



# **Economic Characteristics of the Fishing Society of Cangkol Village, Cirebon, Indonesia**

**Asep Agus Handaka Suryana <sup>a\*</sup>, Rizka Zahra Utami <sup>a</sup>,  
Izza Mahdiana Apriliani <sup>a</sup> and Ine Maulina <sup>a</sup>**

<sup>a</sup> *Faculty of Fisheries and Marine Science, Padjadjaran University, Indonesia.*

## **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

## **Article Information**

DOI: 10.9734/AJFAR/2023/v25i3663

## **Open Peer Review History:**

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/104781>

**Original Research Article**

**Received: 01/07/2023**

**Accepted: 01/09/2023**

**Published: 13/09/2023**

## **ABSTRACT**

The welfare of the fishing community in Cirebon City indicates that management and development are not equally distributed. The management and development carried out will not run optimally if there is no in-depth understanding of the characteristics of the regional community. This research aims to map economic characteristics, as well as to analyze the driving and inhibiting factors of the fishing community in Cangkol Village. The research was carried out in April–June 2023. The result showed that the average income of skipper fishermen was Rp. 3,288,195.83, while the average wage for crew members was Rp. 1,183,250.00/month. The fishing community in Cangkol Village are fishermen with a traditional fishing unit with a 3 GT boat, hand line fishing gear, and a one-day fishing system. The types of fish caught are *Lutjanus rusellii*, *Diagramma melanacrum*, *Lutjanus bitaeniatus*, *Cephalopholis boenack*, *Scombroides tala*, and other fish. The caught fish market is a monopoly. Marketing of catches through two channels, namely through middlemen or directly to consumers with a door-to-door promotion system.

\*Corresponding author: Email: [asep.agus@mail.unpad.ac.id](mailto:asep.agus@mail.unpad.ac.id);

*Keywords: Fishing technology; fisherman's income; marketing mix.*

## 1. INTRODUCTION

Regional Governments (Pemda) in this era of decentralization are the authorities in managing regional issues starting from the process of formulation, and implementation, to the evaluation of development policies or programs aimed at supporting regional development programs [1]. Growth, equity, and sustainability are needed in an effort to achieve the development goals of a region [2]. The success of the development of a region can be seen from various perspectives ranging from social, economic, cultural, and legal, to security aspects [2].

The fisheries sector is a sector that requires linkages between various components so that the development efforts carried out run optimally [3]. One of the various components needed is the community component [3]. Empowerment of fishing communities is a paradigm that was built after long neglect of the development of coastal areas in Indonesia [4]. In order for the process of formulating a policy to take place optimally, it is necessary to do brainstorming through the process of mapping the economic characteristics of the people within it [1].

It is considered that fishing households are a clear example of pre-prosperous families in society. Since ancient times, fishing communities have been synonymous with the identity of the poor with inadequate education and skills, so that fishing communities are increasingly marginalized and difficult to develop [5]. Kampung Cangkol is part of a fishing village located in Lemahwungkuk Village, Cirebon, Indonesia. The results of previous research stated that fishing communities in the city of Cirebon live with concern, judging from their dirty and materially unprosperous living environment [6]. This shows that the development has not been optimal. An understanding of the characteristics of the people within it is needed so that regional management is carried out optimally [7]. Therefore, it is necessary to know the economic characteristics of the fishing community in Kampung Cangkol.

## 2. METHODOLOGY

The research was conducted in Cangkol Village, Lemahwungkuk Village, Lemahwungkuk District, Cirebon City, West Java, in April–June 2023. The

method used in this research was a survey method, asking several respondents about beliefs, opinions, characteristics, and behaviors that have occurred or are currently occurring [8]. The data used in this research are primary and secondary data. The main data in the form of primary data was obtained through interviews with respondents using a questionnaire regarding the economic characteristics of the fishing community in Cangkol Village. The economic characteristics referred to in this research are related to the technical implementation of fishing, costs, and marketing of catches in the fishing business of Cangkol Village fishermen. Secondary data includes data on the general condition of the Cangkol Village fishery area and sector. These data were obtained from a literature study.

