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Comparison of Collaborative Governance Initiatives And Sustainability of Community Livelihoods in Tanzania

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Abstract

This article compares two types of collaborative governance initiatives in fisheries management in Tanzania for managing coastal resources, namely, the Beach Management Units and Mnazi-Bay Ruvuma Estuarine Marine Park. The initiatives claim to involve communities and ensure socioeconomic livelihood. The comparison aimed at proposing the best approach in the management of coastal resources to policy makers. Several methods were used in the study that informed this article. These included household surveys, interviews and field observation. Generally, the findings show that the two collaborative governance initiatives have introduced what we call 'projectized' forms of livelihoods that are not sustainable due to their poor consideration of community needs and practices. 'Projectized' here means livelihood activities that operate in terms of projects and, therefore, have a timeframe for their operation. The article concludes that the establishment of any income generating activity in a community should take into account the community's needs and its cultural forms of livelihood to ensure the sustainability of such activities. Hence, we recommend that, when introducing any kind of collaborative governance initiative, communities should be empowered to gain capacity to run and operate the established livelihood activities for a long time.

Keywords: *coastal resources, projectized livelihood, collaborative governance, Tanzania*

Introduction

Collaborative governance initiatives have become the fashion in the management of natural resources in general. The main claim of these initiatives is the increasing participation of local communities, ensuring livelihood and ecological sustainability. As such, with globalization and neoliberalism, the initiatives have experienced a number of actors who are doing different roles: from technical to funding, and to actual day-to-day management. This raises concern regarding the extent to which local community livelihood needs are taken into consideration amidst such many actors. While decentralization is the preferred mode of collaborative governance initiatives, there are different interests between the different actors. However, collaborative governance is silent about how the different interests are accommodated among the different actors in collaborative

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governance. Collaborative governance assumes that there is a common goal, and that all actors are working towards achieving that common goal; but in the actual sense the interests of some actors are marginalized in these kinds of partnership. In this article, we question the extent to which the two different sustainability initiatives are able to bring sustainability of livelihoods. We do so by drawing from the perception of the local communities whose main interest is on access to livelihood from the resource.

Sustainability, as a concept, has been defined differently by different scholars. Similar to development, sustainability has been abused and misused. However, most of the definitions have considered the integration of ecology, and social and economic aspects in achieving positive outcomes. Regarding socio-economic sustainability, recent studies from climate change have linked sustainability to adaptive capacities of different societies, while others have defined it as a learning process (Folke et al., 2002; Bryceson, 2002). FAO's (2002) definition of sustainability in the context of the fisheries sector is that it is the management that incorporates a range of objectives, including biological, economic, and social elements; that is, managing the natural resource base while ensuring the achievement and satisfaction of human needs for the present and future generations. Moreover, Garcia (2003) defines sustainability of fisheries as "… fishing activities that prevent the occurrence of negative changes on the natural (ecology) and social (socio-economic) systems from one generation to another." In this article, sustainability refers to management practices that will result into the achievement of long-term positive outcomes, socially and economically.

Marine parks and beach management units are different structures, but both are expected to lead to certain sustainability outcomes. This article compares these two initiatives and shows how they have been able to contribute to fostering livelihood sustainability in Mtwara, where one of the major sustainability concerns was the prevalence of illegal fishing practices; specifically the use of dynamite for fishing and beach seine net (*kokoro)* type of fishing. Therefore, both initiatives have aimed at stopping illegal fishing practices and ensuring livelihood sustainability. In this article, we compare the practices of the two governance initiatives and focus only on the implication on livelihood sustainability. We postulate that differences in structure, actors, and practices are likely to lead to different sustainability outcomes.

Literature Review

This article applies the governance theory to understand the contribution of collaborative governance initiatives in improving livelihoods of local communities. With the governance theory, governance activities take place through the interaction between diverse actors (society, government, and non-government actors (Kooiman, 2016; Kooiman et al., 2008). In governance, societies are made up of large numbers of governing actors who are constrained or enabled

in their actions by structures or institutions (Kooiman, 2016). Most actors in a society are involved in governance; and with broad societal participation efficiency, effectiveness and legitimacy of decision-making, implementation is developed and enhanced; which consequently leads to the achievement of sustainability (Edelenbos & van Meerkerk, 2016; Kooiman, 2016).

