v. 5, n. 10, 2025

Scientific Journal of Applied Social and Clinical Science

CHALLENGES AND CONFLICTS OF COMMUNITY PARTICIPATION IN THE CO-MANAGEMENT OF THE GORONGOSA NATIONAL PARK (PNG)

Fausto Fidalgo Daniel Ngove
Faculty of Education, Eduardo Mondlane University (UEM), Mozambique
https://orcid.org/0009-0004-9932-9996

Samuel António Quive
Faculty of Arts and Social Sciences, Eduardo Mondlane University (UEM), Mozambique
https://orcid.org/0009-000-0028-4961

Acceptance date: 08/08/2025

Ab**stract:** Co-management of conservation areas has been widely promoted as an effective approach to balancing biodiversity conservation and sustainable local community development. In Mozambique, the development of conservation areas has gone through different phases, from the colonial period to legal and institutional reforms beginning in 1992. These reforms contributed to the creation of the first natural resource management committees. Although the creation of community management committees was oriented toward conservation by local communities and the sharing of political and social power and economic benefits, their participation in co-management continues to face significant challenges. This article analyzes the main challenges faced by community management committees in the co-management of the PNG. The research followed a mixed approach, based on a questionnaire addressed to the community in the buffer zone (n=295), interviews with managers of the Canda, Matenga, and Nhantadza committees, and non-participant observation. For the analysis of quantitative data, SPSS software and *Microsoft Excel* were used to prepare graphs. Qualitative data were processed through content analysis and comparative analysis. The results of the research reveal institutional barriers to the full functioning of community management committees, limitations in the technical capacity of the committees, and internal power struggles among local political elites over the control of conservation benefits. Thus, it is concluded that community ownership and participation in the co-management of the PNG do not yet guarantee significant development of local communities.

Keywords: Co-management, Conservation, Governance, Community, Gorongosa National Park.

INTRODUCTION

Co-management of conservation areas is presented as an effective alternative for balancing environmental conservation needs and the well-being of local communities that depend on these ecosystems for their livelihoods. The study area is the PNG, a conservation area located in central Mozambique that represents one of the most emblematic examples of ecological restoration and participatory governance on the African continent. Created in 1960, the PNG suffered severe disruption during the civil war (1977-1992), which destroyed infrastructure and reduced much of the fauna and flora, causing the displacement of resident communities (Ministry of Tourism [MITUR], 2004).

Starting in 1994, the first restoration actions in the PNG were carried out with the support of the African Development Bank (ADB), followed by the signing of a partnership agreement for co-management between the Mozambican government and the Carr Foundation, a philanthropic organization based in the United States of America (USA). The agreement aimed to stimulate the socio-economic development of the park and its buffer zone by establishing a co-management model to restore biodiversity and ensure community participation in natural resource management (Daskin *et al.*, 2018).

The main problem identified in this research is the difficulty that CGCs have in playing an active and influential role in the co-management of natural resources in the Park's buffer zone. Although the committees were established as forums for popular participation, several factors limit their effectiveness, including institutional barriers, lack of financial and technical resources, and conflicts of interest between the different actors involved (Virtanen, 2005). This research therefore seeks to answer the following question: what are the main challenges and conflicts faced by community management committees in the co-management of Gorongosa National Park?

The research is relevant because it seeks to understand the social, political, and economic dynamics that interfere with the co-management of conservation areas in Mozambique. In previous research, prominent authors such as Borrini-Feyerabend *et al.* (2013) pointed out that community inclusion in environmental governance can contribute to sustainable conservation and the strengthening of the social and economic resilience of local populations. However, the effective implementation of co-management requires overcoming some structural challenges and creating mechanisms that guarantee autonomy and leadership for communities in decision-making processes (Schwartzman and Zimmerman, 2005). By analyzing the specific case of the PNG, this research offers experiences applicable to other conservation areas that have adopted similar co-management models, which may contribute to the improvement of public policies aimed at conservation and sustainable development.

The importance of this study is also reflected in the possibility of proposing strategies to make co-management more inclusive and efficient. In many contexts, community participation in conservation projects is limited to an advisory role, without real decision--making power (Ostrom, 1990). This can lead to frustration and conflict, weakening the co--management model.

Based on an empirical approach, this research seeks to highlight the difficulties faced by CGCs and suggests ways to strengthen their role in the co-management of the PNG. Based on these assumptions, the study aims to contribute not only to the enrichment of the literature on co-management, but also to the improvement of environmental governance practices in Mozambique and other countries that adopt similar models.

CO-MANAGEMENT AND COMMUNITY PARTICIPATION IN CONSERVATION AREAS

Co-management as a practice of formal power sharing in resource management dates back to the 19th century and was described as a relatively simple class of partnership agreements (Berkes, George, and Preston, 1991). Co-management shares many characteristics with other types of partnerships and cooperative environmental governance arrangements involving multiple actors (Berkes, George, and Preston, 1991; Berkes, 2002; Plummer and Fitzgibbon, 2004).

In this type of arrangement, social actors can be institutions, social groups, and individuals who have direct, significant, and specific participation in the protected area. As mentioned, participation may result from institutional obligation, geographical proximity, historical association, subsistence dependence, economic interest, and a variety of other capacities and concerns. The idea is that an agency with jurisdiction over an area (usually a state agency) can develop "a partnership with other relevant stakeholders (mainly local residents, including resource users) that specifies and guarantees their respective roles, rights, and responsibilities in relation to the area" (Borrini-Feyerabend, 1996).

In co-management projects, local communities exercise control and authority over decisions and resources according to their comparative advantages; local communities do not operate in isolation, but in collaboration and with the support of other actors, including local governments, central government agencies, non-governmental organizations (NGOs), and the private sector; central agencies involve local communities in broader resource management and conservation objectives, while seeking ways to better compensate them; and central agencies are prepared to address local interests, needs, and norms that

are compatible with broader resource management and conservation objectives.

