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LEVEL OF INVOLVEMENT OF LOCAL COMMUNITIES IN THE MANAGEMENT OF THE CONSERVATION AREA OF THE CHIPANJE CHETU PROGRAM IN NIASSA, MOZAMBIQUE

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Resumo

Nível de envolvimento das comunidades locais na gestão da área de conservação do Programa Chipanje Chetu (Nossa Riqueza) em Niassa, Moçambique. O desenvolvimento de projetos para a gestão das áreas de conservação comunitárias é um processo que envolve várias entidades, como instituições governamentais, ONG's (organizações não governamentais), setores privados e as comunidades locais. Neste caso, o envolvimento das comunidades locais é de extrema importância para os projetos implementados a nível das comunidades. Portanto, é preciso que haja interação forte entre as partes envolvidas no processo, de modo que o programa seja sustentável socioeconomicamente e ambientalmente. Com objetivo de avaliar o "*Nível de envolvimento das comunidades locais na gestão da área de conservação do Programa Chipanje Chetu (Nossa Riqueza) em Niassa, Moçambique*", foi desenvolvida uma pesquisa participativa nas cinco comunidades dentro da Área de Conservação comunitária (AC) do PCC. Para coleta de dados, foi feita entrevista semiestruturada, observação direta e análise documental, posteriormente analisados usando o Software R, tendo como base a análise de consistência de padrão, triangulação metodológica e a escala de participação do cidadão. Foi observado que o nível de participação das comunidades neste processo encontra-se no grau de Poder delegado. O nível de participação das comunidades e o grau de importância dada a este processo está associado a questões de partilhas de benefícios e de conflitos envolvendo homem - animal.
Palavras-chave: gestão participativa; conservação da biodiversidade, Uso sustentável, partilha dos benefícios.

Abstract

Developing projects for management of community conservation areas is a process that involves several entities, including governmental institutions, NGOs, private sectors and local communities. With the aim of evaluating the "*level of involvement of local communities in the management of the conservation area of the Chipanje Chetu (our wealth) program in Niassa, Mozambique*", a participatory survey was carried out in the five communities. Semi-structured interviews, direct observation and document analysis were carried out, and subsequently analyzed using R Software, based on the analysis of pattern consistency, methodological triangulation and the citizen participation scale. It was observed that the participation of communities in the process of management and conservation of natural resources is at the delegated power level. The level of community participation and the degree of importance are associated with issues of benefit sharing and man-animal conflicts in this area.
Keywords: participative management; biodiversity conservation; sustainable use, benefit sharing.

INTRODUCTION

Environmental degradation problems began with the emergence of humans. However, it was only at the end of the nineteenth century that humans became aware of this dilemma and the adverse consequences of their actions became more visible. From these, there emerged a concern to adopt strategies to reverse the scenario, and one of the measures taken was the creation of specific areas for environmental conservation and protection (CHIÚRE, 2019).

Biodiversity in southern African countries plays an important role in the lives of rural communities (FRANCO *et al.*, 2016). Biodiversity components provide about 70% of the animal protein consumed by rural communities, medicines for traditional medicine, wild-based foods and building materials (UNEP, 2012).

Nature conservation is related to the ways of life of the populations, the environment, the uses and customs of the Bantu peoples in Mozambique, which leads us to believe that they already had in mind some notion of the rational use of natural resources and that this was practiced empirically, with little knowledge about biodiversity conservation measures, as was the case in other African countries (CHIÚRE, 2019).

According to the World Bank study, Mozambique is one of the countries with high levels of land transfer in Africa. From 2004 to 2009, the country transferred about 2.5 million hectares of its land to multinational companies for natural resource exploitation activities (including the implementation of infrastructure), which resulted in the resettlement of thousands of families in different communities (ALFREDO, 2020). According to this author, the impacts of these transfers are three-dimensional, directly and profoundly affecting the lives of families in rural areas who see their rights to land use restricted or limited and are prevented from having an equitable participation and sharing of the benefits generated by the existing resources in their areas of origin.