Different literature sources have described collaborative governance in natural resources as the best approach in addressing complex problems (Chuenpagdee & Jentoft, 2009; Emerson & Nabatchi, 2015; Laquimia & Eweje, 2014). The strengths of collaborative governance have been linked to its capacity to bring diverse actors to share power and create networks through interactions. This is because diverse actors bring in resources, knowledge and expertise that together can be utilized to develop novel solutions to problems at stake (Laquimia & Eweje, 2014; Lockwood et al., 2009). However, diversity comes with power asymmetry (Dandy et al., 2014), which may influence how different groups benefit from collaborative initiatives. In this article we focus on benefits that go to the actor-local communities by comparing the two types of collaborative initiatives.

Different types of collaborative governance initiatives have been applied to fisheries management (Agardy et al., 2003; Fox et al., 2012; Rossiter & Levine, 2014). These initiatives have resulted into both positive and negative outcomes on people's livelihoods and the ecology of the affected area (Christie & White, 2007; Jentoft et al., 2007; Pollnac et al., 2006; Pomeroy et al., 2007; Rossiter & Levine, 2014; Syakur et al., 2012). Some of the positive benefits that have been tied to the introduction of these initiatives include community empowerment, increased compliance to laws and regulations; as well as socio-economic improvement arising from collaboration between governments, business/ private actors, researchers, NGOs, local communities; and the use of available skills and resources from actors (De Koning et al., 2017). Despite the positive outcomes, other scholars have identified serious negative social outcomes that could be associated with collaborative governance initiatives. Such outcomes include increased social conflict, unequal benefit-sharing and resource overexploitation (Ayers & Kittinger, 2014; Castro & Nielsen, 2001; Cinner, 2007; MacNeil & Cinner, 2013; Pomeroy et al., 2007; Singleton, 2000). Therefore, there is need to compare the initiatives to determine which ones have better social and economic outcomes, specifically on people's livelihoods.

Marine parks were established in the 20th century after the closure of North Pacific during World War II, to address fishery problems (Weigel et al., 2015). The parks were recommended by various actors, including conservationists, fishery managers and policy makers, both international and national. However, they faced resistance from fishers and local communities because of the top-down implementation involved (Dehens & Fanning, 2018; Weigel et al., 2015). The approach has led to negative social and economic impacts to communities due to its failure to consider needs and social values of local actors and

communities. Marine parks have also faced opposition from marginalized vulnerable groups because they are not well understood by local fishers, who therefore question their legitimacy (Weigel et al., 2015).

There has been a growing interest of changing the way marine parks are designed so as to improve them. For example, it has been suggested that local people should be involved in the governance process to increase fairness and promote local ownership and cooperation because local people are affected by such initiatives (Jones & Burgess, 2005). Deeper stakeholder involvement in collaborative governance is important to develop trust, and hence promote cooperation that would eventually lead to positive outcomes in marine parks (Keller, 1999; Pomeroy, 2001). Jones and Burgess (2005) posit that actors in marine parks should be empowered by involving them in identifying problems and setting the strategies for addressing such problems. One of the critical conditions for sustainable fishery governance is that the central government should not undermine the local authorities (Agrawal, 2001). The role of the state should, therefore, change from control to facilitation (Jones & Burgess, 2005).

Another form of collaborative fishery governance in Tanzania is the creation of beach management units (MBUs), defined as "… groups of devoted stakeholders in a fishing community whose main functions are management, conservation and protection of fish in their locality in collaboration with the government" (URT, 2003: 6). Their establishment in Tanzania was first implemented in Lake Victoria after a decline in fish catches (Jentoft & Chuenpagdee, 2015). The government of Tanzania thought it was necessary to involve communities in the management of fisheries due to increased fish degradation, caused by the use of destructive fishing gear. Therefore, BMUs were introduced in 1997 (ibid.), and people were required to register themselves with the BMUs for using a landing site and form a committee (Nunan et al., 2015). The idea of BMUs was then adopted on the coast in 2006. Since then, BMUs have been implementing various functions towards achieving the sustainability of fisheries, including developing BMU fishery management, landing station plans, annual and quarterly work plans and budgets; collaborating in collection of fish catch information; engaging in monitoring, control and surveillance in order to reduce the use of illegal gear; managing fishing and fish trading within BMU areas; holding conflict resolution sessions; and ensuring timely payment of licenses and permit fees by BMU members (Medard et al., 2016; URT, 2003).

Although different authors (Berkes, 2009; Booher & Innes, 2002; Carlsson & Berkes, 2005; Laquimia & Eweje, 2014; Lockwood et al., 2009; Newman et al., 2004) have described collaborative governance as the best approach in fostering sustainability in fisheries, the question about how livelihood improvement should be enhanced while conserving fishery resources has not been well tackled. Different actors have been joining governance initiatives with diverse resources,

but how these resources have facilitated the improvement of livelihoods is not clear. This article, therefore, sought to find out how different forms of collaborative governance initiatives influence changes in livelihood conditions.

