Indonesian Journal of Aquaculture Medium

https://journal.unram.ac.id/index.php/jmai/index. E-ISSN : 2798-0553

VOLUME 3, NUMBER 4, NOVEMBER 2023

Feasibility and Income of Milk Fish Business in Bandar Batauga Sub-District, Buton South District

Kelayakan dan Pendapatan Usaha Ikan Bandeng di Kelurahan Bandar Batauga Kecamatan Batauga Kabupaten Buton Selatan

Bahtiar Hamar*, Ismail Failu, Waode Sitti Cahyani, L.M Junaidin Sirza

Agriculture Faculty, Buton Muhammadiyah University, Indonesia

*Coresponding author: bahtiar.tiar3012@gmail.com

ABSTRACT

Bandar Batauga Village is one of the areas in Batauga District, South Buton Regency, based on data on the number of local residents who earn their living as fish farmers. The pond area in Bandar Balauga Village which is used for pond cultivation is approximately 4 hectares more than the potential pond area of 18 hectares in Batauga District. Based on a survey, it was found that there were 40 traditional fish farmers using a polyculture system who cultivated milkfish. The aim of the research is to determine the income of the milkfish business in Bandar Batauga Village, Batauga District, South Buton Regency. And to find out if the milkfish business in Bandar Batauga Village, Batauga District, South Buton Regency is worth pursuing. The research was carried out in Bandar Batauga Village, Batauga District, South Buton Regency. The results of the research show that the population of Bandar Batuga sub-district in 2020 is 1200 people consisting of 661 men, 539 women with 310 heads of families. The majority of the population is of productive age (12-60 years), namely around 920 people. The population aged 0-23 years is 520 people or 43.33% of the population aged up to 24-47 years is 300 people or the population aged 48-70 years is 380 people. Milkfish production with total fixed costs m per season is IDR 250,000. variable costs 36,000 000. Total production costs 36,250,000. The income of milkfish farmers is IDR. 33,750,000 in 1 production season. The conclusion of this activity is an analysis of the milkfish farming business based on the R/C Ratio, so a calculation of 1.9 is obtained. This value shows every cost incurred by RP. I or provide revenue of 1.9, thus the milkfish business is worth pursuing and developing.

ABSTRAK

Kelurahan Bandar Batauga merupakan salah satu wilayah di Kecamatan Batauga Kabupaten Buton Selatan hasil data jumlah penduduk setempat bermata pencaharian sebagai penambak. Areal tambak di Kelurahan Bandar Balauga yang dimanfaatkan untuk budidaya tambak seluas kurang kebih 4 hektar dari potensi lahan tambak seluas 18 hektar di Kecamatan Batauga. Berdasarkan survei di kelahui bahwa lerdapal 40 orang pelambak tradisional dengan sistem polikultur yang menmbudidayakan ikan bandeng. Tujuan penelitian untuk mengetahui besar pendapatan usaha ikan bandeng di Kelurahan Bandar Batauga, Kecamatan Batauga, Kabupaten Buton Selatan. Serta Untuk mengetahui usaha ikan bandeng di Kelurahan Bandar Batauga, Kecamatan Batauga, Kabupaten Buton

Selatan layak di usahakan. Penelitian dilaksanakan di Kelurahan Bandar Batauga, Kecamatan Batauga, Kabupaten Buton Selatan. Hasil penelitian menunjukkan jumlah penduduk kelurahan bandar batauga pada tahun 2020 adalah 1200 Jiwa yang terdiri dari 661 laki-laki 539 perempuan dengan 310 Kepala Keluarga. Mayoritas penduduk berada pada usia produktif (12-60 tahun) yaitu sekitar 920 orang. Penduduk yang berumur 0-23 Tahun berjumlah 520 orang atau 43,33% penduduk yang berumur sampai 24-47 tahun berjumlah 300 orang atau penduduk yang 48-70 tahun berjumlah 380 orang. Produksi ikan bandeng dengan total biaya tetap m per musim sebesar RP 250.000. biaya variabel 36.000 000. Total biaya produksi 36.250.000. Pendapatan Petambak Ikan Bandeng sebesar RP. 33.750.000 dalam 1 musim produksi. Kesimpulan kegiatan ini adalah Analisis usaha Petambak ikan bandeng berdasarkan R/C Ratio maka didapat perhitungan scbesar 1,9. Nilai tersebut menunjukan setiap biaya yang dikeluarkan RP. I atau memberikan penerimaan sebesar 1,9 dengan demikian usaha ikan bandeng layak diusahakan dan dikembangkan.