Respondents were taken using the purposive sampling method. In order to support research objectives, then Respondents were taken based on the following criteria:

- a. Respondents work as full-time fishermen or main part-time fishermen;
- b. Respondents are members of fishermen groups;
- c. Respondents are residents of Cangkol Village;
- d. Respondents are willing to be interviewed.

Relevant stakeholders, namely Cirebon City Food Security, Agriculture, and Fisheries Service (DKP3) officials, and community leaders in Cangkol Village act as triangulators for the data collected.

## 3. RESULTS AND DISCUSSION

### 3.1 Description of Cangkol Village Fishermen's Catching Business

The capture fisheries business in the fishing community of Kampung Cangkol is a type of fishing business that is still simple in terms of its constituent components. The fishing community in Cangkol Village operates using a one-day fishing system. In the Cangkol fishing community, fishing activities are divided into three stages, namely the pre-capture, capture, and post-capture stages:

- a. **Pre-capture:** The preparation stage for fishing activities begins at around 21.00

- WIB. At this stage, fishermen will ensure that all their needs when going to sea have been met. The preparatory phase includes activities to check ships, engines, fishing gear, and diesel fuel, while the fishermen's wives prepare provisions for going to sea;
- b. **Capture:** When hand line operations are carried out, fishermen will leave at 01.00 WIB and return at 13.00 WIB. The fishing area of the fishing community in Kampung Cangkol is on average about 40–60 km from the coast;
  - c. **Post-capture:** In the post-capture stage, the catch is immediately weighed by collectors and selected based on size. The size of fish that pass the selection of collectors is fish measuring  $\geq 5$  ounces. Smaller-sized fish will be brought home to be sold by the fishermen's wives.

### 3.2 Cangkol Village Fishermen's Catching Technology

The observation results show that fishermen in Cangkol Village are traditional fishermen. One of the criteria for fishermen who are classified as traditional fishermen is that fishermen still use traditional equipment [9]. This was found in the fishing effort of the fishing community in Cangkol Village. The specifications for fishing units for fishermen in Cangkol Village are shown in Table 1.

**Table 1. Specifications for fishing units in Cangkol Village fishermen**

Specification	Information
<b>Fisherman</b>	
Mileage	40-60 km
long journey	3-6 hours
Number of crew	1 person
<b>Fishing Rod</b>	
String length	100m
String material	Polyamide (PA)
String size	40 lbs
Hook size	no. 10
Ballast material	Tin
<b>Boat</b>	
Material	Fiber plywood
Length (LOA)	8-10m
Wide	2.5-3m
Tall	0.85-1.25m
Drafts	0.75-1.25m
Machine	20-25 PK

In carrying out fishing operations, fishermen in Cangkol Village use assistive devices in the form

of FADs. FADs act as a place for fish to gather. The FADs used by fishermen from Kampung Cangkol are made from a collection of pyramid-shaped used tires made from plastic rope. FADs are operated by drowning at various fishing points. These points are then marked by fishermen on their GPS. When fishermen are going to catch fish, fishermen will follow the path that has been marked on the GPS. The operating depth of FADs varies between 5–50 m. Fishermen make FADs together on days when they are not going to sea, especially during the west and transition seasons. On top of the FADs are placed strands of coconut leaves as a fish attractor. Fish will be attracted by the smell of coconut leaves and then enter the FADs [10].

Referring to the definition of modern fishermen by [10], it can be seen that the fishing community in Cangkol Village belongs to the traditional fishermen group. This can be seen from the level of fishing technology used by fishermen from Kampung Cangkol, namely the fishing system is still one-day fishing, fishing is still done using hand lines, and the boats used are only 3 GT in capacity. The comparison between traditional fishermen and modern fishermen is shown in Table 2.