Thus, co-management is oriented beyond management actions (Carlsson and Berkes, 2005). It is linked to a diversity of participatory institutional mechanisms and arrangements for processes involving conflict and problem resolution (Berkes, 2007; Berkes, 2009). Co-management processes reduce the likelihood of communication failures between the social actors involved, as they include extensive negotiation processes. According t Ostrom (2011) , communication failures are one of the main problems associated with centralized systems and the main consequence of a lack of trust between actors and within the management process. Learning is another necessary component for improving the resilience of Common Resource Management (CRM) in terms of adapting to changes in socio-ecological systems. The rapid changes to which these systems are subject lead to the need for constant communication and social learning through the process of learning by doing.

Co-management can offer a more equitable method of establishing and implementing conservation areas, as it provides opportunities to reduce local costs or provide benefits through the potential to adapt rules to local conditions, increase legal compliance, improve collaboration, and lead to greater stakeholder involvement and empowerment (Carlsson and Berkes, 2005).

Local population participation in the management of protected areas was formally recognized in the 1980s in the World Conservation Strategy (IUCN-UNEP-WWF, 1980). Throughout the evolutionary process of participatory approaches, two typologies have emerged in thought and practice. Participation as "a means" or tool to achieve externally defined objectives, the central notion being that if people are involved, they are more likely to agree with and support the new development option or service. This type of participation tends to elevate the values of ecological experts above those of the rest of society and to exclude civil society in general from decision-making processes that affect their lives. This image portrays conservationists as controllers of social action. It implies concepts of absolute power and powerlessness and divisions between insiders and outsiders, and ignores the strategic roles of individuals and communities.

And participation as "an end" or fundamental human right, whose main objective is to initiate mobilization for collective action, empowerment, and institutional strengthening (Pretty, 1995). For Barrow and Murphree (1998), participation as "an end" has a varied meaning and is used to encompass many activities, for example, the provision of labor, materials, or money; involvement in identifying problems; planning and implementing projects; community, institutional, or individual participation; partnership, training, or capacity building; or a combination. This reflects the diverse interests that different people have in participation in terms of who participates and the level of participation involved. In this context, participation as "an end" tends to promote self-determination and empower rural populations to take control of their lives, but it does not guarantee care for the environment (Jeanrenaud, 2002).

Most of the existing literature highlights the importance of understanding the multiple meanings of participation. Author Shery Arnstein (1969) describes "participation as a continuous involvement between stakeholders, ranging from passive dissemination of information to active involvement." She stood out by identifying eight steps on the ladder of citizen participation, ranging from manipulation to citizen control.

In turn, author Julles Pretty (1995), who worked on research on participation in the

management of agricultural systems, also presented a typology of participation composed of seven user-oriented levels, focusing in particular on the idea of citizen control over the state. This is a view in which shared power can reach the level of citizen empowerment, understood here as self-mobilization. Figure 1 below shows how Pretty organized the levels of participation.

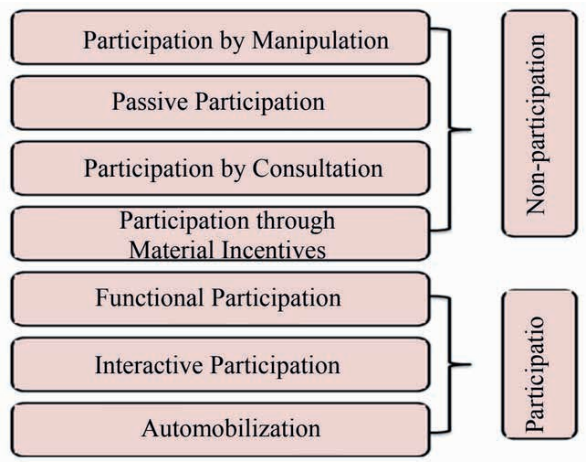


Figure1 : Shery Arnestein's Ladder of Participation (1969)

Source: Pretty (1995)

From Pretty's perspective (1995), initial levels of participation (manipulative, passive, consultative, and incentive-based participation) do not produce lasting positive effects on the lives of communities and are therefore considered types of "non-participation," as they are limited to discussions or the provision of information to external agencies. Types of "non-participation" are characterized by manipulative participation, in which citizens are represented by an actor appointed by the state, but without any veto power. In these circumstances, participation can be considered a deception, since the presence of actors supposedly representing a particular group or organization has no deliberative power.

In passive participation, citizens are only informed about what has already been decided. It is merely a unilateral announcement of decisions, without consulting the parties concerned. Participation through consultation requires that citizens be heard, but they do not have ample opportunity to express their views or vote. The "experts" or external agents define the problem and control the collection and analysis of data. At the same time, they have no obligation to consider the opinions of participating citizens. Incentive participation is participation that is maintained solely on the basis of material, financial, or symbolic incentives. Citizens have no participation in the in laboration, or ongoing deliberative process. They only participate because of the incentive they receive; when the incentive ceases, so does their participation (Pimbert and Pretty, 1995).

Therefore, the types of participation that produce positive effects include functional, interactive, and self-mobilization participation. Functional participation is seen by external agencies as a "means" to achieve project objectives, especially cost reduction. People can participate by forming groups to achieve predetermined project-related objectives. This involvement can be interactive and involve shared decision-making, but tends to arise only after the main decisions have already been made by external agents. In the worst case, the local population may still be co-opted to serve external objectives (Pretty, 1995).

Interactive participation and mobilization, on the other hand, are considered an "end" or a fundamental right, in which people are involved in all stages of the project, from design to maintenance (Jeanrenaud, 2002). It is in this type of participation that the best results occur, that is, effective participation.

For Pretty (1995), in interactive participation, people participate in joint analysis, the development of action plans, and the formation or strengthening of local institutions. In this typology, participation is seen as a right and not as a means to achieve the project's objectives.

The process involves interdisciplinary methodologies that seek multiple perspectives and make use of systematic and structured learning processes. As groups take control of local decisions and determine how available resources are used, they also have an interest in maintaining structures or practices (Bass *et al.,* 1995).

Participation through self-mobilization is defined by the participatory initiative of citizens. It is a model in which the collective develops contacts with external institutions to obtain the resources and technical advice it needs, but retains control over how the resources are used. Mobilization can spread if governments and NGOs provide a supportive framework. Such self-initiated mobilization may or may not challenge distributions of wealth and power (Pretty, 1995).