Kata Kunci	*Kelayakan, Pendapatan, Budidaya Ikan*
Keywords	*Feasibility, Income, Fish Farming*
Tracebility	Tanggal diterima : 22/5/2023. Tanggal dipublikasi : 4/11/2023
Panduan Kutipan (APPA 7th)	Hamar, B., Failu, I., Cahyani, W. S., & Sirza, L. M. J. (2023). Feasibility and Income of Milk Fish Business in Bandar Batauga Sub-District, Buton South District. *Indonesian Journal of Aquaculture Medium*, 3(3), 172-184. http://doi.org/10.29303/mediaakuakultur.v3i4.2577

INTRODUCTION

The fisheries sector is a prospective sector in Indonesia. The vast sea and long coastline provide excellent supporting capacity for the development of this sector. The fisheries sector is very dependent on nature, therefore the aquaculture sector is needed to provide the community's food needs. The potential for Indonesian marine fisheries resources, both fishing (caplure) and cultivation (culture), is very large (Yuliana & Zuriat, 2022). Land utilization for aquaculture in Indonesia reached 15.59 million hectares (ha), of which utilization for mariculture reached 12.14 million Ha, land for brackish water cultivation reached 1.22 Ha while for freshwater cultivation reached 2.23 million Ha, only 10.1% for freshwater cultivation (Rhizmahadi, Ergha, 2017).

The potential for aquaculture is very prospective for development (Wulur et al, 2013). Pay attention to stocks of capture fisheries resources that have been overexploited (overfishing). According to Hendrik (2010), the influx of fishermen where there are potential areas for fishing will increase the intensity of fishing, because fisheries resources are common property. According to Nikijuluw et.al (2000), excessive fishing or what is usually called biological overfishing of fish resources can occur simultaneously with excess investment or economic overfishing. In this case, our government continues to strive to increase the productivity of the fisheries sector, both freshwater, brackish water and seawater fisheries through cultivation programs. According to Hadijah et.al (2015) that Indonesia's potential is still very large, especially for aquaculture. According to Kordi (2011) it is not difficult for cultivated aquatic biota to penetrate the export market because they are commodities with high selling value on the international market. So that aquaculture will become the backbone of national fisheries production in the future, both to meet domestic consumption needs and for export. Development of the fisheries sub-sector with an agribusiness perspective is a systematic effort to play an active and positive

role in national development, to increase economic growth and national stability. One of the important roles of the fisheries sub-sector in development is to encourage the growth and dynamics of the rural economy.

Milkfish (*Chanos Chanos*) is a commodity with high economic value because it is very important in fulfilling people's food intake and can improve living standards. Research on the protein content of milkfish is very high (Rahayuningsih & Sri, 2017; Christopher et al., 2018; Hafiluddin & Haryo, 2011; Hafiluddin et al., 2014; Hafiluddin, 2015).

Apart from that, the bright prospects for the development of milkfish cultivation have now spurred milkfish cultivation activities in marine and brackish waters. This type of fish is well known to the wider community because it is a source of animal protein which has quite high nutritional value and is supported by a delicious taste and has a low cholesterol content so it is safe for health. The processing of milkfish products is increasing at this time, such as presto milkfish where all the bones and spines become soft, which has caused an increase in the number of people consuming milkfish, so that market demand for milkfish has recently continued to increase due to the large number of milkfish processing businesses that has developed at this time.

Bandar Batauga Village is one of the areas in Batauga District, South Buton Regency, based on data on the number of local residents who earn their living as fish farmers. The pond area in Bandar Balauga Village which is used for pond cultivation is approximately 4 hectares more than the potential pond area of 18 hectares in Batauga District. Based on the survey, it is known that there are 40 traditional farmers using a polyculture system who cultivate milkfish.

