Governing the Commons: An Appraisal of Ostrom Principles in the Context of Community Forest Management Agreement in Zanzibar, Tanzania

Mohamed Khamis Said

Department of Geography and Environmental Studies, the University of Dodoma, Tanzania
P.O. Box 259 Dodoma, Tanzania

*Corresponding author Email: *mokhasa2005@gmail.com*

Abstract

Ostrom Design Principles (ODPs) are widely used as an analytical tool for assessing the governance of common pool resources, including Community Forest Management (CoFM). This study applied ODPs to assess the practices of the Community Forest Management Agreement (CoFMA) in Zanzibar, Tanzania, using interviews and Focus group discussions (FGDs). This paper found that the CoFMA adapted all eight principles of Ostrom's design. However, it was found to have low local community participation in implementing various CoFMA activities, such as community participation in land zones (24.8%), formulation of by-laws (31.3%), and conservation meetings (33.4%). The Chi-squire test (X^2 =23.371) revealed that participation in conservation meetings during CoFMA establishment had a significant association with participation in zoning community land and the formulation of by-laws among local community members (P<0.000). In CoFMA, financial motivation and alternative sources of income in communities are emphasised to reduce community dependence on forests, while in ODPs they are silent. It is concluded that CoFMA has adopted all ODPs to govern community forests. Nevertheless, the full implementation of ODPs in CoFMA has been difficult because the communities lack reliable alternative sources of livelihood, and the idea of CoFMA was not a community initiative since it was opposed by some of the community members. This paper recommends that for successful adoption and implementation of ODPs in CoFMA,there should be community-lead, financial motivation from the global north and the government to support communities livelihood projects. Also, the distribution of incentives from CoFM among community members should be included in the by-laws.

Keywords: Community participation, conservation, forest governance, Ostrom's principles.

Introduction

Governing common or shared resources, such as community forests, has been a challenge to natural resources managers for decades (Agrawal, 2013). This is rooted in the nature of the resources, as they are largely shared by many appropriators (Forsyth & Johnson, 2014). Community forests are characterised by non-excludability and rivalry. Free access and unrestricted demand for finite resources ultimately reduce the resources. Consequently, many community forests have been facing a problem of unsustainable utilisation (Basnyat *et al.* 2020). In an attempt to solve the problem of governing shared resources, conservation initiatives have focused on strengthening local community organisations (Oyeleye *et al.,* 2018; Thielsen, 2016). The approach emerged since 1970s (Claridge, 2004) and largely gained momentum in 1992 during the United Nations Earth Summit in Rio de Janeiro-Brazil (Poffenberger, 1996). It has been reported that a lack of efficiency in traditional approaches, such as state control and market-based management of common natural resources, is among the main reasons for the emergence of community-based approaches to governing natural resources (Ballet *et al.,* 2007; Osumanu & Samuel, 2017; Paul *et al.,* 2012).

Since the emergence of the community participatory approach, many developing countries have streamlined their conservation

policies and other conservation legal frameworks to consider the participation of local people and other conservation stakeholders (Rabe & Saunders, 2013). Meanwhile, there is a motive among academicians to develop community-based (socio-capital) theoretical frameworks to conceptualise successful governance of community forests (Cornée *et al.,* 2020). One of the appealing frameworks that have been adapted to govern community forests is Ostrom's work, known as Ostrom design principles (ODPs) (Cornée *et al.,* 2020).

