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Ethnographic fieldwork as a contribution to fisheries and aquaculture extension.

Ethnographic fieldwork as a contribution to fisheries and aquaculture extension

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Summary

With growing environmental concerns, new theoretical and methodological challenges are imposed on fieldwork in the fishing and aquaculture sector. Therefore, this research aims to draw a parallel with anthropological science, using the ethnographic method to give voice to fishermen and women in fieldwork, primarily focusing on the activities of developing actions and projects for Technical Assistance and Fisheries and Aquaculture Extension by extension technicians. During the years 2022 to 2024, fieldwork activities involving technical visits took place in the island region of Belém (Mosqueiro Island, Baía do Sol) and the islands of Ananindeua (Sororoca Island, João Pilatos Island; Nova Esperança Community). Through the application of ethnographic techniques, *in situ* observations and listening to the discourses of these fishermen and women regarding their knowledge, skills, practices, aspirations, and desires were carried out. This allowed us to perceive that this approach contributes to extension technicians understanding the social fabric and real local demands, as well as critically reflecting on the practice of fisheries and aquaculture extension, enabling better understandings of the reality of riverside and traditional communities, contributing to the effectiveness of their representation in the legal instruments of the fishing and aquaculture sector.

Keywords: Aquaculture; Fishing; Community; Knowledge

Abstract

With growing environmental concerns, new theoretical and methodological challenges are imposed on fieldwork in the fishing and aquaculture sector. Therefore, this research aims to draw a parallel with anthropological science, using the ethnographic method to give voice to fishermen and women in fieldwork, primarily focusing on the activities of developing actions and projects for Technical Assistance and Fisheries and Aquaculture Extension by extension technicians. During the years 2022 to 2024, fieldwork activities involving technical visits took place in the island region of Belém (Mosqueiro Island, Baía do Sol) and the islands of Ananindeua (Sororoca Island, João Pilatos Island; Nova Esperança Community). Through the application of ethnographic techniques, *in situ* observations and listening to the discourses of these fishermen and women regarding their knowledge, skills, practices, aspirations, and desires were carried out. This allowed us to perceive that this approach contributes to extension technicians understanding the social fabric and real local demands, as well as critically reflecting on the practice of fisheries and aquaculture extension, enabling better understandings of the reality of riverside and traditional communities, contributing to the effectiveness of their representation in the legal instruments of the fishing and aquaculture sector.

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Introduction

The topic of fishing, fishing communities, as well as fishery resources, is part of a comprehensive set of reflective discussions about rural scenarios. With diverse approaches, thinking about fishing or fishing activity, about the ethos of the fisherman and fisherwoman, raises questions relating to types, modes, manners, customs, beliefs, sexual division of labor and an aspect of the inherent aspect that involves the artisanal fisherman is their inclusion in a broader society.

When dealing with riverside communities and/or traditional communities, traditional peoples/populations are terms commonly used to designate groups, culturally distinct social structures from urban-industrial societies (Hanazaki et al., 2010). This category includes fishermen and women, riverside dwellers, extractivists, indigenous people, and quilombola communities. Coconut breakers, coastal dwellers, mangaba fruit collectors, among others. According to Pereira and Diegues (2010) highlights the use and management of natural resources as one of its peculiar characteristics, starting from the development of productive activities (fishing, hunting, agricultural cultivation, raising livestock animals etc.), establishing broad territorial control over cycles, times, climates, locations, etc.

Traditional communities have a direct relationship of use with nature, establishing a dependency with the environment in which they are embedded, configuring a type of society-nature relationship that differs from Western societies (Diegues & Arruda, 2001). These traditional communities have activities with low environmental impact and, therefore, which can promote the conservation of biological diversity (Cunha & Almeida, 2000) and in view of frameworks for addressing the environmental crisis, lifestyles, knowledge and skills related to these... populations have been seen as important instruments for environmental conservation (Pereira & Diegues, 2010).