Methodology

Study Area

The study that informs this article covered Mtwara Rural district, located in Mtwara region, along the Indian Ocean. The district lies between 38° and 40° 30" East and 10° 05" and 11° 25" South (Figure 1; URT, 1997). The district has a population of 228,003 people, based on the 2012 census (URT, 2014). It is in Mtwara Rural district in Tanzania where the two types of collaborative governance for fisheries management -- namely, beach management units (BMUs) and marine parks -- could be found, with negligible differences in the socioeconomic and ecological zones, thus giving a perfect match for comparison purposes. BMUs are located in fishing villages in Tanzania, and their main focus is on regulating fishing activities in the fishing grounds that are within villages. There are 15 BMUs in the selected district (MALF, 2016). Two villages in the Mnazi Bay-Ruvuma Estuary Marine Park (MBREMP), and two in the beach management units were selected for the study. The selected villages for the study were Msangamkuu and Namela as villages with BMUs; and Msimbati and Mkubiru as villages with marine parks. Household survey, interviews and observations were then conducted. A total of 183 households were included in the survey; and 99 interviews were done with key informants that included villagers and officials from various institutions involved in fishery governance at local and national levels. Table 1 summarizes the main economic activities of the households involved in the survey.

Table 1: Main Economic Activities of Respondents

		Farming	Fishing	Other	Total
BMUs	N	29	47	16	92
	%	31.5%	51.1%	17.4%	100.0%
MBREMP	N	46	34	11	91
	%	50.5%	37.4%	12.1%	100.0%
Total	**N**	**75**	**81**	**27**	**183**
	%	**41.0%**	**44.3%**	**14.8%**	**100.0%**

Source: Fieldwork (2017)

Table 1 shows that people in the BMUs do more fishing than in the MBREMP, where most of them do farming. Although Malleret (2004) found that, generally, the main livelihood activities in the area are agriculture and fishing, our study found out that farming and fishing are the main economic activities; with 81% and 75% participation, respectively. Other activities are done by about a quarter of the households included in the survey.

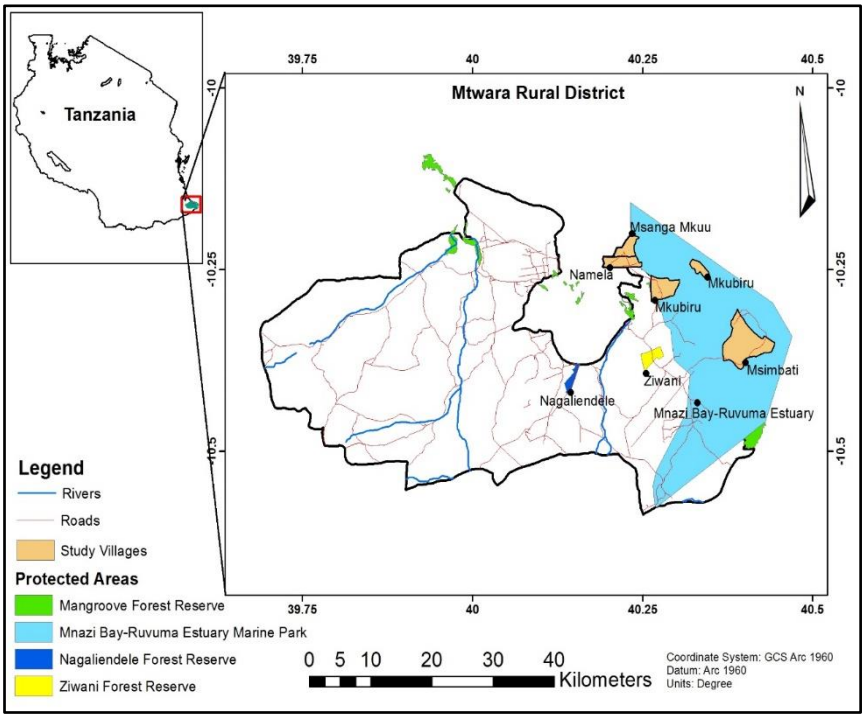

Figure 1: Study Area, Mtwara Rural District
Source: Geography Department, Cartographic Unit, University of Dar es Salaam

Both non-probability and probability sampling methods were applied in this study. First, purposive sampling, which is a non-probability sampling method, was used to select the study area. The study area was selected because, first, villages were located near the ocean (seafront villages); second, two villages were within the MBREMP; and third, there were two BMUs in the area. Moreover, the purposive method was also applied to select key informants for qualitative data. Key informants were selected based on the experience of fishers and officials working on fisheries-related organizations. The target population for this study was fishing communities in Mtwara Rural district, officials from the Ministry of Agriculture, Livestock and Fisheries (Fishery Department), the district fishery officer, officials from MBREMP, as well as other actors in different organizations, such as NGOs, that were working to support the governance of fisheries, both directly or indirectly.