Ostrom (1990) developed a theoretical framework to govern common resources to attain both conservation objectives and community needs. Accordingly, successful outcomes and long-lived and flourishing governance of common resources such as community forests are embedded in robust community institutions. On their own, the community can improve governance systems by negotiating with themselves in policy formulation, resource planning, decision-making and benefit sharing to improve their livelihoods and reduce the problem of free riders. Ostrom believes that common pool resource governance requires a robust institution from collective action (Ostrom, 1990). Accordingly, successful governance of common resources needs consideration of local rules. The rules that consider social norms and social learning processes, the biophysical environment of the resource system, and the rules in use that clarify a common understanding of the governing processes and decision-making (Claridge, 2004; Gari *et al.,* 2017). Ostrom (1990) identified a set of eight (8) systematic principles as follows: 1. defined clear boundaries; 2. congruence between appropriation and provision rules and local conditions; 3. collective-choice arrangements; 4. monitoring; 5. graduated sanctions; 6. conflict-resolution mechanisms; 7. minimal recognition of the rights to organise, and 8. nested layers of governance. Ostrom (1990) explained that a community is a social organisation that can solve problems over natural resources that cannot be solved by individuals, states, or markets.

Oyeleye *et al.* (2018), Thielsen (2016), Vuola and Pyhälä (2016) argue that community participation reduces conflict in the use of community resources and increases a sense of ownership in local communities. The involvement of local people has, however, been criticised on the basis that local people are less involved in most local projects of community forest conservation and their needs have been little considered (Basnyat *et al.* 2020). This follows from the fact that most projects are externally originated (Reid, 2014). Thus, conservation problems such as forest degradation and deforestation in most developing countries have not been solved (Campbell *et al.,* 2001).

Community forest governance in Zanzibar has consistently applied a participatory approach. Since the 1990s, the Government of Zanzibar has tried to establish a foundation of community institutions to improve collective actions on community forest governance (Williams et al., 1996). However, community forest degradation and deforestation have continued to persist, and the participation approaches have been criticised for being non-participatory and mostly driven by conservation needs. In 2010, the government of Zanzibar introduced a community forest management agreement (CoFMA) under the Forest Resource Management and Conservation Act 10 of 1996. It involved the establishment of community institutions known as community conservation committees (CCC) in each Shehia. Based on the forest Act 10 of 1996, each CCC had a mandate to establish community forest management areas (CoFMAs). The government intended to create robust community institutions to conserve community forests and wildlife. CoFMA had been found to adapt ODPs of common resources governance. Thus, CoFMA provides avenues to analyse the contribution of Ostrom's work to the governance of community forest resources. However, the existing studies on CoFMA in Zanzibar, including Benjaminsen (2017), Benjaminsen (2014), and Eilola *et al.* (2014), investigated community participation in CoFMA. As such, there are scanty efforts to explicitly explore how the ODPs were reflected in CoFMA. This paper is therefore guided by the following questions: What are the procedures followed in the establishment of CoFMAs? To what extent is CoFMA reflected in ODPs? To what extent were community members involved in each stage? Other related studies that evaluated

ODPs (Gari *et al.,* 2017; Perfect-Mrema, 2021; Saeed *et al.,* 2017) focused on forest management and the availability of the design principles. Therefore, the information generated in this article is vital to improving community participation in conservation and management of community forests, policy improvement on community resources conservation, theoretical contributions, as well as sustainable human development.

Materials and Methods

The study area

The study was conducted in Unguja Island, which lies off the coast of East Africa in the Indian Ocean, slightly south of the Equator (5° - 6°30′S and 39°23′- 39°34′E). It lies 40 km east of the Tanzanian mainland (Fig. 1). Specifically, the study was conducted in the South District of Unguja Island. The district is located at latitudes 6°10′30′′S - 6°29′30′′S, and longitudes 39°23′30′- 39°34′30′ E, and it covers an area of 379.3 km^2. The district is traversed by the coral rag ecological region. The natural vegetation ranges from the bush, shrub forests to high forests (predominantly high thicket forests) (Siex, 2011). Accordingly, the South District of Unguja is mostly dominated by *Albizia* and *Diospyros* species. Generally, this natural vegetation is identified as part of the larger biodiversity hotspot of the East African Coastal Forests and is commonly known as the habitat of the Zanzibar mini-antelopes and other wildlife populations. Generally, the district receives tropical rains during the short and long rain seasons (Klein & Kayhko, 2008). The average rainfall is 1100mm. This amount is below the average for the Island, which is 1600mm. The average annual daily maximum temperature is 29.3°C and the minimum is 21.1°C. The temperatures are highest in January and February, with a mean maximum temperature of 32°C.

