PUBLIC KNOWLEDGE REGARDING THE EXISTENCE OF THE BANGGAI CAPUNGAN FISH Pterapogon kauderni KOUMANS, 1933 (PERCIFORMES, APOGONIDAE) IN THE BAY OF PALU, CENTRAL SULAWESI

Pengetahuan Masyarakat Mengenai Keberadaan Ikan Capungan Banggai Pterapogon Kauderni Koumans, 1933 (Perciformes, Apogonidae) Di Teluk Palu Sulawesi Tengah

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ABSTRACT

The Banggai cardinalfish, known internationally as the Banggai cardinalfish, is an endemic species of the Banggai Archipelago and its surrounding marine waters. In general, the public's understanding of the existence and conservation efforts for this fish is limited due to a lack of access to information and education about the species. Public knowledge about the existence of the Banggai cardinalfish is a crucial factor in the success of conservation programs. One of the introduction habitats for the Banggai cardinalfish is the waters of Teluk Palu. The purpose of this research is to explore the level of knowledge and perceptions of the community regarding the presence of the Banggai cardinalfish in Teluk Palu. The sampling method used is purposive sampling, obtaining primary data through field observations, questionnaires, in-depth interviews, and research documentation. Secondary data were obtained from online scientific reference searches. Data analysis used includes descriptive and qualitative analysis. The research results show that the knowledge and understanding of the Teluk Palu community about the existence and conservation of the Banggai cardinalfish still require significant improvement. Through education, community involvement, and the provision of sustainable livelihood alternatives.

Keywords: Conservation, Public Perception, Sulawesi Endemic Fish

ABSTRAK

Ikan Capungan Banggai yang lebih dikenal secara Internasional sebagai Banggai Cardinalfish adalah spesies endemic perairan laut banggai Kepulauan dan sekitarnya. Secara umum pemahaman masyarakat tentang keberadaan dan upaya pelestarian yang kurang karena kurangnya akses informasi dan edukasi tentang spesies ikan ini. Pengetahuan masyarakat tentang keberadaan ikan Capungan Banggai merupakan faktor penentu keberhasilan program konservasi. Salah satu habitat introduksi ikan Capungan Banggai adalah perairan Teluk Palu.Tujuan penelitian yaitu mengeksplorasi tingkat pengetahuan dan persepsi masyarakat mengenai keberadaan ikan capungan banggai di Teluk Palu. Metode penentuan sampel menggunakan *purposive sampling* sehingga diperoleh data primer melalui observasi lapangan, kuesioner, wawancara mendalam dan dokumentasi penelitian. Data sekunder diperoleh dari penelusuran referensi ilmiah secara online. Analisis data yang digunakan adalah deskriptif dan analisis kualitatif. Hasil penelitian menunjukkan bahwa Pengetahuan dan pemahaman masyarakat Teluk Palu tentang keberadaan dan konservasi ikan capungan banggai masih memerlukan peningkatan signifikan. Melalui edukasi, pelibatan komunitas, dan penyediaan alternatif penghidupan yang berkelanjutan.

Kata Kunci: Ikan Endemik Sulawesi, Konservasi, Persepsi masyarakat

INTRODUCTION

The Banggai capungan fish (Pterapogon kauderni Koumans, 1933) is a species of marine ornamental fish belonging to the Apogonidae family (Lempoy et al., 2020). This species has high aesthetic and economic value, and is often the main commodity in the international ornamental fish trade (Kusumawardhani et al., 2019). The existence of the Banggai dragonfish was first documented in the Banggai Islands, Central Sulawesi, and is now considered to be one of the endemic species of the region (Rahman & Safir, 2018). Palu Bay is one of the areas with significant marine biodiversity in Central Sulawesi (Akbar et al ., 2021 and is one of the introduced habitats for the Banggai capungan fish (Ndobe et al., 2013). The coral reef ecosystem in Palu Bay supports the life of various marine species, including the Banggai capungan fish (Akbar & Wahyudi, 2016). Palu Bay enters through trade routes brought by ornamental fish collectors (Syahril et al., 2020) so that the development of the fish population has increased quite significantly (Ndobe et al., 2013).

Public knowledge and awareness about the existence and importance of the Banggai Capungan fish is a determining factor in the success of community-based conservation programs. Local communities who have adequate knowledge about the ecological and economic value of these fish tend to be more proactive in efforts to preserve their marine environment. Saraswati (2014) stated that information regarding the extent to which people in Palu Bay know and understand the existence of the Banggai capungan fish is still very limited. Considering the importance of Palu Bay for the survival of the Banggai capungan fish, the local community's understanding of this species is very crucial for conservation efforts.