### 3.3 Costs for the Fishing Business of Kampung Cangkol Fishermen

A fishing business has components in the form of infrastructure to support the running of the business including fishing gear, fishing vessels, and other aids [11]. The average total investment capital for fishermen's fishing business in Cangkol Village is IDR 30,063,000.00. The average total operational costs incurred by Cangkol Village fishermen in one trip is Rp. 37,200,000.00/year. The average total fixed costs incurred by Cangkol Village fishermen for the fishing business is IDR 806,388.89/month. The costs incurred in the fishing effort of Cangkol Village fishermen are shown in Table 3.

The average wage for crew members is 25% of the fishermen's income minus the capital spent, so the skipper's income is Rp. 1,488,195.83 and if added by side income, the total income is Rp. 3,288,195.83 and the total income for crew members is Rp. 1,183,250.00. The side income of skipper fishermen and crew members of Cangkol Village is obtained from fishing tour guide businesses. The income of skipper fishermen and crew members is shown in Table 4.

**Table 2. Comparison of Cangkol Village fishermen's technology with the definition of modern fishermen [10]**

Fishermen of Cangkol Village	Modern Fisherman (Tambunan 2020)
Maximum capacity of 3 GT	Maximum capacity of 200 GT
A simple fishing tool is a handline	Massive fishing gear such as trawler, seiner, longliner, dredger
One day fishing system	The capture lasted for days
A simple cooler, in the form of Styrofoam	Adequate cooling

**Table 3. Costs in the fishing business of Cangkol Village fishermen**

Cost	Amount
Investment capital	IDR 30,063,000.00
Expenses/year	IDR 37,200,000.00
Fixed Cost/year	IDR 9,676,666.67

**Table 4. Total income of fishermen of Cangkol Village fishermen**

Income	Skipper	Crew
Main	IDR 1,488,195.83	IDR 583,250.00
aside	IDR 1,800,000.00	IDR 600,000.00
	IDR 3,288,195.83	IDR 1,183,250.00

### 3.4 The Marketing Mix of Cangkol Village Fishermen's Catch

The marketing mix is defined as a marketing tool used by a company to pursue its goals, so the marketing mix is a marketing tool consisting of product, price, promotion, and distribution [12].

#### 3.4.1 Products

The fish caught are demersal fish, namely fish that live on the bottom of sandy or muddy waters [13]. This is in accordance with the characteristics of Cangkol waters which are sand mixed with mud [14]. The highest type of catch was *Lutjanus rusellii*, as much as 104.529 kg or 30% of the catch. 25.2% of the Cangkol Village fishermen's catch was in the form of *Diagramma melanacrum* and 1.1% below that was *Lutjanus bitaeniatus*) as much as 24.1%. 15.3% of the catch is *Cephalopholis boenack*. The fewest catches were *Scombroides tala* and other fish, respectively 5.4% and 0.1%. Fish caught by fishermen from Cangkol Village are shown in Fig. 1.

#### 3.4.2 Prices

The price of fish is determined by the middleman. The fish with the highest price is jenaha fish for IDR 50,000.00 while the lowest price for fish is

talang-talang fish for IDR 27,000.00. The price of the fish caught is determined by the middleman. Middlemen are determinants of market prices in the fishing business of the fishing community of Cangkol Village. The price of fish caught by fishermen from Cangkol Village is shown in Table 5.