Research design, methods of data collection and analysis

The study used a cross-sectional design to collect both quantitative and qualitative data concurrently. Interview-based methods such as structured interviews, in-depth interviews with key informants, and focus group discussions (FGDs) were used to collect primary data from the field. In the structured

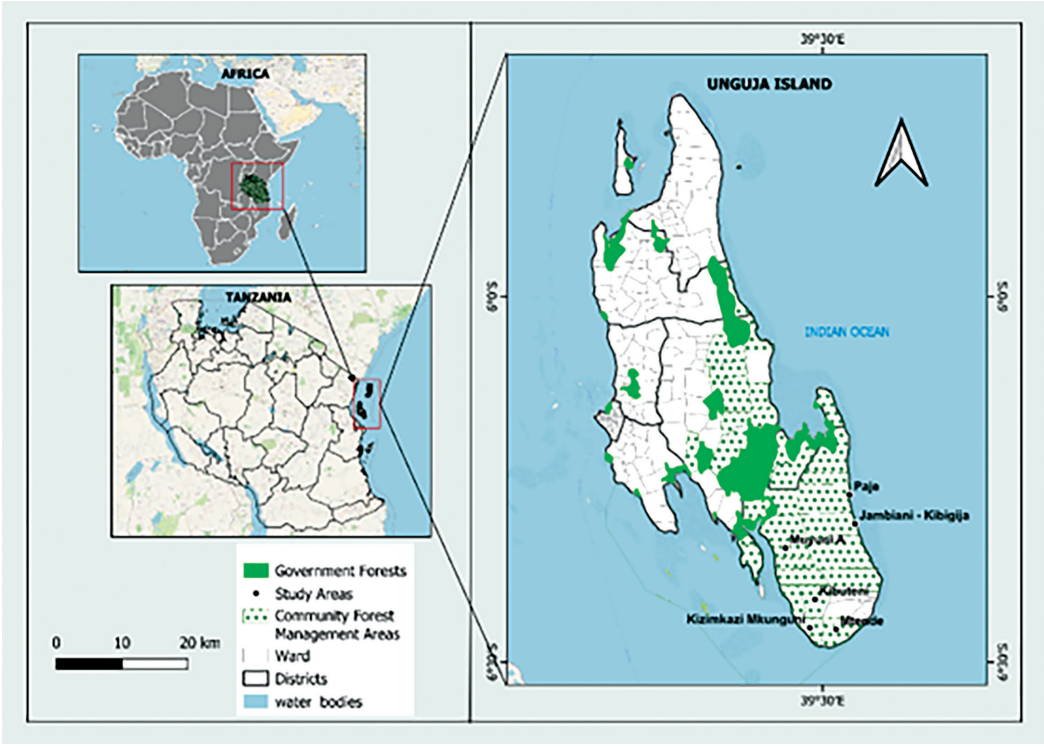

Figure 1: Location of the study *Shehias* in the South District of Unguja Island

interview, a questionnaire was used to collect quantitative data on local people's participation in various steps of the CoFMAs process, such as participation in community conservation meetings, participation in the formulation of by-laws, and participation in monitoring and patrol. A total of 323 households were proportionally and randomly selected from six selected shehia in the study area. The selected *shehia* are Mtende, Kizimkazi Mkunguni, Pete, Paje, Jambiani Kibigija, and Muyuni 'A'. In-depth interviews were conducted with 13 key informants, who included six (6) chairpersons or secretaries of community conservation committees, one (1) from each selected *shehia*, six (6) local leaders, one (1) from each selected *shehia*, and one (1) officer from the Department of Forestry and Non-Renewable Resources. During the in-depth interview, an interview guide which consisting of open-ended questions was used to collect information about procedures taken to establish CoFMAs and the participation of local people in implanting CoFMAs. The content analysis technique was used to analyse information from in-depth interviews. Furthermore, six (6) FGDs were conducted, one (1) in each selected shehia. The researcher facilitated discussions and a checklist of questions of curiosity was used to guide the discussions in the groups. The groups involved five (5) to seven (7) participants.