This local knowledge, traditional knowledge, or local ecological knowledge is a body of knowledge derived from beliefs, customs, and practices passed down from generation to generation. (Diegues, 2008) that involve relating to local nature permeated with meaning about life, the environment, living beings. (Toledo & Barrera-Bassol, 2009). Such local domains are, in most of the time, these individuals have low or little schooling, however this does not invalidate this form of knowledge (Elisabetsky, 2003), since they occur in their constructive process of experimentation, observation, refutation and validation, making what Lévi-Strauss (1989) He called it the "science of concrete".

In accordance with the current circumstances of growing environmental concerns new theoretical and methodological challenges are imposed on fieldwork in this scenario. Fishing. In anthropological science, ethnographic research can be used to define problems which were not foreseen by existing literature and are present in the social landscape, providing opportunities for the researcher to uncover important knowledge and offers new interpretations about something.



lived phenomenon (Ataídes et al, 2021).

Angrosino (2009) comments that ethnographic research seeks to describe a social group or People, their institutions, their interpersonal behaviors, their material productions, and their beliefs. It is a way of studying people in organized, long-lasting groups that can be...

called communities or societies. The peculiar way of life that characterizes a group is understood as their culture. Studying culture involves an examination of behaviors, customs and beliefs learned and shared by the group.

Cunha and Ribeiro (2010) consider ethnographic research as a research strategy. In this context, the researcher immerses themselves in the social reality being investigated, in order to study and understand intrinsic and tacit elements of that society, especially its culture. It is a method of... research that seeks to define predictable patterns of group behavior, which is based on work field-based, personalized, multifactorial, long-term, inductive, dialogical, and holistic (Angrosino, 2009).

As a first methodological step, the exercise of a meticulous and trained observation, to which Geertz (1989) says that the trained eye of the investigator makes it possible to understand that the constructions of These are secondary types of constructions and are based on the given constructions of the actors who are members of the societies. studied, with no other social reality existing beyond that of the local members themselves.

Considering that the National Policy for Technical Assistance was created in 2008 and Rural Extension – PNATER and in 2009, Technical Assistance and Fisheries and Aquaculture Extension. - ATEPA emerged in accordance with the principles and guidelines of PNATER, establishing, therefore In this way, a reference is made to the service provided by public Technical Assistance and Rural Extension - ATER, to Specific characteristics of artisanal fishermen and family-based aquaculturists.

Considering also that we have Decree Law No. 2020 of January 24, 2006, which This law addresses the fishing and aquaculture policy in the state of Pará and Ordinary Law No. 6,713 of 25 of January 2005, which provides for the Fisheries Policy in the State of Pará, as addressed in Chapter IX. Regarding the promotion and development of fishing and aquaculture, as referred to in Section III - of technical assistance and fisheries and aquaculture extension with the following objectives: "(...) II - to provide assistance social technique, to be implemented through the use of participatory methodologies" and "(...) III – improve The productivity, profitability, and efficiency of the fishing and aquaculture sectors, aiming at... "Economic, social, and environmental sustainability."

Knowing that the policy of fisheries and aquaculture extension in Brazil arose with the purpose to support the development of the fishing sector based on the arguments that we possessed a The vast national coastline, rich in fish, was home to artisanal fishing communities. in total socioeconomic helplessness, and with fishing and aquaculture extension being the service of Monitoring, organizing, and discussing with fishing and aquaculture communities, with the aim of...



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comprehensive development and improving the quality of life of these communities through their Organization, coordination, and generation of work and income.

We have seen that the historical trajectory of fishing extension has been similar to that of extension. rural occurrence in the country, being conducted under the same methodological intervention treatment, thus as guided by discontinuous public policies (Calou & Tauk-Santos, 2007). The stance of bodies The public perception of the artisanal fishing sector at all three levels of government has historically been viewed through a mixture of... authoritarianism and paternalism, in which the enactment of legal instruments, the opening of lines of credit, technical support for production and commercial stages, and promotion of non-profit production organization They take into account the real interests and demands of artisanal fishermen, which are generally relegated to paper. of mere spectators of the processes that involve them and affect their interests (Vasconcellos et al, 2007).