Secondly, a random sampling (probability sampling) method was applied to select respondents for the household survey. Respondents for the survey were selected from four villages (Msimbati, Mkubiru, Namela and Msangamkuu), and the sampling unit was the head of a household, irrespective of gender. Heads of household were selected because they possessed information on socio-economic

aspects in relation to fishery governance, as well as reliable information pertaining to their livelihoods. The selection of individuals for the interviews considered gender, age, leadership, occupation, those involved in patrolling the marine parks, and formed groups of income generating activities.

Results and Discussion

Comparison of Perceptions on Benefits and Loses in BMUs and MBREMP

Results of the perceptions of benefits and disadvantages of BMUs and MBREMP were compared. Figure 2 shows the main perceived benefits are the contributions of both to conservation. These benefits include conservation knowledge, social services, support for alternative income generating activities, and support for equipment, training, and conservation benefits. The benefit on conservation and conservation knowledge was mentioned by more respondents in the BMUs than in the marine parks (MPs). This could be due to the fact that, in the latter, there was work done to convince the villagers to accept conservation when they were established in 2005, while in the BMUs awareness creation was still ongoing. Also, actors in the BMUs have participated more on technical roles, which include awareness raising, trainings, workshops, and consultancy. From these results, it is obvious that most natural resources governance initiatives can contribute more to conservation knowledge than to other social and economic aspects of sustainability. With this imbalance of benefits from governance initiatives, fishery resources continue -- and will continue -- to face sustainability challenges, especially from illegal practices, at the expense of meeting livelihood needs.

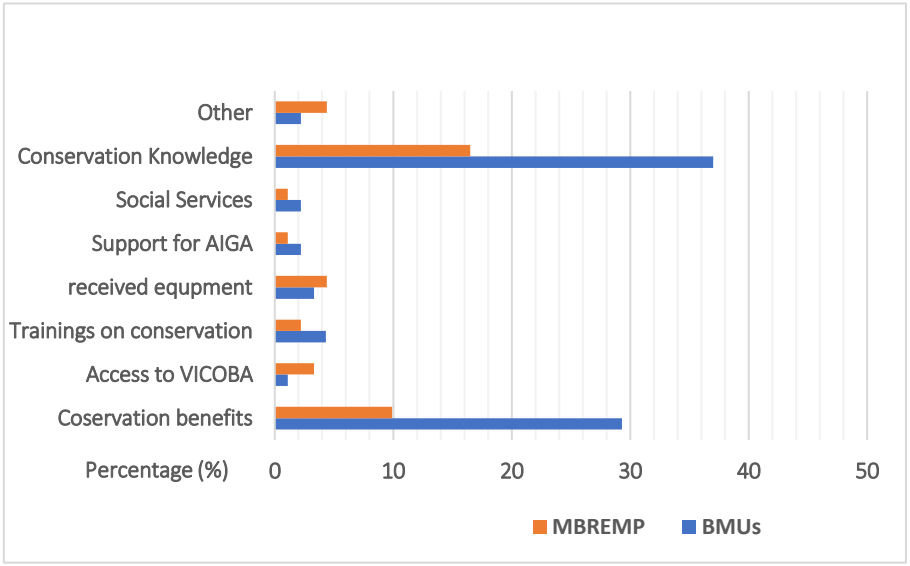

Figure 2: Benefits of Collaborative Fisheries Governance in MBREMP and BMUs

Source: Fieldwork (2017)

Livelihood Change

Results from this study reveal different views from the respondents about changes in livelihood conditions. There were mixed responses: some see that there is an improvement in their livelihoods, while others think otherwise. Data from the survey shows there are no significant variations on the changes in livelihoods between the MBREMP and BMUs. Nearly a half of the respondents from the BMUs and MPs said their livelihoods had declined with the introduction of the collaborative governance initiatives, while less than 50% said it had improved. Putting together those who did not perceive any change and those who perceived a decline in livelihood totals more than a half of the respondents. Generally, there is no major difference in the outcome of the two types of collaborative governance; which then raises the question why there should exist different governance structures.