Based on initial observations, it was found that in 2019 the pond area was 2 Ha with a production of 780 kg and in 2020 the pond area was 4 Ha with a production of 1,488 kg (South Buton Regency Maritime Affairs and Fisheries Service, 2021). Based on sales data, pond fishermen have the desire to carry out pond development, this appears to be an expansion of pond expansion and increased production.

Based on this data, it shows an increase in pond area and production. This situation illustrates the enthusiasm and hard work of fish farmers in South Buton Regency. Initial observations provide information that some people carry out milkfish farming activities which are used as a source of income and to meet their needs.

The implementation of traditional milkfish pond cultivation in Bandar Batauga Village is still not optimal. The implementation of traditional pond cultivation is still not optimal due to the lack of clear information regarding the appropriate technical management of the implementation of traditional pond cultivation. If traditional pond cultivation is carried out optimally in Bandar Batauga Village, it can provide higher benefits for fish farmers in Bandar Batauga Village.

Based on the description that has been explained above, the author is interested in conducting research with the title **"Feasibility Study and Income of Milkfish Business in Bandar Batauga Village, Batauga District, South Buton Regency"**.

RESEARCH METHODS

Time and Place of Research

This research will be carried out in Bandar Batauga Village, Batauga District, South Buton Regency. The choice of this location was determined purposively, based on the consideration that the location was easy to reach and there were people who cultivated milkfish. The research will be carried out from August to September 2023.

Population and Sample

Population

The population in this study is 1 person who cultivates milkfish.

Sample

According to Arikunto (2010), if there are less than 100 subjects, it is better to take all of them so that the research is population research. So the research sample was determined using a census by taking all the population as a sample, namely 1 person

Data Types and Sources

Data Type

The type of data used in this research is divided into two, namely qualitative data and quantitative data:

Qualitative Data

Qualitative data is data that is not in the form of numbers, where the data is the result of interviews with customers related to the problems to be discussed in the research.

Quantitative Data

Quantitative data is data in the form of numbers or qualitative data that has been calculated. This data is obtained from the questionnaire calculations that will be carried out.

Data Source

The data sources used to conduct research are primary data and secondary data.

Primary data

Primary data is data obtained personally from observations that will be carried out directly at the research location, Bandar Batauga Village, Batauga District, South Buton Regency and the results of interviews with respondents.

Secondary Data

Secondary data is data obtained or collected from various sources or certain agencies.

Data Collection Technique

The data and information required for this research are collected in several ways, namely:

Primer Datas

Primary data is obtained by:

a. Observation, namely by directly observing the research object so that a real picture of the condition of the research location can be obtained.
b. Interviews involve conducting direct questions and answers with people who cultivate milkfish. The information asked will be included in a questionnaire such as the characteristics of the cultivator, production costs, production quantities and so on.
c. Documentation is taking the necessary pictures such as location pictures and other things.

Secondary Data

Secondary data collection is carried out using literature studies, where this technique is carried out by collecting various research supporting data obtained from sub-district offices, literature studies, articles, journals and the results of previous research.

Research Variable

To clarify the scope of the research in order to avoid misunderstandings and mistakes in the research process, the author created research variables including:

a. Farmer characteristics include age, education level, number of family dependents and farm size
b. The variables observed include: production, costs, and selling prices

Data Analysis Technique

Income Analysis

According to Suratiyah (2015), to calculate the total cost (Total cost) is obtained by adding fixed costs (Fixed costs) with variable costs (variable Cost) with the formula:

Total cost (Total Cost) - Fixed Cost (Fixed Cost) + Variable Cost (Variable Cost)

To calculate revenue, the following formula is used (Rasul et al., 2013):

TR (Total Revenue) = P(Price (Rp))

According to Suratiyah (2015), income is the difference between revenue (TR) and total costs (TC) and is expressed by the formula:

I (Income) = TR (Total Revenue) - TC (Total Cost)

Operational Definition

a. Milkfish farmers are people who cultivate milkfish in Bandar Batauga District, Batauga District, South Buton Regency
b. Total costs are all production costs that must be incurred in the milkfish farming business (Rp)
c. Revenue is the result obtained from the production period of milkfish in one season multiplied by the selling price of milkfish (Rp/season)
d. Production is the result obtained by pond fishermen in one harvest (Kg)
e. Price is the selling price of milkfish at the farmer level. (Rp/Kg)
f. Income is the total income of milkfish farmers after deducting production costs (Rp/season)
g. R/C Ratio is a calculation to measure whether or not a milkfish farming business in Bandar Batauga Village is feasible or not. Batauga District, South Buton Regency.
h. One season is a process from cultivation to harvest that takes 6 months.