It is believed that in order to improve the management of natural resources, the involvement of affected communities and their effective participation in the entire management process is necessary, provided that they are properly prepared, so that they know their rights and duties regarding the land and other natural resources existing in the area. In this context, the communities that are within the Chipanje Chetu Program (*Programa Chipanje Chetu* - PCC) are no exception, as the main objective with the creation of this Program was to exploit the natural resources existing in the area in a sustainable way, in order to benefit both the population that lives in it and its partners.

Therefore, the present study aimed to evaluate the level of involvement of the local communities covered by the PCC in the process of management and conservation of forest resources and wildlife, for the good collaboration of the parties involved in the management and sustainable use of the existing resources in the area.

Participatory management and community involvement and participation in different natural resource management programs within rural communities comprise a subject that has greatly stood out in recent years, especially when it comes to community management of natural resources. In this action, weak involvement of communities in several programs during the management process of their areas has often been observed, and this ends up creating disorder between rural communities and field agents, as well as the operating companies in the Projects (TEIXEIRA, 2018; *apud.* SABONETE *et al.,* 2023).

In 1997, after the establishment of the PCC Community CA by the Provincial Government of Niassa, a private company (Zambezi Hunter Safari) was created with an interest in exploring the area for sport hunting, and this activity lasted for about five years (1999 – 2005) (SITOE *et al.*, 2007).

During this time, several problems were observed related to the issue of the involvement of the communities during the decision-making process on the management of the area, which consequently intensified the conflicts between the parties involved, leading to the revolt of the population, and this case prevailed until the appearance of the new operator Lipilichi Wilderness Mozambique (LWM). This also leads us to believe that, for some time, this population has needed greater assistance from those who implement community programs.

The need for conducting the present study is based on the context that the involvement and participation of local communities in the decision-making process about natural resources in a given area is something of extreme importance. Due to their potential role in the management of natural resources, their involvement is indispensable and, for a Conservation Project to be progressively successful, it is important that it involves local communities, favoring social, economic and cultural inclusion so that this activity becomes a sustainable program for all parties involved.

Therefore, the intent with this study is to bring an overview of the level of involvement of the communities covered by the program, thus promoting the equitable sharing of benefits, and to influence the design of policies that can favor all parties involved (government, private companies and local community), for the good management of the area. Thus, there is a need to study the extent to which the local communities covered by the Chipanje Chetu Program are involved by the operating company and participate in the management and conservation process of forest and fauna resources in that region.

Description of the Study Area

Sanga District is located in the northern part of Niassa Province, bordered to the north by the Republic of Tanzania, to the south by Lichinga District, to the east by Muembe and Mavago Districts, and to the west by Lake District. The district is divided into four Administrative Posts, namely Lucimbesse, Macaloge, Matchedje and Unango (CIP, 2017).

The Conservation Area (CA) of the PCC is located in the administrative posts of Matchedje and Macaloge in the district of Sanga in Niassa. This area has a population of about 6,500 inhabitants distributed in five villages, namely Nova Madeira, Matchedje, Lilumba, II° Congresso and Maumbica (Chipanje Chetu Area–Yambone, 2021). With an area of 6,500 km^2, it was established by the provincial government of Niassa as a Community Conservation Area, and the responsibility of exploring and conserving forest and fauna resources in the area and practicing ecotourism was assigned to the PCC Management Council. Chipanje Chetu is a community conservation area located next to the Niassa Special Reserve in Sanga district, northern Mozambique (Figure 1).