The research aims to explore the level of knowledge of the Palu Bay community regarding the Bangangan dragonfish and identify community perceptions of the importance of conservation. Surveys and in-depth interviews are needed to determine the local community's response to the presence of the Banggai capungan fish so that this information can be used as a reference in designing effective conservation programs based on local community participation, as well as supporting the sustainability of the coral reef ecosystem and other microhabitats of the Banggai capungan fish in Palu Bay. It is hoped that the research can enrich scientific data regarding the distribution and population status of the Bangangan dragonfish (Pterapogon kauderni Koumans, 1933) outside its natural habitat, thereby providing recommendations for making better marine resource management policies. Thus, this research

is not only useful for the conservation of the Banggai dragonfish species, but also for the preservation of marine biodiversity in the Central Sulawesi region as a whole.

METHODS

Place and Time

The research was carried out in April 2024 in Palu Bay, Mamboro Village, North Palu District, Palu City, Central Sulawesi Province. The selection of research locations was based on the presence of the Bangangan dragonfish population (Pterapogon kauderni) and local residents who live in the coastal area. The research locations can be seen in (Figure 1).
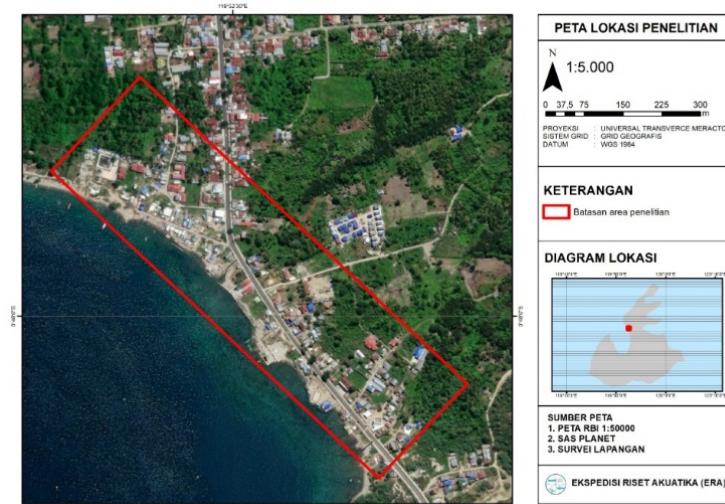

Fig 1. Research location map

Tools and Materials

The tools used in this research consisted of writing instruments, clipboards and cameras. The materials used were a questionnaire as a research instrument guide and a poster with a picture of the Banggai dragonfly fish.

Sample Determination

The sampling approach uses a purposive sampling technique to select a group based on certain considerations that are considered relevant to the research objectives. Determining the criteria and characteristics of the community consists of residential locations in the local coastal area, professions as fishermen and fisheries entrepreneurs in Palu Bay. Sampling uses the quota sampling method based on determining samples from the population that has certain characteristics to represent each category (Sugiyono, 2010). The determined respondents were 20 people who were interviewed in a structured manner based on the research object so that they could be used as key informants (Kurniawan & Triswiyana, 2019).

Data Capture Type

Primary data collection was carried out through the distribution of questionnaires and observations as the main data. In-depth interviews were conducted with respondents based on predetermined variables. The questionnaires presented to respondents related to public perceptions regarding the level of knowledge about the Banggai dragonfish (Pterapogon kauderni), existence in surrounding waters, value direct benefits and conservation efforts towards preserving the species. Secondary data was collected through supporting literature

such as population demographics, organizational structure, and other aspects relevant to the scope of the research (Sugiyono, 2015).

Data Analysis

Data processing results from interview respondents that have been collected will be given a score based on the answers to the questions that have been asked (Rahajeng et al., 2014). Likert scale percentage criteria (Likert-type questions) to measure perceptions, attitudes, groups and social phenomena (Nizar et al., 2022). Data obtained from questionnaire interviews are in the form of ordinal data to measure levels from very negative to very positive (Adhian et al. ., 2014). The score consists of 1 – 4 with answers such as agree, disagree, disagree and don't know. After that, it was analyzed using Microsoft Excel 2016 software to recapitulate existing data and presented in percentage form (Kurniawan et al., 2020). Qualitative data analysis as support is explained exploratively to describe factually the conditions in the field (Bidayani *et al*., 2023).