RESULT AND DISCUSSION

Regional Overview

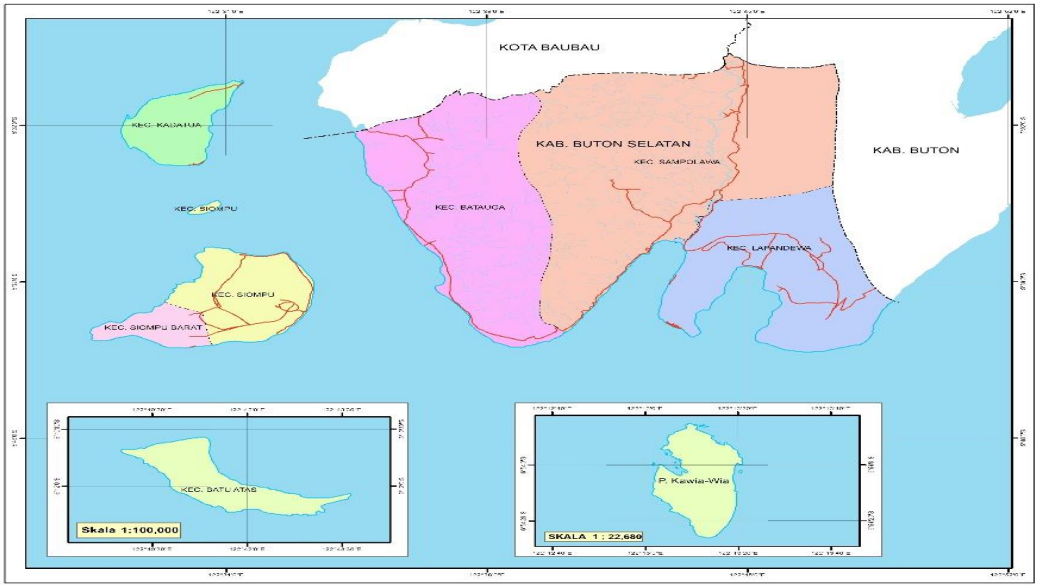

Figure 1. Map of the Administrative Area of South Buton Regency (Bappeda, 2015)

Location and Area

Bandar Batuga sub-district is located in the Batuuga sub-district, South Buton Regency with an area of approximately 1,050 ha.

Administratively, the Bandar Batuuga sub-district has the following territorial boundaries;

- To the north it borders the south of Iawela
- To the east it borders the Busoa sub-district
- To the south it borders Lakambau sub-district
- To the west it borders the sea

Socioeconomic Conditions

The population of Bandar Batuga sub-district in 2020 is 1200 people consisting of 661 men, 539 women with 310 heads of families. The majority of the population is of productive age (12-60 years), namely around 920 people.

Table 1. Population of Kel. Batauga City by Type

Male (Person)	Female (Person)	Total (Person)	Number of KK	RT/RW
661	539	1200	310	4/8

Table 2. Population according to age classification

Age Classification (Years)	Number (Person)	Persentage
0-23	520	43.33
24-47	300	25
48-70	380	31.67
Number	**1200**	**100**

Based on Table 2, the population aged 0-23 years is 520 people or 43.33% of the population aged up to 24-47 years is 300 people or the population aged 48-70 years is 380 people.