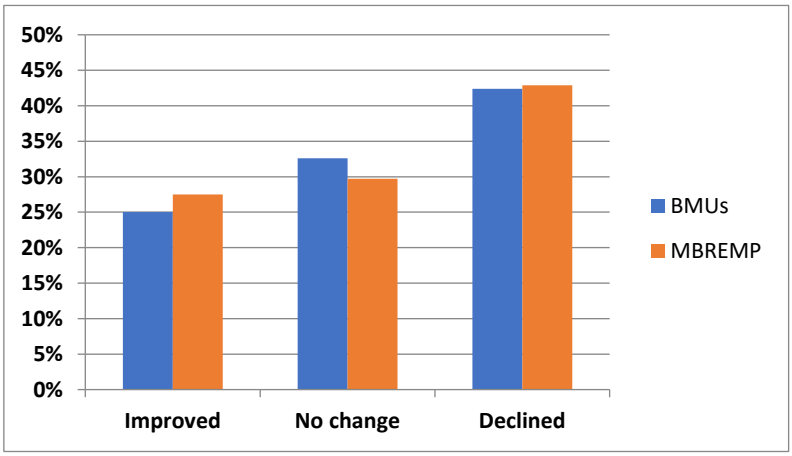

Figure 3: Comparison of Livelihood Conditions (Past five years)

Source: Fieldwork (2017)

Given the establishment of these two governance initiatives, it was expected that community livelihoods would improve. The expectation on livelihood improvement was influenced by the presence of various projects that were introduced during the establishment of BMUs and MPs. However, the success of the supported projects depends on the capacity of the group or individual to run the project. Some of the livelihood projects were successful while others were not, although, in general, projects that had fewer members or those that were run by individuals realized higher success, hence improved livelihoods. For example, there was a group of people who used to smoke fish in one of the villages in the MBREMP. This group was supported during the establishment of the MBREMP. However, some members withdrew from the project during implementation. At the time of doing this research, there were only two members who were involved

in smoking fish. This means that the contribution of the fish smoking project had an impact only 0n the livelihoods of these two members. Thus, despite the establishment of livelihood projects, community livelihoods have not been improved. This has been influenced by the nature of the projects; that is, projects with few members or those run by individuals were more successful than those with more than ten members. Figure 3 presents a comparison of perceptions on change of livelihoods in the MBREMP and BMUs.

Data from interviews was also triangulated and revealed other benefits that local communities were getting from the established governance initiatives. In the MBREMP villages, classrooms were built for the local communities. This was support by the MBREMP and gas companies (Artumas and M & P gas companies) in creating a conducive learning environment for children. Moreover, in supporting education, the MBREMP also sponsored some students to pursue their A-level secondary education. However, this sponsorship covered only those with good performance and had been selected to join high school. This gesture motivated other students to work hard so that they could benefit from the sponsorship. One villager explained this as quoted below:

> *MBREMP supported some students for three years. They had promised us that students who would have done well and selected to join high school (Form V and VI) would be supported in their education. This helped to ensure that our children got education* (Interview with a villager in MBREMP, 2018).

Apart from the benefits, there were disadvantages that local communities experienced from the establishment of MBREMP and BMUs. One of the disadvantages was restricted access to fishing grounds. Following the restriction, livelihoods that depended on fishing were affected negatively. Respondents reported that fishing areas had been reduced due to the presence of the marine park, which further reduced the income of those who depended on fishing. As shown in Table 1, few people were engaged in fishing in the MBREMP villages, compared to those in the BMUs. It should be noted that livelihood benefits are incentives for conservation, without which conservation outcomes would be negatively affected. This has been explained also by Nshimbi and Vinya (2014): that there are worsening livelihood conditions under collaborative governance initiatives through the alienation of local people from natural resources on which their livelihoods are anchored. The quote below from a focus group discussion shows how local communities see the contribution of the MBREMP in their livelihoods.

> *Since the marine park (MP) was established, there has been no change in development. The MP is there, and villagers are there, everyone doing their own activities. The partnership is half-by-half; we do not like them because they do not have anything important for us, they do not do anything. They do not involve us, so they have not succeeded. They have not implemented any of the promises they made. We now have only a small area for fishing* (FGD with mixed members in the MBREMP village, 2017).

Moreover, the introduction of various alternative income generating activities (AIGAs) to improve community livelihood was among the benefits that respondents mentioned. These AIGAs were introduced in groups as well as at individual level. Results from the survey show that the majority of respondents did not have AIGAs, and therefore depended on their traditional activities, particularly fishing and farming, as sources of livelihood. As Figure 4 shows, about 74% and 73.9% from the MBREMP and BMUs groups, respectively, did not benefit from the introduced AIGAs (poultry, fish farming, horticulture and vegetable gardening). Fish farming was introduced in the MBREMP villages and not in the BMUs. However, these fish farms did not result into sustainable outcomes as they collapsed soon after they had been introduced. The collapse of these AIGAs is linked to the phasing out of the projects that introduced or supported them. When the projects that introduced the mentioned livelihood activities came to an end, the established activities also ceased. This is because local communities felt that the activities did not belong to them, and they lacked the capacity to operate them. That is why we refer to them as projectized livelihoods.