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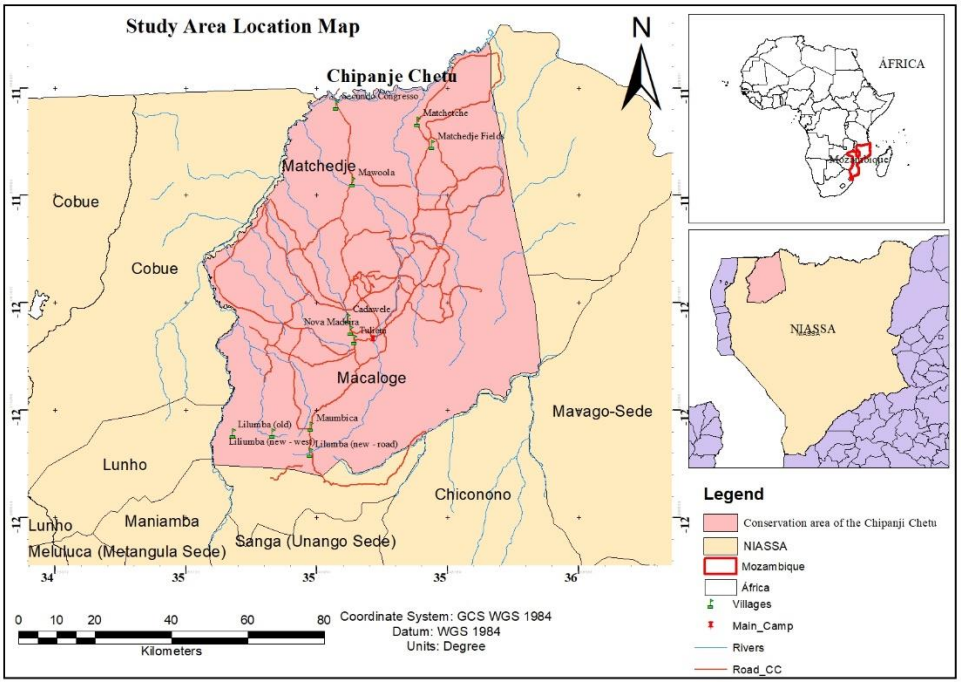

Source: Author (2023).
Figure 1: Representative map of the study area location.
Figura 1: Mapa representativa de localização da área de estudo.

The Chipanje Chetu (a shortened version of the Yao language phrase used to describe the purpose of the process – Metinje Getu, Chipanje Chetu, Mbunju Mwetu or Our Bush, Our Wealth, Our Future) Program is an initiative of the Government of Niassa Province and in the northern part of that province – Sanga District (Chipanje Chetu Area–Yambone, 2021).

The main habitat types in this area are the deciduous forests of Miombo, open grasslands, herbaceous alluvial plains and slopes of evergreen forests, and its wildlife includes the palatial antelopes (*Oryx dammah*), elephant (*Loxodonta africana*), buffalo (*Syncerus caffer*), lion (*Panthera leo*) and leopard (*Panthera pardus*) and in addition to these, we also find the endangered African wild dog (*Lycaon pictus*) and endemic subspecies such as the Boehm's Zebra (*Equus* sp.) and Niassa wildebeest (*Connochaetes taurinus*).

The main natural resources in the region are agricultural land (usually poor sandy soils in much of the area, but with specific areas suitable for maize, beans and rice), forest resources, specifically timber species of high commercial value, such as snake bean (*Swartzia madagascariensis*), African blackwood (*Dalbergia melanoxylon*), tamboti (*Spirostachys africana*), among others (Chipanje Chetu Area–Yambone, 2021).

Agriculture is the most practiced activity in this district, involving almost all households, and in general, it is practiced manually on small scales of family farms in an intercropping regime based on local varieties (CIP, 2017).

MATERIAL AND METHODS

Research Type and Method

The present study was based on exploratory research, which consists of promoting the greatest familiarity with the problem, in order to make it as explicit as possible. Descriptive research was also carried out, which according to Sarife *et al.* (2020) consists of trying to perform analysis, observations, records and correlation of aspects (variables in studies), without necessarily having human interference.

Sample population in the communities was selected using non-probabilistic sampling by Quotas or Proportional. In total, 221 individuals were interviewed for the entire area (Table 1). Quota sample selection is the most common form of non-probabilistic sampling. For the present study, variables such as age, geographic location, and main income-generating activities (type of work) were considered.

Table 1 presents the number of interviewees in each community, sector and/or institution, detailing the location, number of interviewees, institution and their category and/or their position in the PCC communities.