RESULT

Identifying the characteristics of respondents is needed to find out information such as gender, age, occupation and education. The people who were respondents were divided into several groups, namely fishermen, farmers and traders who lived in the Palu Bay area which was the research location. The characteristics of the respondents are presented in Table 1. The public's perception of information and knowledge regarding the Banggai dragonfish (Pterapogon kauderni) in the Palu Bay area is presented in (Table 1).

Table 1. Karakterisitik Respond Respondent Characteristics

No	Variabel	Amount	Presentation (%)
1	**Gender**		
	- Male	16	80
	- Female	4	20
2	**Age**		
	- 20-30 Years	3	15
	- 31-40 Years	10	50
	- 41-50 Years	7	35
3	**Level of education**		
	- SD/SMP	11	55
	-SMA/SMK	9	45
4	**Work**		
	- Farmer	1	5
	- Fisherman	14	70
	- Trader	5	25

Source: primary data 2024

Table 2. Public perception of the Bangangan dragonfish (Pterapogon kauderni) in Palu Bay

No	Description	Response (%)
1	Respondents who knew about the existence of the Banggai dragonfish (*Pterapogon kauderni*)	30

2	Respondents who did not know about the existence of the Banggai dragonfish (*Pterapogon kauderni*)	70
3	Respondents received information about the Banggai dragonfish (*Pterapogon kauderni*)	
	- Mass media	15
	- Internet	10
	- Other	75
4	The respondent once caught a Bangangi dragonfish (*Pterapogon kauderni*)	5
5	Respondents have never been involved in conservation activities for the Banggai dragonfish (*Pterapogon kauderni*) in Palu Bay	95

Based on the results of research on public perceptions regarding conservation efforts, it can be seen in (Figure 2) and the availability for managing products related to the protection of the Banggai dragonfly fish (Pterapogon kauderni) in Palu Bay can be seen in (Figure 3). Community perceptions regarding the high level of acceptance and support for the potential for developing ecotourism based on the Bangangan dragonfish (Pterapogon kauderni) are presented in (Figure 4).
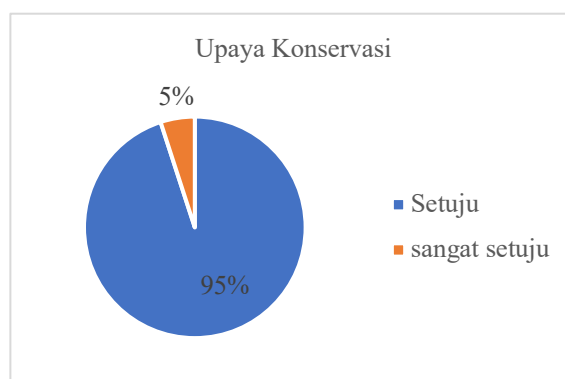

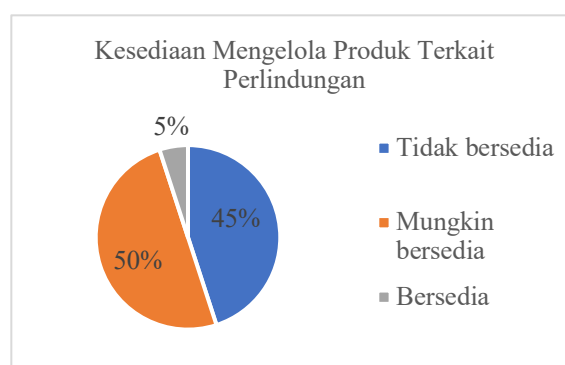Fig 2. Community perception regarding conservation efforts

Fig 3. Willingness to manage products related to the protection of the Banggai Capungan Fish
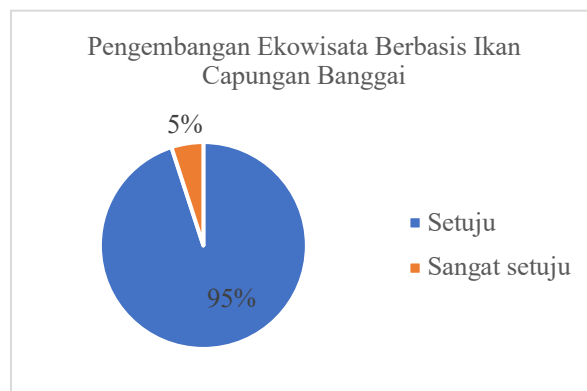
Fig 4. Community perception regarding the strategic plan for developing Bangangan dragonfish-based ecotourism *(Pterapogon kauderni)*.