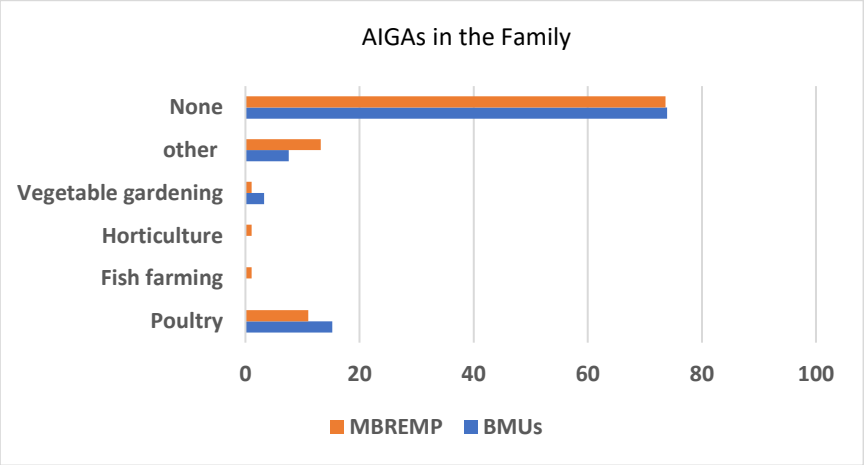

Figure 4: Alternative Income Generating Activities in the Households

Source: Fieldwork (2017)

Although different livelihood projects were established by different actors, they did not result into significant changes in the livelihood community as they faced a number of problems. Some of the problems were due to 'new' and 'foreign' kinds of livelihood introduced in the area such as 'modern chicken rearing' which the communities did not see as part of their types of livelihoods. They termed the chicken project '*kuku wa mradi*' (project chicken); implying that they did not belong to them. In another occasion, the livelihood projects introduced fish farming, which required villagers to buy fish food, something that was alien to

them. Moreover, they later complained that the taste of the fish from farms and from the ocean was different, claiming that the latter was more delicious. Another fish farming project was pearl growing, which was adopted by only one person instead of a group. It is clear from these examples that it would have been more beneficial to support livelihood activities that had been practised within the village and build the capacity of local communities than introducing new ones. This would have ensured improvement and sustainability of such activities.

Besides, there were other challenges reported in relation to fish smoking, -- which was among the new projects introduced -- that led to inefficiency and ineffectiveness of such projects. The villagers found it challenging to smoke large amounts of fish due to insufficient local materials that they were using for fish smoking. They were also unable to upgrade to modern technology because they were operating with little capital. Thus, mechanisms to support the local communities with capital should have been in place to ensure sustainabilty of the activity. These could have been in terms of loans, grants, as well as material support. With such support, the introduced activity would have progressed and produced positive results. One key informant was quoted, during an interview, explaining the situation thus:

> *In general, the living conditions of fishermen have not improved. Their lives keeps on deteriorating every day. This is because they consume all they get. They lack saving skills. They say, "in the ocean there are seven wells of fish as a gift from God, and we have used only one well, the six are still unused"* (meaning that fish is still plenty in the ocean. They believe that what they get for the day should all be used because they are going to get more the following day (Interview with CFMA Secretary, 2018).

In addition, the failure of livelihood projects was also influenced by the lack of involvement of the targeted beneficiaries at the stage of setting and planning the projects. Respondents reported that most of these livelihood projects were planned by funders, and then they were only involved in the implementation. Different actors, who had been working in the MBREMP and/or BMUs villages, came with their pre-planned ideas/projects and informed villagers to form groups so that they could start implementing them. However, for a livelihood project to be successful, it needs to be owned by the beneficiaries as this develops a sense of ownership, and hence commitment, to such a project. This was also noted by Glavovic and Boonzaier (2007), who opined that community involvement in identifying livelihood priorities and strategies is of importance for their sustainability. In line with this, one respondent informed:

> *Most of the ideas of the livelihood projects are introduced by actors themselves, we (the community) are only implementing them. Very rarely can the ideas be modified, e.g., they may come with a plan to supply fishing nets, but fishers might find such nets to be unsuitable. In such a case they have to discuss and agree with the donors to look for more suitable types of nets* (FGD with fishers in MBREMP, 2018).