Table 1: Distribution of numbers of interviewees in each community and institution.
Tabela 1: Distribuição de números dos entrevistados em cada comunidade e instituição.

Site	Nº Int.	Institution	Interviewee category
Lichinga and LWM settlement	2	LWM	Chief Managers of the Community Development Department
IIº Congresso	1	Governmental	Head of the Secretariat of the Matchedje Administrative Post
Maumbica, Lilumba, Nova Madeira, IIº Congresso and Matchedje-Village.	5	Govern (Education)	3- Professors, and 2- Heads of primary schools
Maumbica	40	COGECO, CGRN, Traditional authorities and Community e Community residents (household heads)	**3**- PCC founding members (Former President, President and Treasurer); **1**- PCC president, **1**- Secretariat; **5**- Community leads of IIº Congresso, Nova Madeira, Maumbica, Matchedje (Matchedje-Village and Mowoola); **176**- Community residents (family heads)
Lilumba	30		
Nova Madeira	40		
IIº Congresso	40		
Matchedje (Village and Mowoola)	36		
LWM settlement	27	LWM - PCC	Inspectors
Total	221		Total Nº of interviewed individuals

Source: Autor (2023). Where **Nº Int**. = number of interviewees; **LWM** = Lipilichi Wilderness Mozambique; **PCC**= Chipanje Chetu Program.

The data collection process was carried out through field survey and direct observation, which consisted of seeking to analyze, quantitatively, characteristics of the population in the study area (SARIFE, 2020), and it was necessary to use data collection forms (interview questionnaire), a notepad and a camera. The data were tabulated and organized using the Microsoft Word 2016 package.

Figure 2: Interviews conducted in communities in the PCC conservation area.
Figura 2: Realização das entrevistas nas comunidades da área de conservação do PCC.

For data processing, it was necessary to carry out methodological triangulation using information obtained in different ways based on each technique applied (interviews, observation and use of records), to confront and correct the answers given by the interviewees.

The data related to the interviews were grouped according to similarities and differences in the answers. According to Matakala, P. (2001), this method consists of grouping information by similarity of patterns and is applied based on similar answers from interviews. For this purpose, it is necessary to group the data related to each topic, join the identical answers and explain the different ones. After this process, the results were translated into tables and graphs.

The hypotheses raised (*H0: The level of participation in decision-making on natural resource management and the geographical location of local communities covered by the PCC are independent; H1: There is a dependence between the level of participation in decision-making on the management of natural resources and the geographical location of the local communities covered by the PCC*) were validated using the Pearson's chi-square test generated in the statistical package of the free software R, with a 5% significance level, and statistical conclusions were drawn from it (BATTISTI, 2019).

According to Henning and Mulazani (2014), the chi-square test is a non-parametric hypothesis test that allows checking whether the data of a sample follow a certain distribution and also evaluating the existing association between qualitative variables. According to Bassetto (2021), the basic principle of this test is to compare proportions, that is, to check if there are possible differences between the observed and expected frequencies for a given event.

Equation 1: Calculation of expected frequencies ..... $Feij = \frac{(Total\ of\ column)(Total\ of\ row)}{Overall\ total}$

Equation 2: Calculation of chi-square test ..... $X^2{}_{Cal} = \sum_{i=1}^{r}\sum_{j=1}^{c}\frac{(O_{ij}-E_{ij})^2}{E_{ij}}$

Where: ***Oij*** is the frequency value observed in row i in column j; ***Eij*** is the expected frequency value in row i in column j with degree of freedom and X^2 (cal) is the Chi-square calculated.

Equation 3: Calculation of degree of freedom ..... $DF = (C-1) * (R-1)$

Where: ***DF*** Degree of freedom; *R* number of rows; *C* number of columns and α– Significance level (5%).

Equation 4: Calculation of Relative frequency ..... $Fr = \sum(\frac{ni}{N}) * 100$

Based on the hypotheses raised, statistical decisions were based on the following:

- If (p-Value) is > or = 5% (α=0.05), null hypothesis (Ho) cannot be rejected;
- If (p-Value) is < 5% (α=0.05), null hypothesis (Ho) can be rejected.