These types of participation are a resource regularly used in research on participation, as they promote awareness of the need to reflect on the power relations established in political contexts, so that deliberation routines can be understood in depth and in a . They can therefore be used to analyze community participation in the co-management of protected areas, as the challenges they face are not dissimilar to those presented in the typology proposed by Julles Pretty, but also because they involve people and organizations with diverse roles, from field managers and agencies at various levels, authorities and local residents, natural and social scientists, policy makers, and legislators at the national and international levels who are concerned with how protected areas relate to local populations, especially indigenous peoples and local communities (Borrini-Feyerabend, Kothari, and Oviedo, 2004).

In Mozambique, community participation in the co-management of natural resources gained momentum in the 1990s with the introduction of political, institutional, and legislative reforms in the forestry and wildlife sector. The reforms aimed to share political, social, and economic power in the exploitation of natural resources between the state, local communities, and other stakeholders, as well as to promote the direct and active participation of communities in environmental management and sustainability through the delegation of powers and the creation of instruments to strengthen cooperation between formal and informal structures.

To this end, Local Resource Management Councils (COGEP) were created, made up of representatives of local communities, the private sector, associations, and local state authorities. In these councils, local communities are represented by Community Management Committees (CGC), locally created bodies whose main functions are to manage natural resources within the community and to mediate relations between communities and people or institutions outside the community (Filimão *et al.,* 1998).

The political reforms of 2000 served to enhance the participation of local communities in the co-management of conservation areas, achieved through the Conservation Policy and Implementation Strategy (Resolution No. 63/2009 of November 2) and the creation of the National Administration of Conservation Areas (ANAC), a public body responsible for promoting revenue generation to finance biodiversity management and economic development in the country, particularly in local communities (Decree No. 11/2011 of May 25).

As a result of the approval of Resolution No. 63/2009 of November 2, the Conservation Area Management Councils were created, specialized bodies for the co-management of conservation areas, replacing the COGEPs. This is an advisory body created to support the administration of the conservation area, which is chaired by the Conservation Area Administrator and made up of representatives of local communities, the private sector, asso-

ciations, and local government bodies (Decree No. 11/2011 of May 25).

In the councils, communities are represented by a maximum of three representatives from the natural resource management committees that support the Conservation Area Administration in implementing and monitoring compliance with management plans, supervising the conservation area, responding to community development needs, preparing strategic development plans, supervising the implementation of concession contracts, and developing public utility infrastructure.

Although these structures exist, according to Pimbert and Pretty (1995), one of the challenges for effective community participation in the co-management of protected and conservation areas in Mozambique is the adaptation of community institutions to the requirements of the design and management of national parks and protected areas. However, to achieve this adaptation, it is important to develop a system of local knowledge and management (customs and beliefs) attuned to the needs of the local population seeking to improve their ability to adapt to dynamic social and ecological circumstances (Pimbert and Pretty, 1997; Gerhardinger, Godoy, and Jones, 2009; Worboys, Lockwood, Kothari, Feary, and Pulsford, 2015).

For Uphoff (1986), effective co-management must be based on local institutions and organizations. Integration also depends on respect for local rights to resources, abandoning conventional models of protected areas that often exclude or marginalize indigenous peoples and communities from governance and management (Conservation Initiative on Human Rights, 2014). The literature also suggests making use of locally available resources and technologies to meet basic human needs through solutions that are sustainable and less expensive for communities and other groups involved in identifying technological needs, from the design and testing of technologies to their adaptation to local conditions and, finally, their extension to others (Pimbert and Pretty, 1995, p. 39).

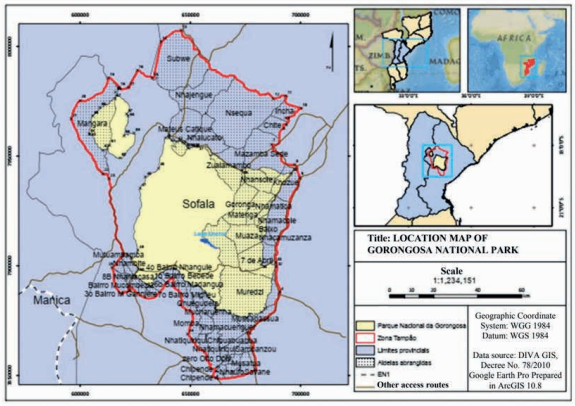
It is also suggested that preference be given to informal innovation systems and reliance on local resources to meet local human needs, supported by approaches to " " learning through interaction, identification, monitoring, and complex and ongoing evaluation to achieve qualitative changes in the way people and institutions interact and work together. Adopts economic incentives and policies for the equitable sharing of conservation benefits, including issues such as how costs, benefits, rights, responsibilities, and risks are distributed within and between groups of present and future generations; Recognized and equitable respect for the knowledge systems, values, social norms, and rights of all stakeholders in the design and implementation of policies or programs (Martin, *et al.*, 2016; Law, *et al.*, 2017).

It requires the adoption of codes of conduct for conservation agencies and professionals that allow local populations to seek redress from international or national conservation organizations and environmentalists for causing social conflict and poverty (Pimbert and Pretty, 1995).

METHODOLOGY

The PNG is located in the central zone of the Republic of Mozambique and covers the territories of the districts of Gorongosa, Muanza, Nhamatanda, Cheringoma, Caia, Dondo, and Marigué in Sofala Province, and the district of Macossa in Manica Province (Ministry of Land, Environment, and Rural Development [MITADER], 2016).. It is a total conservation area, created in 1960 to ensure biodiversity conservation. Until 1973, the PNG was considered one of the most famous reserves in Southern Africa (MITUR, 2004).

However, the armed conflict that began in 1977 contributed to increased human pressure, reduced biodiversity, and destruction of infrastructure.



The park currently covers an area of 9,419 km², which includes the Serra da Gorongosa area above 700 meters above sea level and the buffer zone (Decree No. 78/2010 of December 31). Most of the local population belongs to the Cena and Ndau ethnic groups. Around 237,734 inhabitants live in the park's buffer zone, spread across 16 villages (MITADER, 2016).

The population is mainly composed of young people under the age of 15 and women. The school enrollment rate is low, with only 5% of the population entering secondary education. Households have between five and eight members and are mostly headed by women. The dominant religion is Sion/Zion and the main languages spoken are Cindau and Cisena (INE, 2012).