The impact of the lack of community involvement in deciding livelihood activities goes far into creating loss of trust, as well as duplication of the use of resources in one activity. Most of the projects in the study area have been over-supported without yielding positive outcomes. They fail to yield positive outcomes because of the lack of commitment on the part of the communities, hence their collapse of the projects. The argument here is that livelihood projects need to be initiated by the local communities themselves, while external actors only facilitate their implementation through the provision of support. For examples, the following two quotes were extracted from two key informant interviews: all are complaints of local communities on the lack of their involvement:

> *They should not force us; for example, they come and tell us to create groups of 30 members while we are used to fish in groups of not more than 20 people. So, this brings misunderstanding in the groups because we are too many and with different attitudes towards work* (FGD with fishers in BMU, 2018).
>
> ……..
>
> *The way they were running the projects was not proper. Each group had 30 members who were strangers to one another, because they were told to create groups while in a meeting, so it was a spontaneous decision. Also, they were given money with terms and conditions on how to use it. So, the terms contributed to the demise of the livelihood projects. For example, they (groups) were also forced to purchase materials for their projects from a particular source; so, this sometimes led to purchasing of expensive but low-quality materials* (Interview with BMU leader, 2017).

Although losses from the collaborative governance initiatives were experienced in both initiatives, their differences were in terms of the intensity of their impacts on livelihood conditions. Figure 5 shows that 44.4% of respondents from the MBREMP mentioned loss of equipment as a negative impact; about 21.1% reported that they were bruised by law enforcers; while 4.4% said social isolation was a negative impact. Similarly, loss of equipment, social isolation, and injury from law enforcers were also experienced in the BMUs, but to a lesser extent that in the MBREMP. About 26.1% experienced loss of equipment and 4.3% sustained injuries from law enforcers in the MBREMP group. Social isolation was almost equal in both BMUs and the MBREMP (4.3% and 4.4% respectively). In the BMUs, there were attacks from fellow villagers. When implementing conservation goals and measures, different outcomes are noticed. When the outcomes are negative, the livelihoods of communities are negatively affected. Thus, the loss of equipment reported in the research contributed to the decline of the livelihood income of the local communities. Thus, before implementing any conservation measure, proper alternative gear and/or activities should be sought first. With a decline of livelihoods, sustainability of fishery resources will always be challenged. For instance, leaders in the BMUs were at risk of being attacked -- by individuals who are against conservation -- when carrying out their duties, especially during

patrols. As a result, BMUs are lagging behind in attaining sustainability outcomes in fishery. The following anecdote explains how committee leaders feared to be isolated by their fellow villagers when implementing their duties:

> *The committee was formed but it didn't work because it feared the community, since the MBREMP had not been accepted by our people. I was among the VLC members, but because we were given conditions by MBREMP officials, that we should collect statistics of fish and gear and do patrols, we saw these activities putting us into bad relationships with our relatives and villagers* (Interview with a villager in MBREMP, 2018).

When this survey result was triangulated with those from key informant interviews, the loss of fishing equipment was mentioned as a consequence of the establishment of the MBREMP. Confiscation of fishing gear and vessels was done simultaneously, so the respondents were questioning why should vessels be confiscated instead of confiscating illegal gear only. In fishing activities, vessels are just equipment that help fishers to reach fishing grounds and also to ferry the catch after fishing. This complaint indicates that the awareness of the local communities needs to be raised to understand that fishing gear and vessels are interrelated, and therefore if illegal gear is confiscated, vessels that facilitated the use of such gear should also be confiscated. The following quote explains the loss a villager incurred due to the implementation of the MBREMP rules:

> *My fishing group was affected by the establishment of the Marine Park. They confiscated our fishing nets and boat. They should have left us with our boat because only the nets were illegal and not our boat; why did they confiscate both?* (Interview with a villager in MBREMP, 2017).

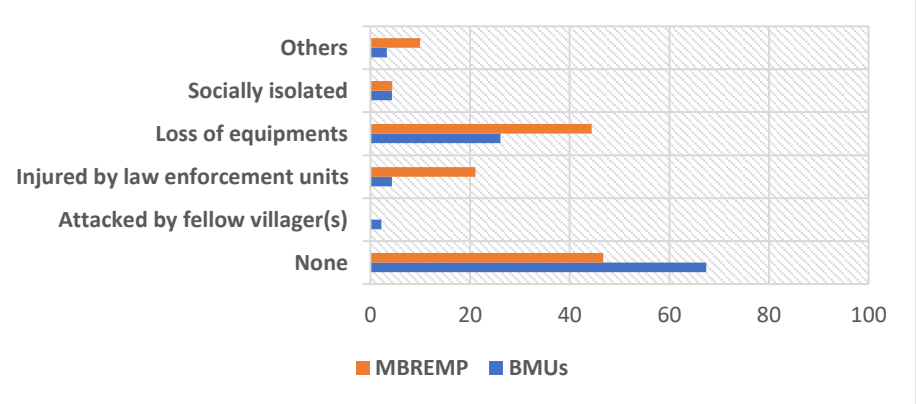

Figure 5: Comparison of Losses Experienced in MBREMP and BMUs

Source: Fieldwork (2017).

