal gears to the approved gears split off from the main beaches and form unregistered beaches nearby. These beaches normally attract a large number of women small-scale traders who have been displaced by factory agents purchasing the large sized fish for the fish factories. These women have no other option but to form a very ready market for the undersized fish landed using illegal gears. By forming illegal beaches both men and women involved undermine fisheries management. Second they cannot participate in decision-making and management of the fishery as they are not recognized.

The slot size measure has impacted on the male fishers who due to compliance, 81% have stated that their catch had declined, and about 63% of the fishers indicated that operation cost increased. This in return has lowered the income from fishing. With lower incomes fishers tend to increase effort to be able to survive.

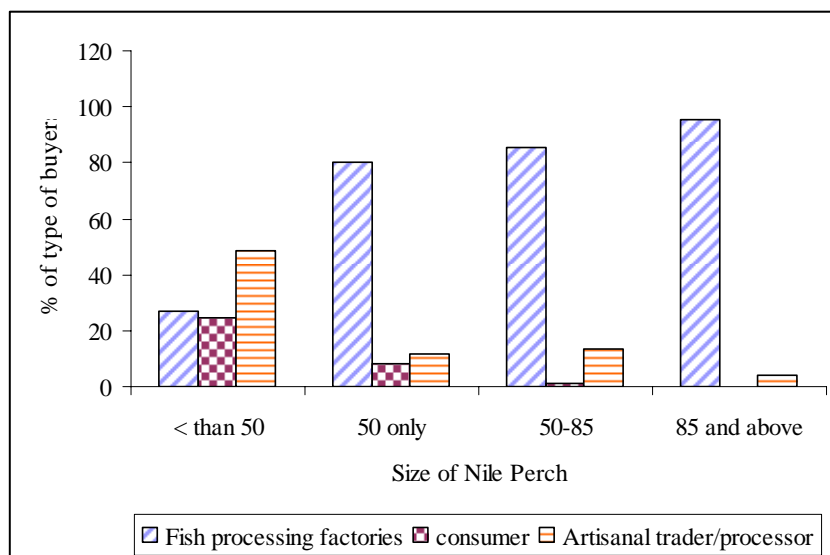


Figure 2: Nile Perch sizes and type of buyers.

Implementation of the slot size has been a disadvantage to women traders dealing in Nile perch because they cannot compete with the factory agents for the fish that is 50cm and above who have a high demand for it. The purchasing price is also prohibiting for the women who normally engage in the artisanal trade. This has reinforced women to

deal in undersized Nile Perch. Dealing in undersized fish has resulted into increased workload for women more than it was before. Due to the small sized fish they trade in women spend more time in collecting and processing this fish.

Before industrialization of the Nile perch fishery women traded in whole fresh fish, which did not

consume much of their time as, it does today. The women collected fish from the boats sold it at the beach market to hinterland traders or took it to the market later in the evening after completing her daily core at home. Now a woman has to spend about 68% of her time sitting by the beach waiting for undersized and rejected fish to get enough to

process (Figure 3) She has to buy fish from various boats with the help of other women she employs. After spending all this time and energy to process fish the profit that women get is as low as Ksh. 70 (1 US Dollar) only.

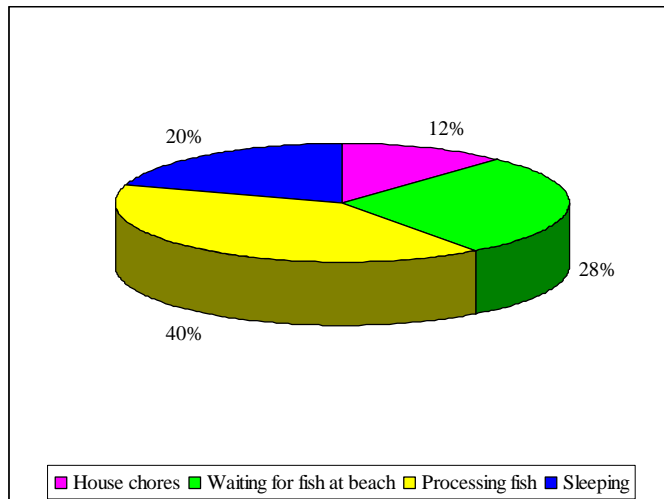


Figure 3: Time allocation for a woman fish trader and processor.

b) Co-management

Community participation is very essential for resource management. Many natural resources have been degraded due to exclusion of the resource users in decision-making and management. Fishery sector has not been an exception as lack of participation has led to the degradation of the resource in terms of diversity and biomass. Within the 21-century we cannot talk about resource management without community participation. The bottom down approach to management has proved to be in effective and expensive hence lack of compliance by fisher.