The level of involvement of local communities in decision-making about natural resources was determined using the scale proposed by Arnstein (1969). This method consists of analyzing the information obtained through the interviews and later confronted with each level of citizen participation using methodological triangulation.

Arnstein, S. R. (1969) considers eight (8) levels of individual participation and three (3) categories, as presented in Figure 3.

Categories	Levels or Rungs of Participation	Description
Real Power	8. Citizen control; 7. Delegated power; and 6. Partnership.	- This is the true rung of citizen participation, but it is difficult to reach.
Tokenism or Passive Assistance	5. Placation; 4. Consultation; and 3. Informing.	- Tokenism means making perfunctory effort. In this rung the citizen is only coerced or calmed. Therefore, participation does not continue, hence there is no change of status quo.
Nonparticipation	2. Therapy; and 1. Manipulation.	- In this rung there is no participation of citizens or, in other words, the democractic practice is nonexistent.

Source: Adapted by the Author (2022), based on (ARNSTEIN, 1969).
Figure 3: Distribution of citizen participation levels based on Arnstein (1969).
Figura 3: Distribuição dos níveis de participação do cidadão baseado em Arnstein (1969).

Arnstein (1969) wrote "A Ladder of Citizen Participation" based on her team's study of the first-year programs of model cities and their experiences with the process of citizen participation. In her paper, she created an eight-rung "ladder", shown in Figure 3, to represent the experiences of communities in Model Cities regarding how local governments approached citizen participation.

For data analysis, the Microsoft Excel (v.2016) statistical package was used to tabulate the data after collection, and R software (v. 4.0.5) was used for descriptive statistics, correlations between the variables under study and construction of graphs.

RESULTS

Social and Economic Characteristics of the Populations Covered by the Biodiversity Conservation Program in the PCC's Community CA.

According to the data on the social and economic characteristics of the interviewees in the PCC conservation area, the average number per household found in that conservation area was 6.69 individuals per family, of which about 3.58 (53.51%) are female and 3.11 (46.49) are male. In this area, agriculture is considered by most of the survey participants to be the main economic activity, which characterizes most of this region.

Of the families surveyed, it was observed that most of the interviewees are natives (73.11%), that is, they have their origins in this area, and 26.88% are from different regions, most of them coming from the neighboring Republic of Tanzania and the district of Lago (province of Niassa), due to the greater proximity to the area. Of these, about 85% have lived in the area for more than 20 years.

Involvement of Local Communities in Decision-Making on the Management and Conservation of Natural Resources in the PCC's Community CA.

According to the results found in this area, about 76.88% claim to have participation in the decision-making process about natural resources and 23.12% of them do not participate in the process (Figure 4).

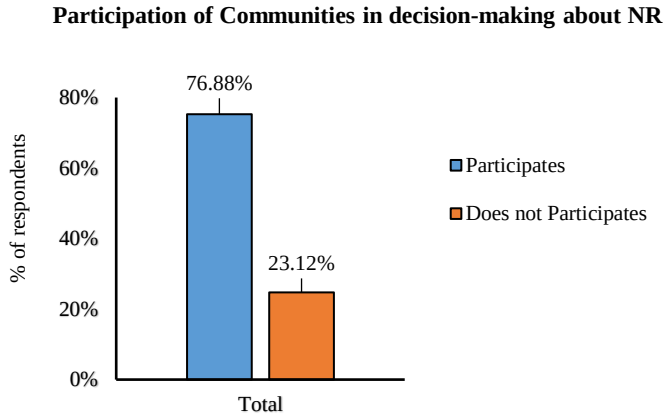

Figure 4: Demonstration of community participation in decision-making about natural resources.
Figura 4: Demonstração da Participação das comunidades na tomada de decisão sobre os recursos naturais.