According to the Ministry of State Administration [MAE] (2005), around 85% of the population is rural and depends on family farming, cattle and goat rearing, poultry farming, and the exploitation of forest resources for the production of charcoal for subsistence. Agricultural production is deficient, especially in the districts of Dondo, Muanza, and Cheringoma. Economic activities are underdeveloped and the infrastructure network is weak.

Historically, conservation research has been based on the biological sciences, as most researchers are trained in the natural sciences. However, the fact that many conservation issues revolve around understanding and changing human behavior has led to the rapid adoption and use of social science methods (Newing, 2011). This is due to the contribution that social science methods make to understanding local attitudes, perceptions, and beliefs about wildlife and conservation initiatives (Drury *et al.*, 2010).

The data collection tools used in this research are interviews, questionnaires, and observation, where the questions reflect conservation governance processes, motivations for community participation, and influence on livelihoods and strategies. In this context, the concurrent mixed approach is appropriate for the objective of this study (Goldenberg, 2004; Creswell, 2010; Santos *et al.*, 2017).

The three (3) villages chosen for the study are located in the buffer zone of the Park, specifically in the villages of Canda, Mucombezi, and Nhatadza, in the districts of Gorongosa, Nhamatanda, and Muanza, respectively.

The survey used to collect data consists of six sections. For the purposes of this article, only the responses relating to section E were analyzed. This section consists of 19 questions related to the structure, organization, functioning, and activities carried out by the committees.

The survey was conducted in the field using a stratified probability sampling method, which yielded 295 valid responses. This number is adequate for the objectives of the study. The survey was validated through a pre-test conducted in May 2021, applied to households residing in the buffer zone of Maputo National Park, in the community of Madjadjane. Based on the results of the pre-test, minor changes were made to the survey, particularly in terms of the organization and wording of the questions (Marconi and Lakatos, 2002; Goldenberg 2004; Gil, 2008).

The semi-structured interviews were conducted with three CGC presidents from the park's buffer zone, using a semi-structured interview guide, which sought to gather information on the organization, structure, and functioning of the committees. This technique was important because it allowed for greater openness and interaction between the interviewer and the interviewee, but also because it allowed us to obtain information about what people know, believe, hope, feel or desire, intend to do, do or have done, as well as their explanations or reasons for events or things. A non-probabilistic intentional sample was used to select the interviewees (Lalanda, 1998; Boni and Quaresma, 2005; Gil, 2008).

Non-participatory observation focused on the behavior of populations following the introduction of co-management in the study area. This " " technique was used to collect complementary data, such as the location and characteristics of drinking water sources, the distance between villages and schools, the availability of basic health services, income--generating activities, the existence of spaces for community participation in natural resource management, and the costs related to the reduction of community lands due to the growth of the park (Marconi and Lakatos, 2002; Boni and Quaresma, 2005; Gil, 2008; Quivy and Campenhoudt, 2008). Taking into account the language spoken by the communities, the surveys and interviews were conducted in CiSena and Cindau, using interviewers and translators fluent in both languages.

The sample defined for the study is balanced in terms of gender (men represent 44.7% of the sample). The most significant ethnic group is the Sena, with 72.2%. Most respondents have a primary school education (48.3%) and are mainly engaged in agricultural activities (82.9%), while a small number work in the park (1.7%), where they perform various functions in the areas of inspection, construction, logistics, and support. Most respondents have always lived in the park's buffer zone, even before the boundaries were changed (70.8%).

Data analysis was carried out using SPSS, with the aim of identifying the communities' perceptions of their participation in co-management. The questionnaire data were entered into a database, processed, and cross-referenced to measure the correlation between variables. After cross-referencing, the data were exported to *Microsoft Excel* to produce graphs and tables that allowed for comparison of the results obtained between different locations.

The interviews were transcribed and analyzed manually. Qualitative analysis was carried out in several stages of reading, coding, comparison with quantitative data, and recoding. The responses were classified into categories to understand which factors had the greatest impact on community participation in the co--management of the park.

The citizen participation ladder proposed by Shery Arnstein (1969) was also used for a comparative analysis and framing of the results of the questionnaire and interviews, which allowed conclusions to be drawn about the level of participation in the activities carried out by the CGCs in the co-management of the park.

STRUCTURE AND ORGANIZATION OF THE PNG COMMUNITY MANAGEMENT COMMITTEES

Within the legal framework of conservation areas, Community Management Committees are local bodies that dictate the legal rules of conduct for community members in the conservation area in which they are located (Resolution No. 63/2009 of November 2). According to the data, the CGCs of Canda, Mocumbezi, and Nhantadza were created in 1997, 2001, and 2008, respectively. Each

of these committees consists of three (3) decision-making bodies: a General Assembly, a Management Committee, and a Fiscal Council. The General Assembly is the highest body of the Community and represents all members with voting rights. It is composed of the President of the Assembly, the Vice-President, the Secretary, and a Member. The CGCs are composed of 10 founding members, who perform the functions of President, Vice-President, Secretary, and Treasurer. There is also a Fiscal Council, which is composed of a President and two Members, with responsibilities for overseeing the Community.

The interview data indicate that, in organizational terms, the CGC of Canda includes the villages of Canda, Mangara, Nhandare, and Domba. It is therefore composed of a total of 57 members. The CGC of Mocumbezi includes the villages of Mocumbezi and Candeeiro and has 35 members, of whom nine are women and 26 are men. The Nhatadza CGC includes the villages of Nhantadza and Mussapassua and has a total of 43 members, of whom 21 are women and 22 are men. On average, the ages of committee members range from 18 to 56 years old.

Committee members are elected by the community for a three-year term. The remaining committee members are exclusively from the community, coming from different localities. The committees are organized into community interest groups, which take into account the activities carried out by the community. The organization is also based on the affinities, interests, and skills of community members, and these groups constitute the financial basis of the committees through the payment of dues.

Interest groups are defined as heterogeneous groups of farmers or families within a local community who have a set of similar objectives and interests regarding natural resources and who unite their efforts around this common goal to improve their quality of life and ensure the conservation of natural resources for the future. These groups also perform functions related to monitoring the use of natural resources, controlling burning, community animation and facilitation, and producing plant nurseries for reforestation work.