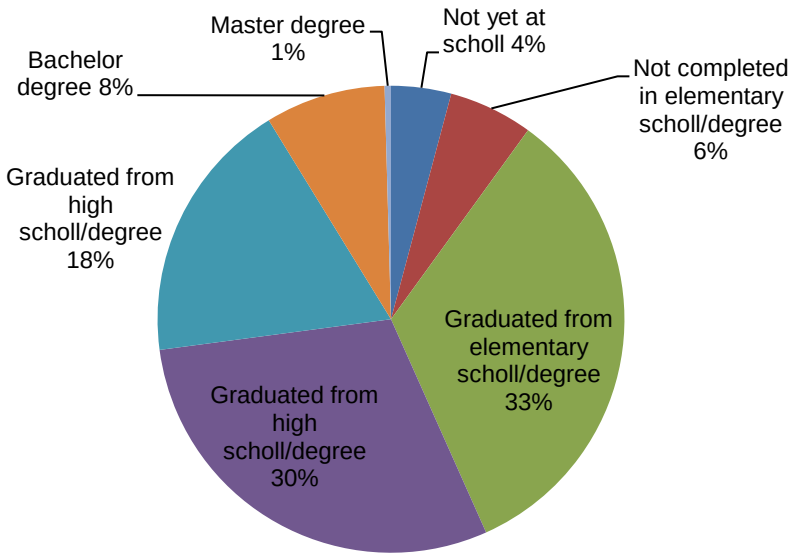

Figure 2. Classification of Population According to Education

The population who have not yet gone to school is 50 people or 4%, the population who has not completed elementary school is 70 people or 6%, the population who has completed elementary school is 400 people or 33%, the population who has completed junior high school is 355 people or 30%, the population who has completed high school numbering 220 people or 18%, the population who had completed S1 was 100 people or 8%, the population who had completed S2 was 5 people or 1%.

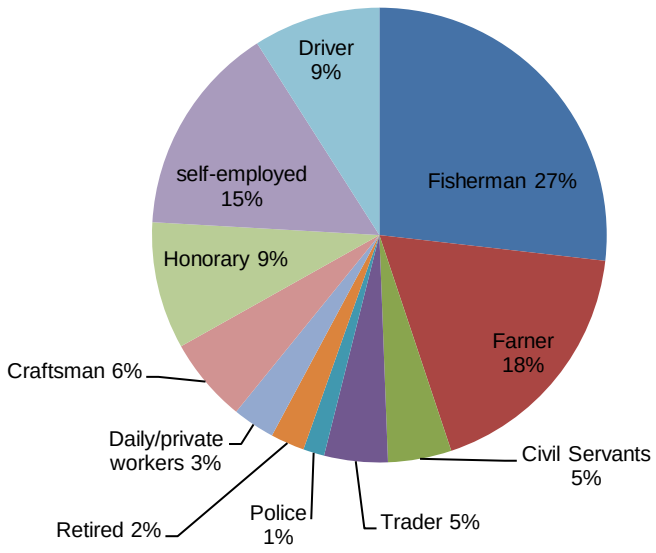

Figure 3. Graph of Population Percentage Based on Profession/Occupation

The majority of the residents of Bandar Batauga Village work as fishermen (89 people), farmers (60 people), civil servants (15 people), traders (15 people), police (5 people), retirees (8 people), daily/private workers 10 people), Handyman (20 people), Honorary (30 people), Entrepreneur (50 people) and Driver (30 people).