#### 3.4.3 Promotion

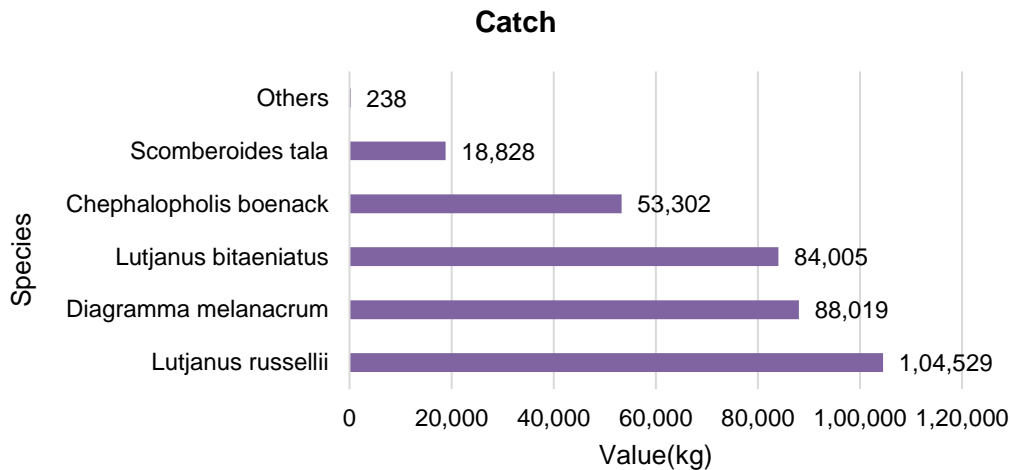
Promotion is a form of communication that aims to convince potential buyers of the products offered [15]. The sales of fishermen's catch in Cangkol Village are promoted door to door by middlemen. Tengkulak mendapatkan jaringan pasar melalui promosi sederhana dari mulut ke mulut. There are no other promotional strategies used by middlemen to sell fish catches.

#### 3.4.4 Distribution

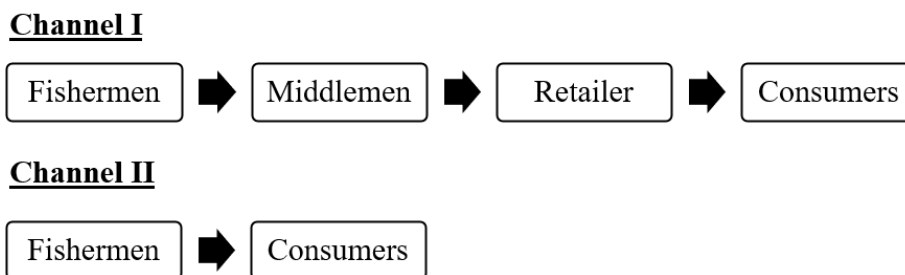
The sale of the catch is carried out using the direct selling method. Direct selling is a method of selling products from the seller directly to the buyer [16]. Middlemen find buyers through word of mouth. There are two distribution channels for fish catches in the fishing community of Cangkol Village. The distribution channel for fish caught is shown in Fig. 2. In the main channel or channel I, fishermen sell their catch to middlemen. Fish caught that pass the selection of middlemen are

**Table 5. Prices of fish caught**

Species	Selling price (kg)
Jenaha ( <i>Lutjanus russelli</i> )	IDR 50,000.00
Sea bass ( <i>Diagramma melanacrum</i> )	IDR 50,000.00
Red snapper ( <i>Lutjanus bitaeniatus</i> )	IDR 45,000.00
Coral grouper ( <i>Cephalopholis boenack</i> )	IDR 45,000.00
Gutters ( <i>Scombroides tala</i> )	IDR 27,000.00
Other fish	IDR 27,000.00



**Fig. 1. Cangkol Village fishermen's catch**



**Fig. 2. Catch marketing channels**

fish weighing  $\geq 5$  ounces. Kolbak cars come to Kampung Cangkol every 2–3 days to buy their catch. In channel II, fish that do not pass the selection will be brought home by fishermen and arranged in a basin. The fishermen's wives then sell the fish by going around Cangkol Village.

#### 4. CONCLUSION

The average income of skipper fishermen is IDR 3,288,195.83/month, while the average wage for crew members is IDR 1,183,250.00/month. The technology used is still simple with a one-day

fishing operating system, fishing gear in the form of hand lines, and ships with a maximum capacity of 3 GT. The market structure in the fishing business of Cangkol Village fishermen is in the form of a monopoly. There are two marketing channels, namely from fishermen through middlemen, to suppliers and consumers, and from fishermen directly to consumers.