Although admission to full membership of the CGC is open to all members of the community, provided they reside in the village where the committee operates, the survey responses indicate that most community members (82.4%) are not members of the committee, compared to only 17.6% who reported being full members and actively participating in activities planned by the CGC. These results contradict the pluralistic approach to co-management, which advocates the need for equitable sharing of benefits and responsibilities related to resources as a prerequisite for social justice and democracy (Borrini-Feyerabend, 2000, p. 11).

Looking at the data indicating the reasons for not joining the committees as full members, it can be seen that 23.4% of respondents do not know the importance of being a member; 3.5% had never heard of the committee; 1.6% believe that the park determines who should be a committee member; 1.6% responded that committee members are chosen through friendships; while 0.4% indicated that they are not members because the committee does not solve community problems.

The differences in participants' perceptions of committee membership point to a lack of trust between community members and committees, as well as complaints about the lack of information on permitted activities. This scenario highlights the importance of efficient and transparent communication between committees and communities, not only for information, but also for building mutual trust (Berkes, 2007; Berkes, 2009).

On the other hand, the number of effective committee members shows that CGCs are not locally recognized as the highest authority in natural resource management, either with r by some members of the traditional authority, as well as community members who are not part of any existing authority.

The data point to the existence of conflicts between the CGCs and the Traditional Authorities, because the latter consider themselves entitled to define all the uses of natural resources, due to the power they inherited from their ancestors. They believe that natural resources are the property of their ancestors and, as such, only they have the right to define the rules for access and use of resources.

In terms of how they work, although the statutes establishing the CGCs provide for regular meetings every 30 days and extraordinary meetings whenever necessary, at the initiative of the president or one-third of its members. The questionnaire data show that 36.4% of participants responded that the last meeting had been held a year ago, while 29.2% indicated that the last meeting had been held three months ago. Others pointed to less than a month ago (27.3%), more than two years ago (5.8%), and others to the last six months (1.3%).

Still regarding functioning, participants indicated that most meetings, 63.6%, are convened by the Park, 29.0% are convened by the CGC, while 3.7% are convened by the Government, compared to 1.9% that are convened by the Community. According to the data, more than half of the meetings (58.7%) are convened on the initiative of the Park, compared to 41.3% that are convened on the initiative of other actors, such as the Government, the CGC, and the Community. It should be noted here that most of the initiatives to convene meetings come from the Park and not from the CGCs, which are bodies created specifically to discuss issues of interest to the community.

Most participants, 82.2%, agree with the decisions taken on natural resource management, while a smaller proportion, 17.4%, disagree with the decisions. Most of those who agree with the decisions made, 75.2%, believe that the CGCs are working to achieve the objectives for which they were created, while 24.8% do not identify with the results of the CGCs' work.

Among the difficulties mentioned for the functioning of the CGCs are the lack of equipment for inspection, means of transport, and livestock development projects. The lack of these resources not only hinders the functioning of the committees but also discourages the active participation of members.

PARTICIPATION OF COMMUNITY MANAGEMENT COMMITTEES IN THE CO-MANAGEMENT OF THE PNG

Community participation in the co-management of the PNG is guaranteed by the CGCs, their representatives on the Conservation Area Management Council. However, the data indicate that the committees' participation in the co-management of the PNG is limited to the transmission of information on the activities that the Park intends to carry out in the buffer zone or with the communities.

It is the perception of those interviewed that the role of the CGCs is to listen to the concerns of the communities and guide them in complying with the rules and guidelines issued by the Park. The activities of the CGCs include raising community awareness of fire control, reforestation, the creation of nurseries, and dissemination of the Forest, Land, and Conservation Laws.

As shown in Graph 1, the perception of the majority of community members, 25.2%, is that the role of the CGCs is more focused on regulating the use of natural resources by communities, for example, through the con-

trol of charcoal production, poaching, fishing, and tree cutting, rather than on opportunities for project financing and other initiatives related to the Park's social responsibility.

When comparing the perception that community members have regarding the role of different stakeholders in the co-management of natural resources, namely the CGCs, the government, and NGOs operating in the buffer zone, it is clear that CGCs tend to inform community members about penalties for violating park rules, duties, and activities that are prohibited in the buffer zone (5.4%). To this end, community members participate in short training courses that provide them with basic knowledge on interpreting forest and wildlife legislation.

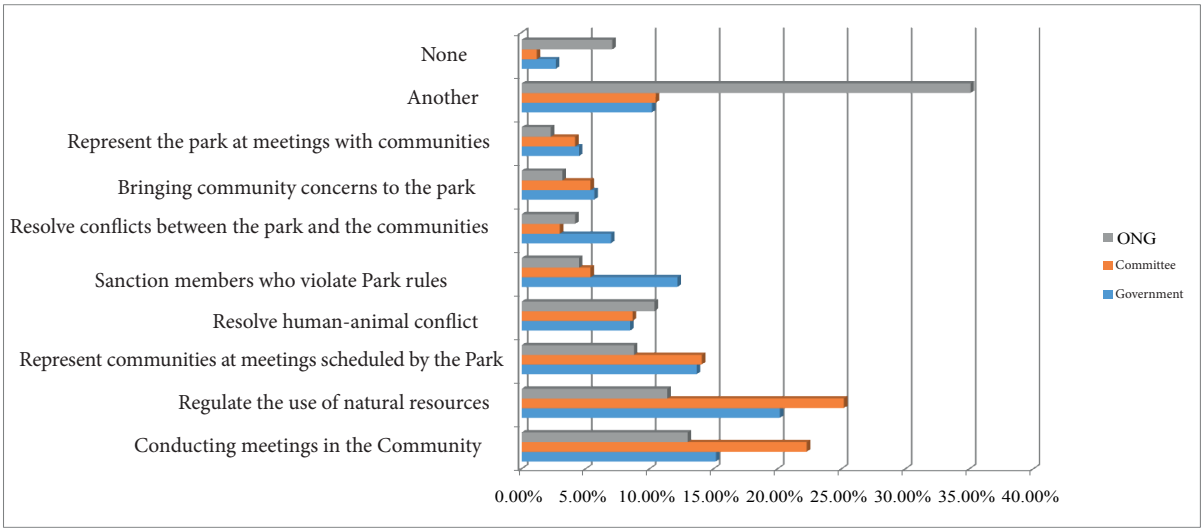
The questionnaire data also shows that 22.3% of community members associate the role of chairing meetings with the communities by the CGCs as a way of representing the interests of the park in meetings between the CGCs and the communities, while 14.1% of respondents said that the role of the committee is to represent the communities in meetings scheduled by the park. The data also indicate that 8.7% of respondents answered that the role of the committees is to represent the park in meetings between the park and the communities, and 3.0% to resolve conflicts between the park and the communities.