Given this, this research brings to light the reflection on the real interests of fishermen and Women fishers, fish farmers, especially family-level fish farmers. A parallel is drawn with the anthropological science, with the choice of the ethnographic method as a possibility to train the observer's gaze. for observation during fieldwork, in order to understand the local social structures, as well how to listen to these actors in family-based fishing and aquaculture, prioritizing activities of construction of actions and projects by extension technicians contributing to a A better understanding of the reality of riverside and/or traditional communities.

In this sense, this research is linked to field practices and field visit activities. Techniques performed by teachers and students of the technical courses in fishing and aquaculture. as requirements for learning the approach of observing, listening, feeling, and describing communities and fishermen and women from the island region of Belém (Mosqueiro Island, Baía do Sol) and the islands of Ananindeua (Sororoca Island, João Pilatos Island, Nova Esperança Community).

2. Methodology

This study was conducted in two stages, the first being the construction phase. reflections based on the content of the curricular components of fisheries and aquaculture extension, Fisheries administration and legislation taught in technical courses in fishing, technical in Aquaculture, literature review, and classroom video viewing. The second stage. consisting specifically of training for ethnographic fieldwork through visits. techniques applied to the research site in the island region of Belém (Mosqueiro, Baía do Sol) in the year 2023 and region of the Ananindeua Islands (Sororoca Island, João Pilatos Island, and the community of Nova Hope) during the years 2022 to 2024.

Using ethnographic techniques such as direct observation, deep listening, and local oral history. and the participatory methodology through discussion circles sought to train the observer's perspective



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future researcher and/or future extension worker with the purpose of observing the relevance of inter-

The role of anthropological science in providing an opportunity for fishermen and women to speak (about how they see themselves, what they aspire to in fishing and how they carry out their practices), in addition to stimulating the students.

and for the local fishermen and women, the approach to academia and the riverside community. For the realization

The parties involved in these activities were contacted beforehand and the necessary permits and authorizations were obtained.

Free and informed consent (ICF) from the participants in the research.

3. Results and Discussion

Equipped with systematic readings and training on "being in the field" to understand the

The concept of near experience and distant experience, as portrayed by Geertz (1997), was developed...

travel to the riverside communities targeted by the ethnographic fieldwork and observed

aspects such as types of transport, location, travel time, port infrastructure of

landing, surrounding population, ecosystem, vegetation, climate, among other aspects.

and especially the fishermen and fisherwomen from the visited locations.

During the technical visit to Mosqueiro, in the Baía do Sol region, a moment of discussion was promoted.

A conversation took place at the Z09 Fishermen's Colony, to which the fishermen and fisherwomen of the community were invited.

The location for participation in the activity was chosen. It was communicated that they should feel free to choose where to go.

to comment on what it was like to be a fisherman or fisherwoman in that place, to talk about their aspirations in

Fishing activity and how they practice it. From this, many questions and answers arose about the

know-how in fishing and aquaculture activities, and where many students who had not yet had...

Through contact with fishermen and fisherwomen, they were able to closely observe their self-descriptions and of these.

Reports were made regarding the history (Figure 1) of remaining in the region, in which it was

It has been identified that many come from the salt flats regions of Pará, where they engage in fishing activities.

artisanal method geared towards family consumption and local sale. The mechanism for transferring the

Knowledge being exercised through oral transmission from the elders to the younger generations. It was reported that

They hope to receive better support from state actions aimed at improving fishing activity.

Discussions arose regarding the importance of incentives for attracting financial credit to

ventures and the need for training courses for fishing and aquaculture, and also

Some fishermen were able to showcase their aquaculture ventures, reporting on the...

need for institutional partnerships (figure 2).

Figure 1 (Left): Oral history of the fishermen and fishermen during the conversation circle.

Figure 2 (Right): Fish farming enterprise in Baía do Sol, Mosqueiro.



Source: Field activities for the years 2023 and 2024

Regarding visits to the islands of Ananindeua: Sororoca Island, Nova Community Hope and João Pilatos Island during visits carried out between the years 2022 and 2024.

As Geertz (1997) tells us, direct observation and deep listening were carried out, with attentive observation and meticulous observation revealed that the first contacts with the fishermen and fisherwomen occurred through interactive dialogues between teachers and students.