The ODPs framework (Ostrom, 1990) was used to analyse CoFMA's approach. All aspects of CoFMAs were assessed to see if they were reflected in ODPs to understand the overall governance of community forests in the South District of Unguja. The IBM Statistical Package for the Social Sciences (SPSS) software version 20.1 was used to analyse quantitative data from structured interviews. Descriptive statistics, such as percentage, were used to analyse the data from respondents. Meanwhile, inferential statistics, particularly X^2 tests, were used to analyse associations of community participation among various aspects of the CoFMA process. Qualitative information from KIIs and FGDs was analysed using the content analysis method (Kitchin & Tate, 2013).

Results

CoFMA establishment process and Ostrom's design principles

The analysis of interview responses revealed that the process for establishing CoFMA in Zanzibar is based on and guided by the Environmental Policy (1992), revised in 2013, and the Forest Legislation (the Forest Resource Management and Conservation Act No. 10 of 1996). Both the policy and the legislation emphasise community involvement in the conservation of forests. Zanzibar Forest Legislation (the Forest Act No. 10 of 1992) provides a chance for the community to establish community forest conservation areas. The interviews with government officials from the Department of Forest revealed that the establishment of CoFMA followed eight (8) stages that are explained in the CoFMA guidelines document. These stages were as follows: i) selection of a Shehia (community area) to be involved; ii) preparatory Shehia meetings; iii) Shehia forest boundary delineation; iv) Shehia forest and associated land use assessment and verification; v) CoFMA planning; vi) CoFMA agreement (by-laws) production; vii) seeking support and legitimacy; viii) implementation; and ix) monitoring, reflecting, and reviewing. The processes are unilaterally adopted by the community for implementation under the facilitation of the national administrator from the Department of Forestry (DF) (Eilola *et al.,* 2014). Meanwhile, ODPs consists of eight (8) principles (Table 1), which are not stages to be followed but are the principles to be considered when establishing community institutions to govern common resources such as CoFMA.

Reflection of Ostrom's Principles in the Context of CoFMA

Table 1 shows the reflection of ODPs in the context of CoFMA. The assessment revealed that all eight designed principles have been reflected in the various steps of CoFMA. However, this paper shows low community participation in the various aspects of CoFMA. A detailed analysis of each Ostrom principle on how it has been reflected in the context of CoFMA is provided in this section.

Ostrom's principle number one (1)

emphasises that clearly defined boundaries of resources improve resource governance. This principle is reflected in CoMA, as before seeking support and legitimacy from the communities to implement CoFMAs, the officials from the government advised communities in all Shehia to demarcate their Shehia boundaries. Then, community land in each *Shehia* under CoFMA was divided into i) community forest conservation areas, ii) alternative use areas, and iii) utilisation zones. Community forest conservation areas were allocated for protection use only, while utilisation and alternative use land were allocated to provide livelihood services to the community. Nevertheless, only a few people (24.8%) were involved in the establishment of