DISCUSSION

Based on the research results, it shows that male respondents dominate with 16 people (80%) and only 4 female respondents (20%). Background: Primary School (SD) and Junior High School (SMP) education levels only reached 55% of the total number of respondents and education levels at Senior High Schools (SMA/SMK) amounted to 45% of all respondents. Community participation in training programs in the fisheries sector and non-fisheries are one of the supporting factors for conserving the Banggai dragonfish (Pterapogon kauderni). Educational status can minimize environmental damage based on community knowledge (Usmana, 2002; Rahajeng et al., 2014). General knowledge of the community based on surveys and interviews, it was found that the majority of the people of Palu Bay have limited knowledge about the Bangangan dragonfish, their knowledge is more focused on the types of fish that are more commonly found in the area. For people who know about the Pangungan dragonfish, the source of knowledge generally comes from the mass media, formal education or government and NGO programs that focus on conservation. In the opinion of Muchlisin et al., (2020), minimal knowledge about the existence of endemic fish has a negative impact on efforts to preserve species and their ecosystems. Education-based outreach provides benefits regarding the community's understanding of the uniqueness, habitat and threats to endemic fish (Ranum, 2018). Based on the level of employment of respondents, namely as fishermen, 14 people (70%), traders, 5 people (25%) and farmers, 1 person (5%). and its distribution is limited (Huwae et al., 2023) and possibly because its existence is unknown and it is not a fish that has economic value in Palu Bay. Local knowledge is very much needed in conservation efforts and sustainable management of fisheries resources (Widarmanto, 2018). Development of educational content to support information on the Banggai dragonfish (Pterapogon kauderni) which can be accessed via mobile applications, websites and social media platforms. This is an important step to increase public awareness to strengthen conservation actions and sustainable management of the Bangangan dragonfish (Pterapogon kauderni) and the marine ecosystem in Palu Bay as a whole. Digital platforms are very effective in supporting conservation and environmental education efforts, especially in the context of information dissemination regarding marine biodiversity (Suryana & Antara, 2021).

Support from the community is the first step to maintain fish populations, micro-habitats, marine ecosystems and support from multi-party collaboration to preserve the

endemic ornamental fish dragonfly Bangai in Central Sulawesi Province. Sustainability of fishery resources provides ecological and economic benefits as an alternative long-term livelihood (Edorita, 2019). The Bangangan dragonfish (Pterapogon kauderni), one of the ornamental fish biota export commodities, is included in the trade chain status (Arbi et al., 2022). Regulations on the use of fisheries resources must be managed as well as possible so as not to create conflicts of interest and prevent overfishing (Ndobe et al., 2013). The importance of conservation efforts can provide long-term benefits for the preservation of the Banggai dragonfish (Pterapogon kauderni) in Palu Bay. Extension programs can be organized providing information about fish ecology, economic value for local communities, the impact of domestic waste and the impact of overexploitation on fish populations (Taurusman, 2011).

The development of ecotourism has received great support from the community for the existence of the Bangangan dragonfish (Pterapogon kauderni) in Palu Bay. The involvement of local communities in the planning and management process provides opportunities for employment opportunities, additional income for local communities, as well as the promotion of biodiversity and the natural beauty of Palu Bay. The existence of the Bangangan dragonfish (Pterapogon kauderni) in the waters of Mamboro Village has the potential to become a marine tourism location for endemic fish in the Palu Bay area, thus providing economic value for local residents (Syahril et al., 2020). A cross-sectoral approach also needs to be taken so as to provide long-term benefits for all parties involved in the development of ecotourism based on the Bangangan dragonfish (Pterapogon kauderni) in Palu Bay.

CONCLUSSION

Public knowledge about the existence of the Bangangan dragonfish (Pterapogon kauderni) in Palu Bay is still relatively low regarding the conservation of this species. Knowledge transfer is needed to increase public understanding of the uniqueness, habitat needs and threats to the Banggai dragonfish (Pterapogon kauderni). Widespread support from the community opens up great opportunities to improve conservation and sustainable management efforts by preserving marine ecosystems and providing long-term benefits for local communities and the surrounding environment.

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