Although the results above pointed to significant evidence regarding participation, it should be noted that such participation is limited mainly by community consultations carried out by some institutions and/or individuals (for scientific research, among others), participation in the preparation of proposals and planning of activities for the use of funds generated by the PCC, approval of projects to be carried out in the communities, participation in community, district and provincial councils, as well as in community development projects (construction of Schools, Hospitals, Community Meeting Houses, among others). However, it is important to say that, regarding the definition of annual hunting quotas, it is up to the Provincial government and the National Administration of Conservation Areas (*Administração Nacional das Áreas de Conservação* - ANAC).

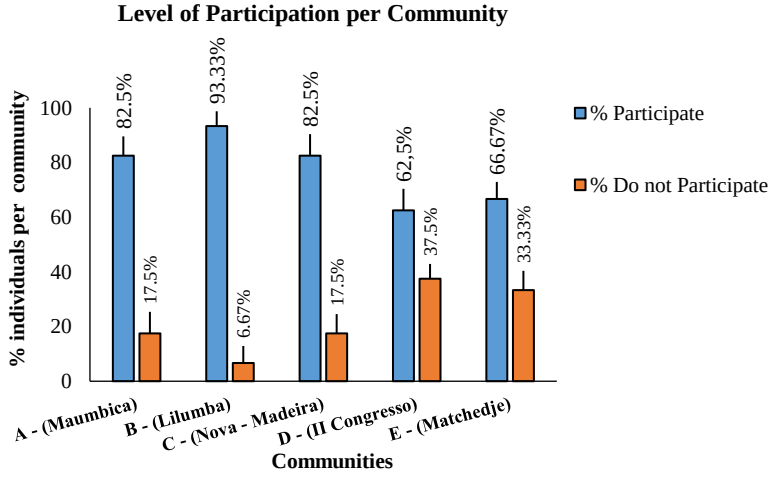

Figure 5: Demonstration of community participation in management and decision-making about natural resources.
Figura 5: Demonstração da participação por comunidade na gestão e tomada de decisão sobre os recursos naturais.

As shown above (Figure 5), each community has a percentage level of participation different from the others, which may be caused by the administrative policies that community management committees (*Comitês de Gestão Comunitária* - CGCs) of each community have implemented based on its needs and the total number of families living in the area, to share the benefits arising from the conservation of their area.

In this case, it is assumed that the greater the number of the people living in a given conservation area, the more work (need to apply more effort) will be required to mobilize them for the management and participation process, and this was verified in some communities, as in the case of II° Congresso, which had the lowest percentage of participation (62.5%) compared to the others and consequently the highest percentage (37.5%) of individuals who claim they have no participation in decision-making.

Although the results show effective participation in most of the communities, it was also found that some of them (II° Congresso and Matchedje) only participate because of the incentives offered to them. Thus, it is important to create mechanisms to reverse the situation, thus reinforcing the dissemination of information about the importance of conservation, because this action deserves deep attention to avoid falling into the system of "work in exchange for immediate favors" such as food.

Based on the country's history, experience shows that in Mozambique the system of incentives, such as "food for work", in exchange for participation does not guarantee the sustainability of activities because no action can continue in the absence of stimuli.

Therefore, it is important that people participate in their community at the level of planning programs or activities that affect them, since this participation leads to the feeling that their needs and interests are being identified and taken into account.

Level of Participation and Decision Making in the Management of Forest and Fauna Resources

Analysis of the answers given by the interviewees in the five communities (except for the government sectors and private institutions), using a Pearson statistical test "X^2" (Chi-square test), with significance level of 5% ($\alpha = 0.05$) and 4 degrees of freedom (DF = 4), showed that there is a dependence (p-Value = 0.01252) between the level of participation in decision-making on the management and conservation of natural resources and the geographic location of the local communities covered by the PCC.

It is important to note that it has been observed that this process of community participation, on the other hand, is much more associated with issues of direct benefits of the communities received during this process.

Role of Communities in the Management and Conservation Process of Forest and Fauna Resources in the PCC area

For the process of management and conservation of natural resources in community conservation areas, the population in rural communities plays an indispensable and very important role, because, in addition to being the ones who most live with the same resources in their daily lives, they can also manage the area in a sustainable way to achieve success in the conservation process and have the resources in the long term provided that they are trained in management matters.