The government through the Fisheries department has made some deliberate attempt to create new institution to cater for community participation in the fishery management. In the past the Fisheries Department worked with beach committees to communicate to fisher communities. Due to regional collaboration in harmonizing management of Lake Victoria, the beach committees changed to Beach management units adapted from Tanzania. This change of institution has come with defined roles and standard operating procedure unlike the beach committees.

Participation in BMU is supposed to be representative of all the resource users who include boat owners, crewmembers, fish traders and processors, factory agents and other people involved in the fishery activities. Roles that are expected to be performed by BMU include licensing and record keeping of fishing gears and boats.

There is unequal participation of gender in various meetings at the beach level. In general, female participation at community level is very low. There is a fair participation of women in the election of the BMU officials yet they have a very minimal representation on the executive committee. However there is a higher participation of women when visitors come to the beach. This assumes that women have to perform reproductive duties even at community level i.e. cooking and serving visitor.

c) Dagua closure

Dagua closure is a management tool that has been within the fisheries ACT but had never been implemented. In the year 2001 the Fisheries Department began to implement this regulation with intent to manage the dagaa fishery. The closed season for dagaa fishery begins from April till 30 July. At this period no one is allowed to fish or trade in dagaa fish within Kenya as other two countries do no have this measure.

The dagaa closure regulation impacts heavily on the women who are the dominant dealers in this fishery. Most women who own boats prefer to deal in Dagua as well as many female fish traders deal in this fish (Figure 1). The closure of dagaa has impacted on the incomes of both males and female who deal in this fishery. However women are more disadvantaged as men shift to other fishery like hand lines or rent out their boats to other fishers. The closure of dagaa has impacted on other fishery by pushing more women there. More women have been absorbed in the trade of undersized Nile Perch hence challenging the management of Nile perch fishery.

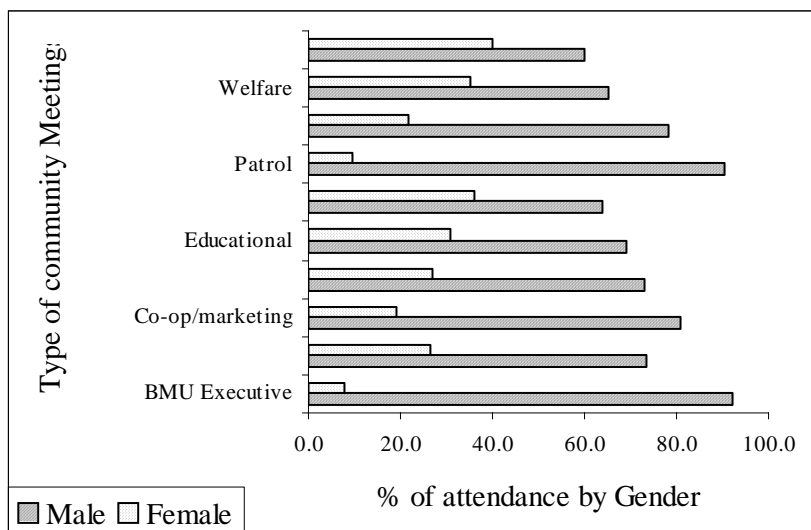


Figure 4: Participation by gender.

Constraints to implementing management measure

Poor working conditions

A good working environment is important for development, health and compliance to fisheries management. The Nile Perch fishery is more organized than the tilapia and dagaa fishery. Women traders have to wade through dirty water to buy fish from the boats. Women have also got to sit on the hot sunshine for many hours processing their fish. Poor working conditions are a disincentive to properly manage the resource. This poor working conditions also compromise the quality of fish hence lose to the value of fish and income.

Educational level of women

Education is important for any meaningful development in a population. The fishery sector has

generally been characterized with low levels of education. There is a high number of school dropouts at the level of primary. Child labor in fishery sector is one of the causes of the high level of school drop out. This especially affects the boy child who once he has been introduced to the fishery economic gains does not see the need for completing school. The girl child has been a victim of early marriage and hence drops out of school. These factors together with poverty have contributed to the low levels of education. Illiteracy may hamper the participation of both men and women in co-management roles as they are will not be able to be effective in data collection and making decisions for management out of it. This also hinders the fisher communities to join alternative employment outside the fishery.