To conclude whether or not there is CGC participation in the co-management of the PNG, *Shery Arnstein's* (1969) ladder of citizen participation was used, which identifies eight steps, from manipulation to citizen control. The results of the questionnaire and interviews with CGC presidents were analyzed on this ladder in order to classify the responses into different levels of participation.

The results of this analysis, as shown in Figure 2 below, indicate that CGC participation in PNG co-management is at the initial steps of the participation ladder, corresponding to the types of "non-participation," since their activities are limited to listening to community concerns, raising awareness of compliance with forest, wildlife, land, and conservation laws, and carrying out activities to monitor uncontrolled burning, illegal charcoal production, and poaching, thus hindering the production of lasting positive effects on the lives of communities (Pretty, 1995).

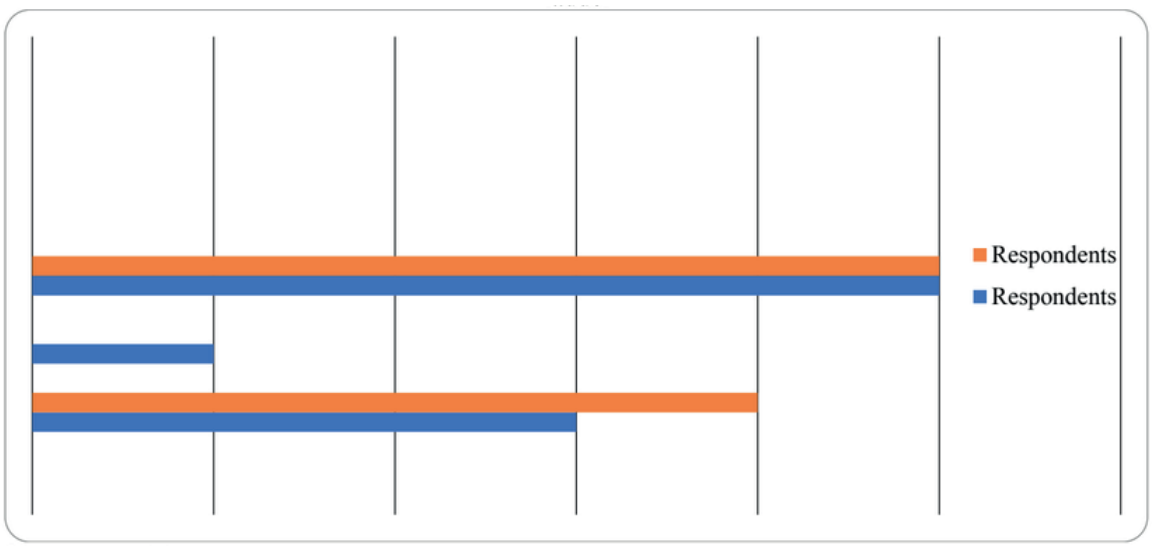
According to the data in Figure 2, most of the activities carried out by the CGCs are concentrated at the level of participation through material and financial incentives, which, according to Pimbert and Pretty (1995), "is that which is maintained only on the basis of material, financial, or symbolic incentives." In these cases, citizens have no participation in the ongoing deliberative process or in the development of policies. As illustrated by the results of the questionnaire to maintain CGC participation in co-management, the Park offers incentives such as 20% of the benefits from the exploitation of natural resources, jobs in the Park, access to land use rights, access to financing, and training provided by the Park.

However, it is important to note that these benefits that CGCs receive in co-management are provided for in Ministerial Decree No. 93/2005 of May 4, which adopts mechanisms for channeling and using 20% of the value of fees collected under forestry and wildlife legislation and allocated to local communities. This decree states that each local community benefiting from the 20% is represented by a Natural Resource Management Committee (CGRN) and that access to the 20% is part of the strategy to return power over natural resources to the communities. This return is made through the channeling of the allocated revenues, a right that communities are entitled to for their role in the control and sustainable use of natural resources.



1 : Role of Stakeholders in Co-management of Natural Resources in the PNG

Source: own elaboration



2 Chart: Framework for interviews and questionnaires on Shery Arnestin's (1969) citizen participation ladder

Source: own elaboration

Although the communities cite the advantages of being a member of the CGCs, such as access to 20% of the benefits from the exploitation of natural resources in the buffer zone, employment opportunities, easier access to land use and exploitation rights (DUAT), project financing, and training provided by the park, most of the community members who responded to the questionnaire (68.2%) said they had never received any benefits from the park. Most community members who responded to the questionnaire, 68.2%, said they had never received benefits from the Park, compared to 31.8% who said they had. Of those who received benefits, most, 32.4%, highlighted access to 20% of the benefits from the exploitation of natural resources by the Park, 10.2% benefited from easier access to land use and exploitation rights (DUAT), compared to 7.4% who indicated that they had obtained benefits through access to training provided by the Park, and 5.6% pointed to benefits related to access to financing and employment provided by the Park, respectively.

According to the presidents, the CGCs receive support from the Park for the implementation of different projects at the village level, ranging from equipment for enforcement, training of members, and means of transportation and work to carry out planned activities, as well as jobs offered to their members.

However, these benefits are not received regularly. For example, one respondent from communities belonging to the Nhantadza CGC (Muanza district) indicated that they had received funding for projects in 2000. Meanwhile, other respondents from communities belonging to the CGC of Canda and Mocumbezi (districts of Gorongonsa and Nhamatanda, respectively) indicated that they had started receiving funding for projects later, between 2017 and 2019.