Although this process lacks some observations on the part of project implementers, it is believed that the community has the basic knowledge of the possible consequences of the neglected use of resources, but it is empirical and conventional.

According to the results, for the process of protecting the area, they bet more on fighting forest fires, opting for not using fire to open crop fields or access roads. They point out that, when they become aware of occurrences of forest fires, they report it to the local authorities and the operating company in order to mitigate the case.

For the sensitization process, it was found that the communities rarely hold gender meetings to explain to the population about the use and management of natural resources in the area, but this problem is also associated with the lack of mastery of the instruments that govern the area and the lack of perception and/or solid knowledge about the tasks of each partner involved in this process. Therefore, it is important to consider these aspects in order to avoid environmental problems in this area, as the sharing of benefits and risks is also a characteristic of a partnership. This leads us to understand that each party involved must have a very strong task for the conservation action and must be able to identify its weaknesses and correct them so that everyone is engaged in biodiversity conservation objectives.

Importance given to biodiversity conservation in PCC communities.

Based on the survey carried out in the area, it was observed that about 84.95% of respondents consider biodiversity conservation to be important and the remaining 15.05% consider it not important, claiming that the animals have caused great damage to the production areas and their livestock, raising the issue of revolt of the population with the operator (LWM) and those responsible for managing the area (COGECO).

It should be noted that the importance given to the conservation of the biodiversity of this area is more linked to the direct benefits that this population has received from government entities and the operating company (LWM). Other relevant aspects raised by the population in the communities are the cases of human-animal conflicts that have occurred in this area, mainly for the community of Matchedje due to elephants (*Loxodonta africana*) and other animals, which leads to dissatisfaction on the part of the local communities, thus causing disparity in the levels of participation in this process.

DISCUSSION

The household is recognized as the unit of analysis for topics such as access to housing, housing density, situations of extreme poverty, vulnerable groups etc. In the 2017 Census, a household was considered to be any group of people linked or not by kinship ties, who live in the same house and share the same meals (food from the same pot) and most of the household expenses (INE, 2019).

Although agriculture is considered by most of the survey participants as the main economic activity, it was found that some forest areas (3.2%) are used to carry out other activities to supplement their income (MARASSIRO; DE OLIVEIRA, 2023).

In relation to the involvement of communities in the natural resource management process, results similar to those of the present study were also found by Sarife, Da Silva (2020), in the Administrative Post of Unango, where they observed that most respondents (65.9%) in that area stated that they participate in the management of natural resources, while the rest (34.1%) stated that they do not.

Results equivalent to those found in the present study were also found by Sarife, Da Silva (2020), who stated that this community is at the level of citizenship power (shared responsibility), where everyone involved in the management of the area makes consensual decisions, that is, between the government and local organizations, in a joint action in favor of the conservation of biodiversity and the existing resources in the area occupied by them.

Community-Based Natural Resource Management is intrinsic to the international political/legal framework on natural resource management, which considers community involvement as an intrinsic component of these principles. The Convention on Biological Diversity (CBD) states that indigenous peoples and local communities should be allowed to "develop and implement adaptive community management systems to conserve and sustainably use the biological diversity of the forest" (SITOE; GUEDES, 2015).

According to the results, it was observed that the level of participation of the communities is in the Actual Power category, at the Delegated Power level, because, despite the different difficulties faced by these communities (such as in cases related to human-animal conflicts and delay in the channelization of annual quotas), they claim to have the power to decide on the management of their area. According to Arnstein (1969), at this level, deprived citizens obtain the majority of decision-making seats or managerial positions.

Despite the existence of participation, it should be noted that there are aspects that disfavor this process of community participation, as in the case of the degree of interest of collaborators (communities) in continuing with the process of conservation of natural resources in the area. Chiúre (2019) points to the greater involvement of communities in matters related to the management of revenue funds, because they are completely autonomous in this aspect; however, in important decisions related to the management of the area as such, communities are rarely included. Examples include the use of natural resources and the definition of annual quotas for hunting wild animals, among others. This case may be due to the lack of technical knowledge about the management of conservation areas by the communities.