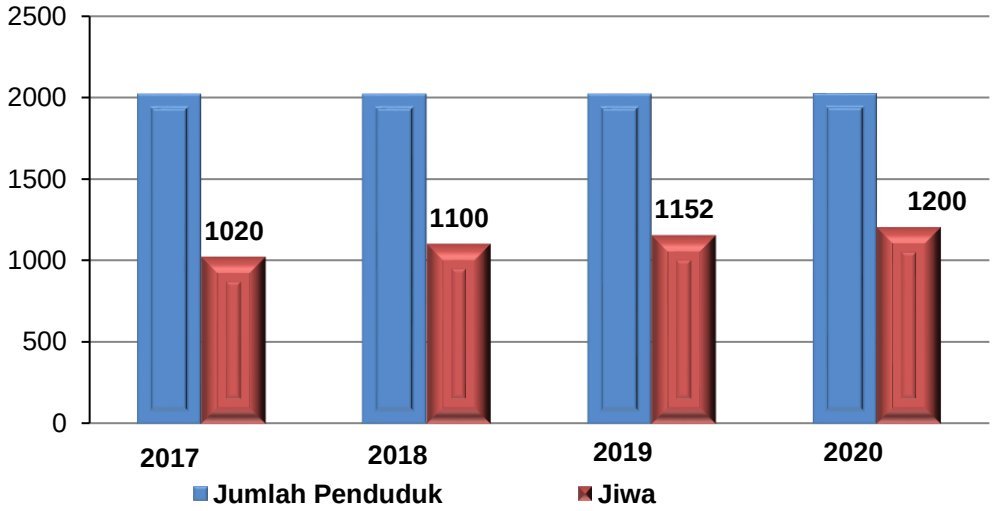

Figure 4. Graph of the Population of Bandar Batauga Subdistrict

The number of residents in Bandar Batauga Village increases every year. In 2017 the population was 1020 people, in 2018 the population was 1100 people. In 2019 the population was 1152 people, and in 2020 the population was 1200 people (BPS South Buton, 2020)

The residents of Bandar Batauga Village are Muslim. And the majority of the residents of Bandar Batauga Village are Butonese, the rest are Bugis, Ambon and Cia-Cia. The condition of the public facilities and infrastructure in the Bandar Batauga Village is quite good. The road from the Lamaindo Neighborhood and Kalangana Neighborhood to the Bandar Batauga Village Office and the North Batauga Neighborhood, which used to be a pile of sand with stones, now uses asphalt. The condition of the road in the middle of Lamaindo Village and Kalangana Village is still sand and stone. When the weather is hot, this road will be dusty and when the weather is rainy, some of the holes will be flooded with water.

The regional development process continues to be carried out to improve the facilities and infrastructure of Bandar Batauga Village. Several public facilities in Bandar Batauga Village:

Table 3. Types of Public Facilities in Bandar Batauga Subdistrict

No	Types of Public Facilities	**Number**	**Condition**	**Location**
1	Village Road	15 KM	Good	RW 01, RW 03 dan RW 04
2	Village Road	500M	Not good	RW 03 dan RW 04

Facilities and infrastructure for social facilities in Bandar Batauga Subdistrict are not yet complete. The condition of several social facilities is still well maintained, although

there are several facilities that are quite old and rehabilitated, such as mosques and elementary school buildings. The following is the social ratio in Bandar Batauga Village

Table 4. Social Facilities of Bandar Batauga Subdistrict

No	Types of Social Facilities	Amount	Condition	Location
1	Village Head's Office	1 Unit	Good	RW 01
2	Kindergarten building	1 Unit	Not good	RW 01
3	SDN Building	2 Units	Good	RW 01
4	Mosque	1 Unit	Not good	RW 01
5	Prayer room	1 Unit	Good	RW 01
6	Public cemetery	1 Unit	Good	RW 03

Based on table 4, 1 unit of the Village Office is in good condition, located in RW 01, 1 Kindergarten Building is in poor condition, located in RW 01, 2 Public Elementary School Buildings are in good condition, located in RW 01, both are located in RW 01 mosques totaling 1 unit in poor condition located in RW 01 prayer room totaling 1 unit in poor condition located in RW 01 public cemetery totaling 1 plot in good condition located in RW 03.

Table. 5. Characteristics of Milkfish Farmers

Name	Age (Years)	Long Cultivation	Level of Education	Number of Family Dependents (People)	Address
La Ode Amamu	65	4	Senior High Schoole	4	Kel. Bandar Bałauga, Buton Selatan

Based on Table 5, it can be explained that milkfish cultivation in Bandar Balauga Village is 65 years old, this means that milkfish cultivation in Bandar Batauga Village is already old enough to manage its business.

Business Analysis

- Fixed cost

  Fixed costs are costs whose amount does not depend on the amount of production produced. The fixed costs incurred by milkfish consist of equipment depreciation costs, land tax and electricity within 1 production season. The details of these costs can be seen in the following table 6:

Table 6. Fixed Costs of Milkfish per Season

Fee Type	Cost component	**fixed cost**
Depreciation Value	Fishing equipment	150.000
	Land tax	100.000
Number		**250.000**

Based on Table 6, it can be seen that the total fixed costs for producing milkfish per season are IDR 250,000.