#### CONSENT

As per international or university standards, the respondents' written consent has been collected and preserved by the author.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

## REFERENCES

1. Nuryati R, Lies S, Iwan S, Trisna IN. Community social mapping in efforts to support the development of integrated plantation polyculture farming (UTPPT). *JURNAL AGRISTAN*. 2020;2(1).
2. Kusdiantoro K, Achmad F, Sugeng HW, Bambang J. Capture fisheries in indonesia: portraits of challenges and sustainability. *Journal of Socio-Economics of Maritime Affairs and Fisheries*. 2019;14(2):145. DOI: 10.15578/jsekp.v14i2.8056
3. Yaskun M, Edie S. The potential of marine fisheries products on the welfare of fishermen and communities in Lamongan regency. *Journal of Management and Business Studies*. 2017;4(1):257–264.
4. Wijayanti L, Ihsannudin. Strategy for increasing the welfare of fishermen communities in pademawu district, pamekasan regency. *Agrieconomics*. 2013; 2(2):139–152.
5. Torere W, Shirley YVIG, Fonny JW. The double role of fishermen's wives of coastal communities in Kima Bajo Village, Wori District, North Minahasa Regency. *HOLISTIC Journal of Social and Culture*. 2019;12(4):1–19.
6. Widagdo R. The role of Kejawanan VAT in the economic empowerment of Cirebon city coastal communities. *Al-Musthafa: Journal of Islamic Economic Law Research*. 2016; 3(1):44–62. [Online] Available: [http://www.fahmina.or.id/artikel-a-](http://www.fahmina.or.id/artikel-a)
7. Suharti N, Alda O, Tarisha PA, Riana W, Hana PFT. Social mapping in the pesanggrahan district as the foundation for sustainable community empowerment planning; 2022.
8. Adiyanta FCS. Law and empirical research studies: use of survey methods as empirical legal research instruments. *Administrative Law and Governance Journal*. 2019;2(4):697–709. DOI: 10.14710/alj.v2i4.697-709
9. Hidayat M. Internal problems of traditional fishermen in the city of Padang: Study of socio-cultural factors that cause poverty. *Socius Journal: Journal of Sociology Research and Education*. 2018;4(1): 31. DOI: 10.24036/scs.v4i1.15
10. Tambunan DA. Analysis and resolution of fishermen's conflict in bengkulu waters (case study of fisherman clashes due to illegal fishing and use of trawling in 2019); 2020.
11. Suryawati SH, Andrian R, Achmad Z, Agus HP. Anticipatory policies in facing the dynamics of fuel prices in capture fisheries business. *J. Social Security Policy KP*. 2013;3(2):189–205.
12. Hose CAD. Marketing Mix (Marketing Mix) Effect on Consumer Loyalty at Fresh Mart Bahu Mall Manado. *EMBA Journal*. 2013; 1(3):71–80.
13. Yudha IG. Diversity of types and characteristics of fish in the waters of way Tulang Bawang, Tulang Bawang Regency. in *Proceedings of the Seminar on Research Results & Community Service*. 2011;1–11. [Online]. Available: <http://lemlit.unila.ac.id>
14. Oktafiani R, Asriyanto, Pramonowibowo. The effect of differences in fishing line construction and bait type on red snapper (*Lutjanus argentimaculatus*) catches with hand lines in Cirebon Cangkol waters, West Java. *Journal of Fisheries Resources Utilization Management and Technology*. 2013;2(2):113–123.
15. Beu NS, Silcyljeova M, Reitty LS. Analysis of marketing mix strategies for sales of dried fish at SMEs Toko 48 Bersehati Manado. *EMBA Journal*. 2021;9(3):1530–1538.
16. Karnudu F, Fitri IM. Marketing strategy mix skipjack Asar. *Tahkim*. 2016;XII(1):89–100.

© 2023 Suryana et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:  
The peer review history for this paper can be accessed here:  
<https://www.sdiarticle5.com/review-history/104781>