Table 1: Reflection of Ostrom's Principles in the Context of CoFMA

Ostrom's design principles		Context of CoFMA
Principle 1	Clearly defined boundaries	Shehia and forest boundaries delineation
Principle 2	Congruence between appropriation and provision rules and local conditions	Communities developed management plans, including how alternative land, utilisation land, forest land, and wildlife should be managed and utilised.
Principle 3	Collective choice arrangements	Communities conducted village meetings to discuss the adoption of CoFMAs, develop by-laws, and plan for monitoring.
Principle 4	Monitoring	Village conservation committees are responsible for inspecting conservation forests, collecting fees and fines, and keeping records. The committees are also responsible to make follow-up on community practices to alternative and utilisation lands. Community members are also responsible for reporting illegal harvests they witness.
Principle 5	Graduated sanctions	Rules were established for apprehending offenders. Levying fines and penalties were introduced for those who were found guilty. Also, all direct ecosystem services were controlled through permission, with charges based on the communities' by-laws.
Principle 6	Conflict resolution mechanisms	Local government leaders (Sheha) and community conservation committees face and solve conflicts. However, community conservation committees were not equiped to solve forest disputes.
Principle 7	Minimal recognition of rights to organise	Each community established its own management system, including conservation committees. However, the committees were receiving guidance from government officials.
Principle 8	Nested enterprises	Appropriation, provision, monitoring, enforcement, and governance activities are directed in by-laws which were approved by Regional Commissioner in the respective region. There was coordination between the local, regional, and national levels. The government officials from the DF were the main custodians of forest conservation.

Source: Modified from Ostrom (1990)

land zones within their community lands. The Chi-square test analysis showed a statistically significant association between those who participated in zoning community land and those who participated in conservation meetings. The association was at a 0.05 confidence level (X^2 = 98.103a, df = 1, P = 0.000). The findings imply that community members who participated in conservation meetings could be involved in the planning of zones for community land.

Principle number two (2) emphasises congruence between appropriation and provision rules and local conditions. Ostrom believes that, in governing common resources, there should be rules that have received support and legitimacy from the community. Those rules must reflect the costs that the users will incur and the benefits that they will gain. In CoFMA, the communities developed management plans and by-laws. Such initiatives were facilitated by officials from DF. The rules adopted include how alternative land, utilisation land, and forest land should be managed and utilized. Some of the by-laws included are a prohibition against collecting firewood and charcoal burning in the forests, a prohibition against cutting trees (for firewood, poles, and pegs) in the forest reserve, a prohibition against hunting in the forest reserve, and a request for a permit for clearing vegetation for alternative land for cultivation. Others included the prohibition of carrying firewood by vehicles from the forest and the prohibition of entry into the reserved forest. In order to improve wildlife habitat and the conservation of mini-antelopes in the communities, all direct ecosystem services were controlled through permits. A hunting permit was issued only for blue duikers and suni antelopes. This paper, however, shows that the majority (68.7%) of the respondents did not participate in formulating the by-laws. Participation in the formulating and passing of by-laws was further analysed in relation to participation in conservation meetings. The Chi-square test showed that there was a statistically significant association between participation in the formulation of by-laws and participation in conservation meetings at the 0.05 confidence level (X^2=23.371a, df=1, P=0.000). Therefore, respondents who participated in meetings were likely involved in the formulation of by-laws that control the behaviour of utilising and managing natural resources.

Principle number three (3) is collective choice arrangements. Ostrom (1999) describes collective choice arrangements to mean that individuals affected by rules that control and guide resources utilisation are provided with a group that can modify these rules. Common resource governance needs collective action to make inclusive decisions. In the context of CoFMA, village conservation meetings were used as a platform to exchange ideas, including planning and giving feedback, between the communities themselves and between the communities and other stakeholders such as government officials. However, findings from the questionnaire survey revealed that most (66.6%) of the interviewed respondents did not participate regularly in community conservation meetings. Most of those who had been attending were members who had positions on conservation committees. The Chi-square test showed that there was a statistically significant association between those who participated in meetings and those who were consulted during the establishment of CoFMA programmes at a 0.05 confidence level (X^2=189.823a, df=1, P=0.000). This implies that those who were consulted during the establishment of conservation strategies were likely to participate in conservation meetings.

Principle number four (4) of the Ostrom design indicates that common pool resources conditions need to be monitored either by the users themselves or by the people who are accountable to the users. In the context of CoFMA, monitoring of community conservation forests is demonstrated by CCCs, which are responsible for controlling the utilisation of resources. Besides, conservation meetings were conducted to promote community to volunteer in patrols and encourage individuals to report any illegal event of resource utilisation from reserved community forests that they might encounter. The findings from the questionnaire survey, however, indicate that a majority of the interviewed respondents (65%) disclosed that they were not willing to participate in patrols. Most of the respondents were not willing

because there was no money for patrols. The Chi-square test was used to analyse the association between participation in conservation meetings and willingness to participate in patrol. The test indicated a statistically significant at a confidence level of 0.05 (X^2=111.190a, df=1, P=0.000). This indicates that the participation of the local people in planning and decision-making was important for the implementation of the conservation activities. Many of the interviewed respondents reported that they were not willing to participate in field patrols for conservation because they were not paid.