- Variable CostsVariable costs are costs whose total amount changes in proportion to changes in the volume of activities or costs that are used up in one production process. The amount of variable costs incurred in the milkfish production season is seen in the following table:

Table 7. Variable Costs in Milkfish Production

Cost Composnen	**Voume**	**Price/Unit (Rp)**	**Total Price (Rp)**
Milkfish fingerling	40.000/ekor	800.000	32.000.000
Food	100 kg	40.000	4.000.000
	Amount		**36.000.000**

Based on Table 7 above, the total variable costs in 1 season of milkfish production for milkfish farmers are IDR 36,000,000. These variable costs can change depending on the number of fish produced per season.

- Total Production Costs

Table 8. Total costs of milkfish production per season

Fee Type	**Number**
Fixed cost	250.000
Variable Costs	36.000.000
Amount	**36.250.000**

Based on Table 8, it can be explained that the total production costs incurred by milkfish farmers in each season of milkfish production are IDR 36,250,000. The more the amount of milkfish production increases each season, the production costs required will also increase.

- Acceptance of Milkfish Farmers

  Revenue is the result obtained from the amount of milkfish production per season multiplied by the production selling price. The total revenue received by milkfish farmers can be seen in the following table:

Table 9. Revenue from milkfish farmers per season

Cultivator Name	Total Milkfish Production	Selling price	Total Receipts
La Ode Amamu	1.400 kg	50.000/kg	70.000.000

Based on Table 8 above, La ode Amamu milkfish production is 3 snakeheads/season. The income obtained by milkfish farmers in 1 season is IDR 70,000,000. With a selling price of IDR 50,000 per head. Calculation of income from milkfish farmers uses formula 2

- Income of Milkfish Farmers
  Income is the difference between revenue and total costs for milkfish farming. The overall income of Milkfish Farmers can be seen in table 9 below:

Table 10. Income of milkfish farmers per season

Business Name	Total Receipts (RP)	Total Costs (RP)	Income (RP)
Milkfish Farmers	70.000.000	36.250.000	33.750.000

Based on Table 9, it can be seen that the income of Milkfish Farmers is IDR. 33,750,000 in 1 production season.

• Business Feasibility Analysis

Analysis of the feasibility of a milkfish farming business is calculated using the R/C Ratio criteria. The R/C Ratio is used to find out whether the business is profitable or not and worthy of development. This analysis is used to calculate the amount of revenue obtained from each rupiah. R/C Ratio analysis can be seen in the following table

Table 11. Analysis of R/C Ratio of Milkfish Farmers Per Season

Business Name	Total Receipts (RP)	Total Cost (RP)	R/C Ratio
Milkfish Farmers	70.000.000	36.250.000	1.9

Analysis of the milkfish farming business based on the R/C Ratio results in a calculation of 1.9. This value shows every cost incurred in Rp. I or provide revenue of 1.9, thus the milkfish business is worth pursuing and developing.

CONCLUSION AND SUGGESTION

Conclusion

Based on the results of the analysis and discussion, it can be concluded as follows:

1. Milkfish farmers in Bandar Batauga Village in 1 month of production are able to earn an income of Rp. 33,750,00
2. Business analysis of milkfish farmers shows that the R/C Ratio value is 1.9 l, so it is worth cultivating

Suggestion

Based on the results of the discussion and conclusions, the following can be recommended:

1. Milkfish farmers are expected to increase milkfish production so that the farmers' income can increase.

2. There is a need for the regional government to pay more attention to milkfish farmers in South Buton Regency by providing financial assistance and training so they can develop their businesses.

REFERENCES

Arikunto & Suharsimi. (2010). *Prosedur Penelitian Suatu Pendekatan Praktik*. Jakarta: PT. Rineka Cipta.

Badan Perencanaan dan Pembangunan Daerah Kabupaten Buton Selatan. (2015). Rencana Tata Ruang dan Wilayah Kabupaten Buton Selatan.

Badan Pusat Statistik Daerah Kabupaten Buton Selatan. (2022). Buton Selatan Dalam Angka.