The 20% of the benefits from natural resource exploitation that the committees receive from the Park are used to promote livestock farming, honey production, plants for reforestation, the installation of mills for cereal processing, and the rehabilitation of committee infrastructure. This amount is also used to invest in education and health by equipping classrooms with desks or benches and zinc roofing.

As presented by Pimbert and Pretty (1995), the weakness of this type of participation established for co-management in the PNG is that the CGCs participate only for the incentives they receive; when the incentive ceases, so does their participation.

However, Pretty (1995), Barrow and Murphree (1998) and Jeanrenaud (2002) consider participation as a "means" or tool for achieving externally defined objectives, and the minimum acceptable level of participation for co-management of natural resources. It should be noted that the PNG prefers to adopt a "non-participation" approach, which has resulted in conflicts over access to natural resources.

Pretty (1995) argues that participation should be "an end" or fundamental right, whose main objective is to initiate mobilization for collective action, empowerment, and institutional strengthening. This typology is used to cover many activities, for example the provision of labor, materials, or money; involvement in problem identification; project planning and implementation; community, institutional, or individual participation; partnership, training, or capacity building; or a combination.

On the other hand, it should be noted that effective participation is reserved only for founding members of the CGC, who exercise power over other members of the community who, due to their position on the committees, have no say in decision-making. However, according to Pretty (1995), the essence of participatory approaches is that the voices of

communities should be heard and that they should express their decisions through their votes. On the contrary, the results indicate that external agents define the activities carried out by the CGCs without considering the opinions of community members.

The data in the graph suggest that the PNG has not invested in types of participation that produce positive effects, such as functional, interactive, and self-mobilization participation, as no actions or activities developed by the CGCs were found that indicate their involvement in decision-making (Pretty, 1995). nor were any activities or action or training plans identified that could lead to the strengthening of local institutions (Bass *et al.,* 1995; Borrini-Feyerabend, Kothari and Oviedo, 2004; Jeanrenaud, 2002).

FINAL CONSIDERATIONS

This article addresses the difficulty that CGCs have in playing an active and influential role in the co-management of natural resources in the PNG buffer zone. The research problem arises because, although CGCs have been established as forums for popular participation in natural resource management, actual implementation is far from true co--management. This is due to several factors, such as institutional barriers, lack of financial and technical resources, and conflicts of interest between the different actors involved. These factors limit the empowerment of local communities and the guarantee of equitable participation in decision-making processes, thus limiting the potential for community development and the effectiveness of community-based conservation.

The research results point to institutional barriers to community participation in the co--management of the PNG, such as the fact that only 17.6% of community members actively participate in the CGCs, which demonstrates a widespread lack of community representation and engagement in the co-management process, weakening the fundamental principle of community involvement in conservation efforts; weak decision-making power, the role of the CGCs is largely limited to transmitting information from the park to the community, rather than making a substantial contribution to management decisions. This situation reduces the committees' ability to influence park management and represent community interests effectively; use of top-down management approaches, 63.6% of study participants indicated that most meetings are convened by park managers rather than by the CGCs themselves. This result demonstrates a clear imbalance in power dynamics, which perpetuates a management approach that runs counter to the principles of co-management. Combined with this fact, most community participation in the co-management of the park's natural resources is limited to the lowest levels of involvement, such as being informed or consulted, rather than having real decision-making power; the lack of regular communication and meetings between CGC managers and the community are infrequent, with some interviewees reporting periods of over a year between meetings, which hinders consistent engagement and timely decision-making; Conflicts between CGCs and traditional authorities: there are tensions between committees and traditional leaders over control of natural resources, which creates internal conflicts within the community over control of natural resources, undermining conservation efforts. Limited capacity and resources: the lack of financial and technical resources restricts the committees' ability to effectively carry out their tasks and contribute significantly to better park management.

Based on the problem identified, the research suggests some recommendations, such as: increasing the representation of the local community in the CGCs, given their low

participation rate; strengthening the CGCs in matters of planning, management, and community-based conservation businesses, so that they can play a more substantial role in decision-making processes; improving the frequency of meetings and accountability through more regular meetings initiated by the committees themselves rather than by park managers; developing efforts to resolve tensions between CGCs and traditional leaders over control of natural resources; Recognize and integrate traditional knowledge and local practices into conservation management strategies; Provide more financial resources and technical support to the committees to effectively carry out their mandate; Improve the participatory approach by adopting a more inclusive and participatory management model that aligns with the true principles of co-management; improvement of benefit-sharing me , so as to ensure that conservation efforts, such as 20% of natural resource exploitation and other projects, are distributed more consistently and equitably; promotion of literacy programs for community members to improve their understanding of the benefits existing in the park's buffer zone.

REFERENCES

Arnstein, S. R. (1969). A ladder of citizen participation. *Journal of the American Institute of planners*, *35*(4), 216-224.

Bardin, L. (1977). *Análise de Conteúdo* (Edições 70, LDA ed.). (L. A. Pinheiro, Trad.) Lisboa.

Barrow, E., & Murphree, M. (1998). Community Conservation from Concept to Practice: A Pratical Framework. *Community Conservation Research in Africa. Principles and Comparative Practice* (p. 32). Manchester: Institute for Development Policy and Management, University of Manchester.

Bass, S., Dalal-Clayton, B., & Pretty, J. (1995). Perspectives on Participation. In *Participation in Strategies for Sustanable Development.* International Institute for Environment and Development .

Berkes, F. (2002). Cross-Scale Institutional Linkages: Perspectives from the Bottom Up, The drama of the commons. 293-321. (U. o. Natural Resources Institute, Ed.)

Berkes, F. (2007). Community-based conservation in a globalized world. *104* (39), 15188-15193.

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

Berkes, F., George, P., & Preston, R. (1991). Co-management: The Evolution of the Theory and Pratice of Joint Administration of Living Resource. In U. o. Manitoba (Ed.), *Paper Presented at the Second Annual Meeting of IASCP.* Winnipeg, Canada.

Boni, V., & Quaresma, S. J. (2005). Aprendendo a entrevistar: como fazer entrevistas em Ciências Sociais. *Em tese*, *2*(1), 68-80.

Borrini-Feyerabend, G. (1996). *Collaborative Management of Protected Areas: Tailoring the Approach to the Context.* Gland.