Principle 5 explains that users who violate resource-related rules are likely to be held accountable and given penalties that correspond to the seriousness and context of the offense. In CoFMA, all direct ecosystem services were controlled through permission, with charges based on the communities' by-laws. For instance, the study found that hunting (only for the blue duikers and suni antelopes), commercial cutting of firewood, charcoal burning, clearing natural vegetation for cultivation, and other ecosystem services were allowed, but with some conditions and after the issuance of a permit. Those who would be caught and convicted for illegally utilising resources would be penalised or sent to court. For instance, the illegal hunting penalty was TZS 500,000/= (equivalent to USD 210.97); the illegal clearing of forest for cultivation and the illegal charcoal burning penalty was TZS 200,000/= (equivalent to USD 84.39) each. Community members involved in commercial cutting of firewood were charged TZS 100 (equivalent to USD 0.042) for a bundle and TZS 6,000/= (equivalent to USD 2.53) to get a permit to clear one (1) acre (0.01 h) of natural vegetation for cultivation in a period of three years. The payments were made to contribute to community conservation funds. The funds were used to conduct various conservation activities, including patrols.

Principle 6 implies that users and their officials have rapid access to low-cost local arenas to resolve conflicts among users or between users and officials. In CoFMA, conflicts within communities were solved within communities by CCCs and local leaders. If the CCCs and local leaders fail to resolve the conflict, the conflict is either reported to the district or regional office, or the DF, or even to the policy station, depending on the nature of the conflict. Other During FGDs, participants explained that several disputes have emerged between and within communities. The disputes had different natures. The nature of the disputes between the communities included disagreements about the boundaries and the invasion of conservation forests by non-community members adjacent to the others. On the other hand, the disputes that emerged within communities were disagreements among community members themselves over the establishment of zones and some of the established by-laws. Some of the community members were urged to be excluded from utilising resources, which they mostly depend on for their livelihoods.

Principle number seven (7) emphasises minimal recognition of the rights to organise. The rights of users to devise their organisations are not challenged by external government authorities (Ostrom, 1999). The seventh principle of Ostrom emphasises the local arrangement of the appropriators to devise their organisation. Accordingly, minimum recognition of rights to organise is social capital to solve the problem as it promotes local knowledge, customs, and self-organisation (self-governance). In the practice of CoFMA in Zanzibar, arrangements and organisation among the appropriators arecomplex. There were community-based organisations, which are CCCs. The committees were responsible for cordinating and excuting the conservation plan. It was also found that there was external influence from government authorities, particularly the officials from DF. Most of the decisions were first discussed between officials from DF and members of CCCs before they were introduced to local community members.

Principle 8 is explaines that appropriation, provision, monitoring, enforcement, conflict resolution, and governance activities are organised in multiple layers of nested enterprises. The information from in-depth interviews with key informants and FGDs revealed that CoFMA is well connected at different levels, including global, national, regional, and local. It is also connected to political and social

aspects. As it has been noted, CoFMA is linked to global initiatives to reduce emissions from deforestation and forest degradation through a participatory approach. The government of Zanzibar entered into negotiations with a donor country to implement CoFMA. The DF was the champion for all discussions and implementation of the CoFMA in Zanzibar. In all steps, the DF worked closely with regional, district, and Shehia administrations, since all Shehia are under district and regional administrations. Furthermore, the forest regulatory framework was used to empower the community to own land for establishing conservation. Meanwhile, the CoFMA constitution gave guidelines on how communities could adopt the approach. During KIIs with chairpersons of the conservation committees, most of them explain that governance responsibilities such as monitoring, enforcement, and conflict resolution are performed at different levels, including communities, districts, DF, and responsible government ministries. Stakeholders work together because each part is responsible.