Christopher, A., Efendi, O. G. H. N. B., Warsono, E. K., & Harsojo. (2018). Pengaruh Iradiasi Gamma Terhadap Eliminasi Mikroorganisme dan Perubahan Kadar Protein Pada Ikan Bandeng (*Chanos chanos*). *Jurnal Ilmiah Aplikasi Isotop dan Radiasi*, 14(2), 99–108

Dinas Kelautan dan Perikanan Kabupaten Buton Selatan. (2021).

Ergha, R. H. (2017). Strategi Peningkatan Usaha Budidaya Perikanan Pada Kelompok Budidaya Ikan Murih Makmur Dengan Sistem Keramba Jaring Apung di Desa Jutiigui Kabupaten Malang. Jurnal Universitas Brawijaya, 4(2), 1-4

Hadijah, Akmal, A., Mardiana & Sohilauw, I. (2017). Pertumbuhan Ikan Bandeng Yang Menggunakan Pakan Komersil Merk "174" Pada Berbagai Level Protein. *Jurnal* Ecosystem,17(2).

Hafiluddin. (2015). Analisis Kandungan Gizi pada Ikan Bandeng yang Berasal dari Habitat yang Berbeda. *Jurnal Kelautan*, 8(1), 37–43.

Hafiluddin, & Haryo, T. (2011). Penambahan khitosan pada pakan ikan bandeng (*Chanos chanos*) sebagai penurun cita rasa lumpur (Geosmine). *Embryo*, 8(2), 126–132.

Hafiluddin, Yudhita, P., & Slamet, B. (2014). Analisis kandungan gizi dan bau lumpur ikan bandeng (*Chanos chanos*) dari dua lokasi yang berbeda. *Jurnal Kelautan*, 7(1), 33–44

Hendrik. (2010). Potensi Sumberdaya Perikanan Dan Tingkat Eksploitasi (Kajian terhadap Danau Pulau Besar dan Danau Bawah Zamrud Kabupaten Siak Provinsi Riau). *Jurnal Perikanan Dan Kelautan*, 15(2), 121-131.

Kordi, G. H. (2011). Budidaya 22 Komoditas Laut Untuk Konsumsi Lokal dan Ekspor Jakarta. *Artikel Perikanan Budidaya*, 3(1), 1- 8.

Nikijuluw, V. P. H., Edi, B., Winarso, B. & Nurasa, C. (2000). Pemberdayaan Perikanan Rakyat Berdasarkan Analisis Bio-Ekonomi Sumberdaya. Pusat Penelitian Sosial Ekonomi Pertanian, Badan Penelitian dan Pengembangan Pertanian, Departemen Pertanian, Bogor.

Oktariza, W. & Sukmawati, A. (2017). Kebijakan Pengetasan Kemiskinan di Kawasan Perdesaan Melalui Usaha Budidaya Perikanan di Kabupaten Malang. *Jurnal Sais Terapan,* 7(7), 1-11.

Rahayuningsih, C. K., & Sri, S. E. A. (2017). Proses pengolahan ikan bandeng (*Chanos chanos*) terhadap kadar protein. *Jurnal Penelitian Kesehatan*, 15(1), 58–63.

Suratiyah, K. 2015*. Ilmu Usahatani*. Penebar Swadaya. Jakarta.

Scabra, A. R., Afriadin, A., & Marzuki, M. (2022). Efektivitas Peningkatan Oksigen Terlarut Menggunakan Perangkat Microbubble Terhadap Produktivitas Ikan Nila (Oreochromis Niloticus). *Jurnal Perikanan Unram*, 12(1), 13–21. https://doi.org/10.29303/jp.v12i1.269

Scabra, A. R., & Setyowati, D. N. (2019). Peningkatan Mutu Kualitas Air Untuk Pembudidaya Ikan Air Tawar di Desa Gegerung Kabupaten Lombok Barat. *Jurnal Abdi Insani*, 6(3), 261–269. https://doi.org/http://doi.org/10.29303/abdiinsani.v6i2.243

Yuliana, S. & Zuriat. (2022). Kajian Potensi dan Peluang Usaha Budidaya Perikanan Berbasis Pemasaran di Kabupaten Aceh Selatan. *Jurnal Perikanan Terpadu*, 3(1), 18-14.