Borrini-Feyerabend, G. (2000). *Co-management of Natural Resources: Organising, Negotiating and Learning by Doing.* IUCN Regional Office for Central Africa (ROCA),, Yaoundê.

Borrini-Feyerabend, G., Dudley, N., Jaeger, T., Lassen, B., Broome, N. P., Phillips, A., et al. (2013). *Governance of Protected Areas. From understanding to action.* Gland, Switzerland: International Union for Conservation of Nature (IUCN).

Borrini-Feyerabend, G., Kothari, A., & Oviedo, G. (2004). *Indigenous and Local Communities and Protected Areas: Towards Equity and Enhanced Conservation.* Gland: IUCN.

Carlsson, L., & Berkes, F. (2005). Co-management: concepts and methodological implications. *Journal of Environmental Management , 75*, 65–76.

Conservation Initiative on Human Rights. (2014). *Human Rights in Conservation Progress Since Durban.*

Creswell, J. W. (2010). *Projecto de Pesquisa: Metodos Qualitativos, Quantitativos e Misto.* (M. Lopes, Trad.) Porto Alegre: Artmed.

Daskin, J. H., & Pringle, R. M. (2018). Warfare and wildlife declines in Africa's protected areas. *Nature*, *553*(7688), 328-332.

Drury, R., Homewood, K., & Randall, S. (2010). Less is more: the potential of qualitative approaches in conservation research. *Animal Conservation , 14*, 18–24.

Filimão, E., Mansur, E., & Namanha, L. (1998). Tchuma Tchato: an evolving experience of community-based natural resource management in Mozambique. *Proceedengs of the International Workshop on Community Forestry in Africa: Participatory Forest Management: A Strategy for Sustainable Forest Management in Africa*, (pp. 1-8). Maputo.

Gerhardinger, L. C., Godoy, E. A., & Jones, P. J. (2009). Local ecological knowledge and the management of marine protected areas in Brazi. *Ocean & Coastal Management , 52*, 154-165.

Gil, A. C. (2008). *Métodos e Técnicas de Pesquisa Social.* São Paulo: Atlas.

Goldenberg, M. (2004). *A arte de pesquisar: Como fazer pesquisa em Ciências Sociais* (8 ed. ed.). Rio de Janeiro: Record, 2004.: Record.

Instituto Nacional de Estatística [INE]. (2012). *Estatisticas do Distrito de Gorongosa.*

Jeanrenaud, S. (2002). *People-Oriented Approaches in Global Conservation: Is the Leopard Changing its Spots?* International Institute for Environment and Development (IIED), London, United Kingdom.

Lalanda, P. (1998). Sobre a metodologia qualitativa na pesquisa sociológica. *Análise social*, 871-883.

Law, E. A., Bennett, N. J., Ives, C. D., Friedman, R., Davis, K. J., Archibald, C., et al. (2017). Equity trade-offs in conservation decision making. *Conservation Biology , 00* (00), 1-10.

Lawrence, A. (2006). 'No Personal Motive?' Volunteers, Biodiversity, and the False Dichotomies of Participation. *Ethics, Place & Environment: A Journal of Philosophy & Geography , 9* (3), 279-298.

Marconi, M. d., & Lakatos, E. M. (2002). *Técnicas de Pesquisa: Planejamento e execução de pesquisas, amostragens e técnicas de pesquisas, elaboração, análise e interpretação de dados* (5 ed.). São Paulo: Atlas S.A.

Martin, A., Coolsaet, B., Corbera, E., Dawson, N. M., Fraser, J. A., Lehmann, I., et al. (2016). Justice and conservation: The need to incorporate recognition. *Biological Conservation 197 (2016) , 197*, 254–261.

Ministério da Administração Estatal. (2005). *Perfil do Distrito da Gorongosa. Província de Sofala.*

Ministério da Terra, Ambiente e Desenvolvimento Rural [MITADER]. (2016). Plano de Maneio do Parque Nacional da Gorongosa para o período 2016 a 2020. *Boletim da República, I Série, Número 88* .

Ministério do Turismo [MITUR]. (2004). *Plano Estratégico para o Desenvolvimento do Turismo em Moçambique (2004-2013).* Aprovado na 15ª Sessão Ordinária do Conselho de Ministros de 12 de Outubro de 2004.

Newing, H. (2011). *Conducting Research in Conservation Social science methods and practice.* London and New York: Routledge.

Ostrom, E. (1999). Coping With The Tragedies Of The Commons. *Annual Review of Political Science , 2*, 493–535.

Ostrom, E. (2011). Background on the Institutional Analysis and Development Framework. *The Policy Studies Journal , 39* (1), 7-27.

Pimbert, M. P., & Pretty, J. N. (1995). *Parks, People and Professionals Putting "Participation" Into Protected Area Management.* United Nations Research Institute for Social Development (UNRISD).

Plummer, R., & Fitzgibbon, J. (2004). Co-management of Natural Resources: A Proposed Framework. *Environmental Management , 33*, 876–885.

Pretty, J. (1995). Participatory Learning For Sustainable Agriculture. *World Development , 23* (8), 1247-1263.

Quivy, R., & Campenhoudt, L. (2005). *Manual de Investigação em Ciências Sociais* (4 ed.). (G. Valente, Ed.) Lisboa: Gradiva.

Santos, J. L., Erdmann, A. L., Meirelles, B. H., Lanzoni, G. M., Cunha, V. P., & Ross, R. (2017). Integração entre dados Quantitativos e Qualitativos em uma Pesquisa de Métodos Mistos. *Texto Contexto Enferm , 26* (3).

Schwartzman, S., & Zimmerman, B. (2005). Conservation alliances with indigenous peoples of the Amazon. *Conservation Biology*, *19*(3), 721-727.

Uphoff, N. (1986). *Local Institutional Development: An Analytical Sourcebook With Cases.*

Virtanen, P. (2005). Community-based natural resource management in Mozambique: A critical review of the concept's applicability at local level. *Sustainable Development , 13*, 1-12.

Worboys, G. L., Lockwood, M., Kothari, A., Feary, S., & Pulsford, I. (2015). *Protected Area Governance and Management.* The Australian National University. Canberra: ANU Press.