It was noted that local populations establish relationships with the natural environment in which they live. inserted where they carry out activities related to accessing and using the aquatic environment by means of hulls, canoes, which are also used for fishing and catching fish. crustaceans, in addition to extracting resources from the forest. They have plantations on their land (plots, lots), animal breeding, fish farming for family consumption, vegetable cultivation and herbal medicines, with these practices serving as maintainers of inherited traditions of their ancestors' knowledge was obtained and passed down orally.

The fishermen and women presented the local structures, natural resources, and activities. productive. As Ball (1990) tells us about reflexivity in the ethnographic field, this relationship that Regarding reflexivity, it is stated that "the conduct of ethnographic work depends, above all, on the skills "The researcher's role in relating to others."

During the community presentation, it was possible to observe the shrimp harvesting firsthand. regional context and the accounts of fishermen and women who say that they used to catch much more, but nowadays... There is a decrease in the number of fish and shrimp, as well as a decrease in the size of these organisms. shrimp are caught using different traps, both regional and adapted (pet) traps. Figure 3 shows this. This fact leads us to infer the need for research and action in... field of dynamics and evaluation of fish stocks, as well as participatory fisheries management. for the location (figure 4).

Figure 3: Capture of regional shrimp using different traps in the locality.



Source: Field activities, year 2022]

Figure 4: Regional shrimp showing sizes and reproductive stage.



Source: Field activities, year 2022

During their visit to the Nova Esperança community, the fishermen reported that they present... There has been interest in fish farming activities due to the drastic decline in local fisheries. reports about the difficulties faced regarding the presence of people from outside the community and who are vulnerable to robberies, and would like better policing in the area. They were able to To show the activities related to vegetable gardens and areas where they intend to work with family-based fish farming.

During visits to João Pilatos Island, it was mentioned that fishing activity is geared towards... Small-scale commercialization and family consumption. Women engage in the activities of Shrimp fishing using the regional matapi trap and adapted PET bottles as fishing gear was reported. that families survive through activities linked to the use of natural resources, such as fishing. (fish and shrimp, with higher sales of caught fish), forestry extraction (Açaí harvesting), agriculture (primarily cassava cultivation), and some families own Paid activities outside the Islands and work in domestic services, commerce, among others. in the informal market.



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In the locations visited, discussions were held regarding the need for training with courses and educational events were mentioned, some of which they would like to see in the region. such as: fish farming, agriculture, environment, fishing, poultry farming, açai management, fruit growing, Beekeeping, planting, environmental education, recycling, and farming. During the listening sessions... Fishermen and fisherwomen expressed a desire for more educational activities to take place within from the Islands, as this will eliminate the need to travel to local urban centers and for such activities. They will contribute to improving the quality of life in the region.

Final Considerations

The ethnographic method, both methodologically and epistemologically, seeks a A qualitative case study that focuses on a phenomenon or situation, aiming for a detailed description. possessing wealth through a holistic view, perceiving local reality in its entirety, because it is The least constructed, therefore the most real, the most open, and the least manipulable.

Recognizing the reflexive nature of social research is the first and most important step. where the investigator becomes the instrument of investigation par excellence, there being no other way, There is no need to escape social reality in order to study; it is not simply a matter of not a methodological commitment, but an existential fact.

Ethnographic fieldwork allows the researcher to immerse themselves in... fishing realities with the aim of observing and interacting with fishermen and women in order to to understand and elucidate their practices, know-how and cultures, and this helps in the making of future actions in fishing and aquaculture communities, as it allows for closer contact with researcher with the researched.

Ethnographic fieldwork can be used to identify problems that have not been... as predicted by existing literature. Becoming an important tool for developing prioritizing the development of actions and projects by extension workers. This methodology... It presents to the fishing and aquaculture scene an unveiling of valuable knowledge and It allows for new interpretations from those researched about the real local culture.

The ethnographic method proposes the capacity for reflection, either in anticipation or in retrospect. It allows for the necessary distance to observe our activities from the outside as objects of... world, turning us into objects of ourselves and observers of the behaviors of others, with commitment. And with regard to technical assistance and extension services for fisheries and aquaculture, the work of ethnographic field allows the voice of fishermen and fisherwomen to be echoed in policy instruments public policies are becoming more effective.



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