According to Sarife; Da Silva (2020), community involvement is based on the premise that the control and use of resources by communities is more efficient and effective than their exclusion. Studies of rural communities in developing countries indicate that access to conservation-related benefits and the involvement of local people in decision-making for resource management can positively influence local attitudes towards wildlife, protected areas and conservation (TREVES *et al.*, 2009; GANDIWA *et al.*, 2013).

According to Teixeira (2018) *apud* Sabonete *et al.* (2023), the participation of communities in district advisory councils is limited and characterized by the lack of knowledge and technical skills of community members, given the lack of incentives for agents who need to travel long distances, the limited integration of community organizations, and the influence of politics.

Participatory practices are also related to the establishment of the so-called Local Councils (*Conselhos Locais* - CLs), whose purpose is to offer greater prominence to civil society in decision-making about local development projects. In addition, they also involve the creation of Natural Resources (Forestry and Marine) Management Committees, which integrates the specific groups for the exploitation of these resources (timber exploiters and fishers), whose purpose is to participate in the elaboration and implementation of the policy for the protection of the environment and conservation of public places and the resources existing in these areas (SIMIONE, 2020).

According to Sitoe *et al.* (2014), the evaluation of community participation effectiveness suggests that, despite the lessons learned about the conservation of natural resources, there is still much to discover in this interaction. On the one hand, forest institutions must learn to create space for communities to manage their forests and share the benefits of operations; and, on the other hand, communities must learn to make use of their rights, including the proper management of forest and fauna resources.

However, for Sitoe; Guedes (2015), in a partnership it is important that the role and responsibility of each partner are clearly defined. Sharing of benefits and risks is also a characteristic of a partnership. This leads us to understand that each party involved must have a very strong task for the conservation action and that it is capable of identifying its weaknesses and correcting them so that everyone is engaged in biodiversity conservation objectives.

According to the results presented above, it was found that for the management of the importance given to wildlife conservation, most of the interviewees point to human-animal conflicts as the starting point of their revolt against wildlife conservation. Human-wildlife conflicts are a global problem and are occurring in many countries where human and wildlife needs overlap (GANDIWA *et al.*, 2013).

Human-wildlife conflicts are controversial because the resources in question have considerable financial value to local residents, while wildlife species have national and international value and are legally protected (GANDIWA *et al.*, 2013). These aspects cause a conflict of interest between the parties involved in the process of management and conservation of community conservation areas.

It was observed that, on the other hand, conflicts between humans and wild animals tend to increase due to changes in land use, migratory agriculture and lifestyle, inadequate wildlife control, and subsistence hunting bans. Thus, it is important that there is a change in the approach to the activities practiced by the communities themselves and in the resolution of conflicts by the managing entities in order to avoid these problems, because this in turn creates friction between the managers of the protected areas and the local communities that live in the regions bordering them. As a result, human-wildlife conflicts often undermine local support for conservation (GUSSET *et al.*, 2009; GANDIWA *et al.*, 2013). Despite the occurrence of these problems, it is important that communities invest in the conservation of these resources together with the managers of the areas, so that there is an ecological, social and environmental balance in these areas.

CONCLUSIONS

The analyses performed allowed concluding that:

- The population living in the PCC's Community CA participates (about 76% of the interviewees) in the process of management and decision-making on natural resources;
- As for their classification in terms of participation, they are in the Actual Power category, at the Delegated Power level;
- Although these communities are part of a single program (PCC), each of them has a different frequency in the participation process, with about 93.33%, 82.50%, 82.50%, 66.67%, and 62.50%, for Lilumba, Maumbica, Nova Madeira, Matchedje Village and II° Congresso, respectively, and in the policies of sharing and management of benefits based on their needs;
- Human-animal conflicts have negatively influenced the process of community participation in the conservation of the area.

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