Beyond Ostrom's Principles in the Context of CoFMA

This study found that the design of CoFMA followed the ODPs in most of its aspects. However, in the CoFMA, there is an aspect of benefit sharing that is used as a motivational strategy to support community forest governance. During an in-depth interview, an official from DF informed the researcher that prior to CoFMA, there were many conservation initiatives that failed because community livelihoods were not given emphasis, but instead much effort was given to conservation. Accordingly, benefit sharing of resources has been introduced in CoFMA as an alternative to supporting community livelihoods. Benefit sharing is financed through donors and individual contributions from commercial exploitation of forest resources. One of the by-laws to implement CoFMA requires every community member who exploits community forests for commercial purposes like commercial cutting of firewood and making charcoal to contribute some amount of money. The contributions are collected and kept in the community development fund. However, the findings from the questionnaire survey revealed that a majority of the interviewed respondents (93.2%) had never received any assistance. Many of the respondents had not received assistance.

Discussion

CoFMA has some similar features to ODPs, as both are centred on community institutions. However, CoFMA is designed by DP based on the Forest Resource Management and Conservation Act 10 (1996) and the National Environmental Policy of 1992, revised in 2013 (Eilola *et al.,* 2014). CoFMA is the community-based approach established to give communities authority to govern their forest resources. Each community (Shehia) formed the CCC to plan and govern their forest resources and other land resources. Nevertheless, community plans and decisions were influenced by external forces, as the decision to establish CoFMA was given by DF. Similarly, Benjaminsen (2017) explains that the establishment of CoFMA in Zanzibar was a global initiative aimed atreducing greenhouse gas emissions by reducing deforestation and forest degradation. Benjaminsen (2017) added that the CoFMA is a donor-funded project aimed at improving the community's ability to conserve their forest by supporting their livelihood. The influence of the donor country and the government is obvious, and many decisions are controlled by the government. Perfect-Merema (2021) explained that communities need recognition rights to plan and organise their resources as the external arrangement is not fit for local conditions.

Contrary to CoFMA, ODPs emphasise community autonomy to develop robust institutions to govern their resources. Ostrom (1990) explains that ODPs have been developed to create robust community institutions to govern common resources in the belief that, ontheir own, the community can improve management systems through negotiations. The social scientists explain that social organisation consists of structure with different aspects, including norms, social obligation, information channels, togetherness, volunteerism, and trust, that are important to bring the community

together and have a voice to solve their problems (Ballet *et al.,* 2007). On their own, the community can improve management systems by negotiating themselves in policy formulation, resource planning, decision-making and benefit sharing to improve their livelihoods and reduce the problem of free-riders.

CoFMA consists of unilateral and fixed nine (9) stages, which are as follows : selection of a Shehia (community area) to be involved, preparatory Shehia meetings, Shehia forest boundary delineation, forest and associated land use assessment and verification, CoFMA planning, CoFMA agreement (by-laws) production, seeking support and legitimacy, implementation and monitoring, reflecting, and reviewing. All nine (9) stages are reflected in ODPs. However, ODPs are not stages to be followed; instead, the principles need to be adapted to the locality to have effective community institutions to govern community forests. Seward and Xu (2018) emphasised that the principles need to be adapted to the local community. Similarly, Yeboah-Assiamah *et al.* (2017) emphasise community to design and localize institutions in communities to enhance effective governance of community resources. Contrary to CoFMA, there is no emphasis on the local level in designing the stages, but the stages are adapted in the community to be implemented with facilitation from technocrats (Eilola *et al.,* 2014). Village meetings are commonly used in Tanzania for the local people to discuss and plan to govern their forest resources (Perfect-Mrema, 2022). Gandiwa *et al.* (2014a) and Huynh *et al.* (2016) maintain that community conservation meetings are important strategies for the sustainable management of biotic resources. Low participation of the local community may imply that there was low involvement of the majority of the local community in decisions over the use of their natural resources.