The difference in the results on the loss of equipment and injury from law enforcers is due to the nature of the governance initiatives. Marine parks are stricter on the rules, and therefore have a higher level of enforcement than

BMUs. The availability of resources both human and patrolling boats is at the core of the enforcement of rules and regulations. Differently, shortage of resources for enforcement in BMUs, especially boats, obstruct patrolling activities, hence loss of equipment is experienced by communities.

Comparison of Livelihood Changes in MBREMP and BMUs

In both the MBREMP and BMUs, communities have experienced changes in livelihoods due to the establishment of governance initiatives in their areas. Some changes are similar, while others are different. Although the MBREMP and BMUs were established at different times, most of the actors supported the establishment of alternative income generating activities in the MBREMP than in the BMUs. Fish farming, crab fattening, vegetable gardening, fish smoking, VICOBA, fishing, beekeeping and poultry keeping are examples of the alternative income generating activities that were supported by different actors in the MBREMP villages. Although these livelihood activities were not sustainable, their initiation indicated that there was more effort being directed towards the MBREMP villagers than in the BMUs. However, as mentioned earlier, these livelihood projects have not resulted into the improvement of community livelihoods because most operated in terms of projects, which ceased when such projects were phased out by funders.

While the decline of livelihoods in the BMUs was associated with the decrease of farming land due to the expansion of the port, the MBREMP communities reported to have abandoned fishing activities due to strict fishing rules and regulations imposed by the MBREMP on fishers, and switched to farming. It was only a few fishers who had the capacity to continue with their fishing activities using proper fishing gear, while the majority could not afford proper fishing gear, which limited access to the fishing grounds in the MBREMP area.

We note from the foregoing that losses which villagers experienced in the BMUs and MBREMP vary. Most losses have been reported in the MBREMP than in the BMUs. This implies that the MBREMP put more effort in enforcing fishery rules and regulations. Also, the MBREMP conducted regular patrols and covered wider areas than the BMUs, which conduct patrols mostly along the beach.

Conclusion

Collaborative governance initiatives have been advocated as the best approach for sustainability of fisheries, including livelihoods. This has been linked to its ability to involve diverse actors who have different capacity in terms of resources. However, results from this study suggest that the collaborative initiatives have not been able to foster sustainability of livelihoods in both the MBREMP and BMUs as it was expected, and more so in the MBREMP where 'foreign' forms of livelihood were introduced. To the contrary, the livelihoods of the local communities have deteriorated since the establishment of these governance initiatives. This has been attributed to various reason such as the

lack of involvement of the local communities in designing and selecting alternative income generating activities that are relevant and acceptable to them. Most of the initiatives that were aimed at improving community livelihoods were designed/planned by external actors, and as a result, they lacked ownership of such projects. This *projectization* of livelihood activities, as we argue, is not sustainable. Although collaborative governance is advocated to bring sustainable outcomes, balancing conservation and livelihood outcomes has been unrealistic due to the trade-offs that exist. More positive outcomes have been rather ecological, while people's livelihoods continue to suffer.

Both types of collaborative governance have been successful in achieving some form of ecological benefits than livelihood benefits. Although the results show there are more ecological benefits, Vodden (2015) emphasizes that since there is a continual interaction/interdependence between social and ecological systems, any conservation measure should not only focus on ecological aspects and leave behind the social systems. This means that any conservation effort should ensure it brings sustainability outcomes on the ecology as well as on community livelihoods. Lenselink (2002) cautions that, in any fishery management initiative, it is not possible to improve all fishers' livelihoods in the short-run: while some can improve quickly, some will take longer to improve. Thus, although the study found there were inadequate outcomes on livelihoods, this may be linked to what Lenselink (2002) argues on the time of realizing improvement of livelihood. Local communities have been experiencing livelihood changes differently, and therefore there are different perceptions towards the contribution of governance initiatives on livelihoods. This article has succeeded in highlighting the kinds of sustainability that may be useful to the fishers and the communities in the area. The article recommends that, to improve livelihood conditions, alternative livelihood projects should emanate from the local communities and should not come from external actors. The article also recommends that policy makers put in place clear mechanisms for monitoring and evaluating the outcomes from governance initiatives. This will help to improve the status quo and ensure sustainability of established projects.

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