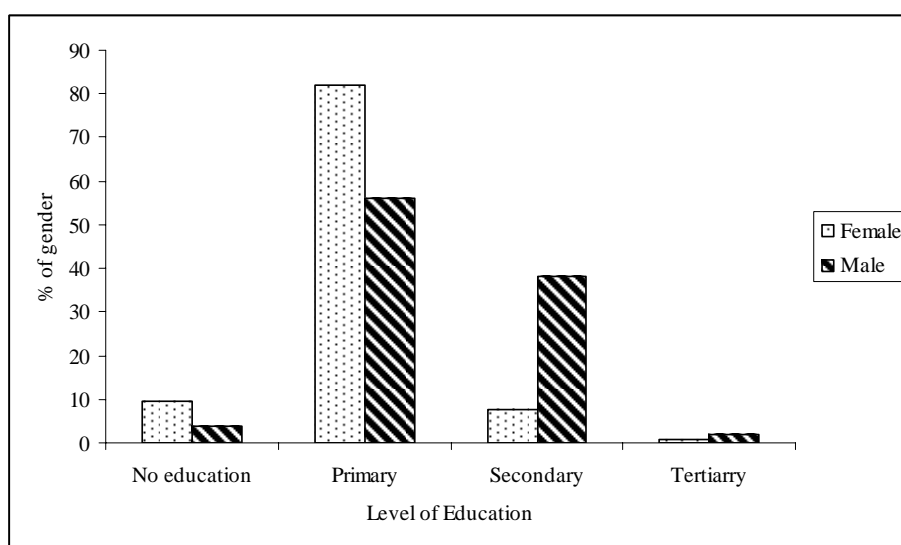


Figure 5: Levels of education by gender.

Other factors

Male fishers stated that implementation of the slot size had not been adapted by all due to poverty (42%), corruption (18%) and lack of enforcement (12.8%). Women fish trader cited Poverty (44%) and high prices of large size fishes (32%) as a hindrance to adapt to slot size measure.

Conclusions

- Managing the fisheries is important as it safe guards the ecosystem and the livelihood of Resource Users
- Management is challenged when a group of the resource users is marginalized
 - Their knowledge is not used
 - Their consent is not sought
 - Their commitment to conservation and management is not invited
 - Their compliance to rules is not assured
 - The resource that they fish- for food and livelihood are at risk
- Implementing a management tool without facilitating the change constrains the desired change.
- Equity in benefits and social status of women can enhance management
- Their knowledge is not used
- Their consent is not sought
- Their commitment to conservation and management is not invited
- Their compliance to rules is not assured
- The resource that they fish- for food and livelihood are at risk

References

- Fisheries (Fish Quality Assurance) Regulations, 2000. Legal Notice No. 100/2000. *In*. Kenya Gazette Supplement No. 55 of 11th August 2000.
- The Fisheries (General Amendment) Regulations 2001. Legal Notice NO. 18/ 2001. *In*. Kenya Gazette Supplement No. 4 of 26th January, 2001.
- Regulations made under powers of the Minister year Legislation provision 2001. Imposition of management measures Gazette Notice No. 7565 of 2001. *In*. The Kenya Gazette Vol. CIII, No. 69 of 9th November, 2001.
- 2The Fisheries (Prohibitions)Regulations, 2003. (Legal Notice No. 214/2003). *In*. The Kenya Gazette Supplement No.105 of 24th December, 2003.
- Measures imposed under sections 4, 5 and 6 (Other legislative instruments in process; BMU Regulations 2005. Discussion by stakeholders in Kisumu on 30th – 31st May 2005.

Recommendations

1. There is a need for fishers to be sensitized to practice responsible fishing by changing their poor fishing practices and attitudes for sustainable utilization and proper management.
2. There is need to create awareness of the existing fisheries regulations to the fishers. Educating them on these may enhance their obedience and understanding of the consequences of a degraded fishery resource.
3. To mitigate the increasing entry into fishery, proper education needs to be provided to both girls and boys to increase their opportunities of employment outside the fisheries.
4. Research needs to be carried out to establish opportunities for alternative sources of income within the fisher communities to reduce pressure on fisheries.
5. Women's access to credit should be enhanced through removal of legal restrictions and modifying administrative formalities in credit institutions such that women can obtain credit in their own name; promoting women's saving groups and co-operatives to facilitate the financing of investment beyond the capability of individual women; and training and assisting women in financial management, savings and investment