Low community participation has also been experienced in enacting by-laws that are used to control and provide guidelines on communities' access to and utilisation of resources. By-laws provide a framework for utilising resources, implementing benefit sharing, and enforcing conservation by controlling human behaviours (Gandiwa *et al.,* 2014b; Harrison *et al.,* 2015; Yeboah-Assiamah *et al.,* 2017); thus, low community participation contributes to ineffective community institutions to govern community forests. Experience from elsewhere in Africa, such as Madagascar, indicates that most of the successful community-based management approaches to natural resources have been linked with community participation in enacting by-laws (Thielsen, 2016). However, Osunsina and Fagbeyiro (2015) explain that when enacted by-laws restrict communities to utilise natural resources, the communities become discouraged to protect and conserve the respective resources.

Although the CoFMA establishment has adapted ODPs in Zanzibar, the approach emphasises the benefits of sharing of community resources and providing the community with financial support to reduce overdependence on forest resources. The sharing of resources and financial support is not included among the ODPs. Saeed *et al.* (2017) also emphasise that benefit sharing among the resources appropriators is an important right to achieve community resources governance. Community benefits in CoFMA were found in different forms, including financial assistance, livelihood, entrepreneur activities, and infrastructure. However, it has been found that there was no good distribution of the benefits; thus, it has contributed to demoralizing many of the community members to take part in various conservation activities, such as monitoring. Similarly, Graham *et al.* (2016) argue that the financial benefits from many community forest conservation projects are complex as there is no clear explanation for the distribution of the benefits. Bayrak and Marafa (2016) found in different countries that financial benefits from natural resources utilisation are not equally distributed among communities. Some individuals or groups received more benefits based on the social relations they have, their knowledge of the projects, and their land tenure. The sharing of forest resources among the comunity members is important for improving of forest governance. Saeed *et al.* (2017) clarify that among the rights of the resource appropriators in the community is to benefit from the community resource. Sikor *et al.* (2017)

explain that there is an emerging approach to sharing community resources benefits that help improve governance. Community benefits in CoFMA were found in different forms, including financial assistance, livelihood, entrepreneur activities, and infrastructure. Local community members were promised financial assistance when they agreed to adopt CoFMA in their areas. However, many of the community members claimed that there was no benefit sharing since they had not received any financial support. Similarly, Graham *et al.* (2016) argue that the financial benefits from many community forest conservation projects are complex as there is no clear explanation for the distribution of the benefits. Bayrak and Marafa (2016) found in different countries that financial benefits from natural resources utilisation are not equally distributed among communities. Some individuals or groups received more benefits based on the social relations they have, their knowledge of the projects, and their land tenure. Turner (2004) also found that communities in the Makuleke Region received various supports, including funds and training, from stakeholders. However, the tangible benefits received by non-executive members were fairly small and not distributed equally; hence, it affects resources governance. Based on these findings, benefit sharing of resources and stakeholder support is important aspects of the conservation of natural resources.

Conclusion

The CoFMAs approach in Zanzibar highly adapts ODPs for conserving common pool resources. Like ODPs, the CoFMAs consisted of various aspects known as principles in Ostrom design. These include by-laws (defined rules), zonation of community lands (clear delineation of boundaries), community management plans (congruence between appropriation and provision rules and local conditions), village meetings (collective choice agreement), levying fines and penalties (graduated sanctions), and monitoring. However, local community participation was low in those aspects of CoFMA. Thus, conservation practices to improve community forest conservation have not been satisfactorily achieved. As well, robust community conservation institutions have partially been achieved despite the conservation initiatives to mainstream community participation in the legislative framework. It is therefore recommended that community-led should take place in the establishment of robust community institutions to improve the conservation of community forests. Financial motivation and incentive distribution among community members should certainly be included in the by-laws.

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