



**ANALYSIS OF MARKETING EFFICIENCY OF  
CARP LARVAE (*Cyprinus carpio* L.)  
(Case Study in Ciparay Subdistrict, Bandung District, West Java Province, Indonesia)**

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**ABSTRACT**

This research aims to analyze business income, analysis of the ratio of revenues and costs, marketing channels, marketing functions, and marketing margins of carp's larvae. The method used in this study is a case study method, the type of data collected includes primary data and secondary data. The technique of retrieving respondents using snowball sampling and respondents interviewed were fish farmers; collectors who also acted as hawkers and collectors. Analysis of the data used in this research is business income analysis, marketing analysis, and margin analysis. The result showed that there were two channels of marketing of carp's larvae. Information that is only limited to collectors causes differences in the selling price of larvae by farmers to collectors. Access to information for carp's larvae fishers for non-members should be done by joining groups or collectors. The group or collectors will later become marketing brokers so that the pricing will be uniform and will benefit both parties.

**Keywords**

Marketing efficiency; carp's larvae, margins; marketing channels

## INTRODUCTION

The population of Bandung District, which is quite large with a fairly rapid growth rate every year is a potential market for the consumption of large freshwater fish. But in terms of purchasing power and awareness of the importance of fish as highly nutritious food ingredients, it is still low. So that the market absorption of fishery products by local/regional consumers is also still quite low. This large and ever-increasing consumer potential can stimulate the growth of fisheries business (Animal Husbandry and Fisheries Agency 2012). One of the fishery commodities that has a good prospect to be developed as aquaculture fish is carp (*Cyprinus carpio L.*). Nugroho and Wahyudi (1991) stated that common carp is one of the 10 important types of freshwater aquaculture that can be cultivated in Indonesia.

One type of carp that is quite good growth compared to other types of carp is Majalaya Carp. This is important because Ciparay Subdistrict is one of the areas that cultivates Majalaya carp's larvae, especially the Majalaya strain. Carp, which was booming in the 1970-1990s, began to be scarce. The Bandung District Government seeks to re-cultivate the original carp which has become extinct since 2005. Ciparay Fish Larvae Center also provides brood for hatcheries (Nasrulloh 2012).

Carp hatchery activities from year to year are getting better, especially in terms of production, but production still depends on the season, especially the rainy season because the spawning process is still done traditionally. In addition, carp's larvae generally sells the larvae directly to end consumers and to certain groups who act as collectors. Furthermore, these collectors resell the larvae obtained from farmers to consumers. Carp fish larvae cultivators lack market information so that they only act as price recipients. Availability of information about how the flow of marketing of carp's larvae for hatcheries is important in marketing activities, especially information about prices and consumer demand so that maximum profits can be obtained and marketing efficiency achieved. Therefore, research is needed to observe the supply chain in the marketing of carp's larvae.

## METHODS

This research was conducted in Ciparay Subdistrict, Bandung District. Data collection was carried out on 1 August 2016 - 1 February 2017. The stages of primary data collection were obtained from the results of field observations and interviews and secondary data obtained from the relevant sources. The research method used is a case study method. Case studies are expected to provide an overview of the peculiarities of study units that are profound subjects.

Withdrawal of respondents to fish larvae cultivators and several groups of intermediary traders is done by means of snowball sampling, where samples are determined based on information obtained from sample units that can better support the research objectives concerned. Measurement of a sample of at least 10% of

the population. The number of active fish larvae cultivators in Ciparay Subdistrict is 100 people and the number of UPR as collectors is 2 people, 4 groups (in one group there are varied members) and 4 fish larvae cultivators. The data obtained both primary data and secondary data were analyzed quantitatively. The analysis is done by calculating business income; analysis of the ratio of revenues and costs; marketing channels; marketing functions; market behavior and marketing margins of the carp's larvae.

- Business income formula

$$\text{Income (II)} = \text{Total Revenue} - \text{Total Cost}$$

- Revenue to cost ratio

$$\text{R - C Ratio} = (\text{Total Revenue}) / (\text{Total Cost}) \times 100\%$$

- Marketing Margin

$$\text{MP} = \text{HK} - \text{KP} = \text{BP} + \text{K}$$

where :

MP = Marketing Margin (IDR. / Kg, or IDR / Liter,)

HK = Price at the consumer level (IDR / Kg, or IDR. / Liter)

HP = Price at larvae level (IDR / kg, or IDR / liter)

BP = Marketing cost (IDR. / Kg, or IDR / Liter)

K = Benefits of marketing institutions (IDR / kg, or IDR / liter)

## RESULTS AND DISCUSSIONS

The analysis of the income of the carp's larvae business aims to determine the benefits of the business being carried out.

Table 1. Total Revenue, Costs, Benefits on every Harvesting and Annual Hatching of Carp's larvae in Ciparay Subdistrict on 2017

Information	Total( IDR)	Average (IDR/person)
Income every harvesting	12,900,000	4,300,000
Income every year	261,600,000	87,200,000
Cost per harvesting	2,688,750	896,250
Cost per year	58,238,922	19,412,974
Profit per harvesting	10,211,250	3,403,750
Profit per year	146,341,578	48,780,526

From Table 1 it is known that the average income of the Carp hatchery business in Ciparay Subdistrict in

one year is Rp. 87,200,000.00 with a total average cost of Rp19,412,974.00. So that the average annual profit obtained is Rp48,780,526.00.

Table 2. Total Revenue, Costs, Every Harvesting Advantages and Business Year of the Carp Hatching and Leading in Ciparay Subdistrict 2017

Information	Total( IDR)	Average (IDR/person)
Income every harvesting	53,997,000	13,499,250
Income every year	849,934,080	212,483,520
Cost per harvesting	6,078,380	1,519,595
Cost per year	119,991,387	29,997,847
Profit per harvesting	22,968,620	5,742,155
Profit per year	310,183,427	77,545,857

From Table 2 it is known that the average income of the hatchery business as well as the gathering of the carp in Ciparay Subdistrict in one year is Rp212,483,520.00 with a total average cost of Rp29,997,847.00. So that the average annual profit obtained is Rp. 77,545,857.00.

Tabel 3. Total Revenue, Fees, Every Harvesting Benefits and Business per Year of Carp's larvae Collection in Ciparay Subdistrict 2017

Information	Total( IDR)	Average (IDR/person)
Income every harvesting	3,362,500	1,681,250
Income every year	80,700,000	40,350,000
Cost per harvesting	382,250	191,125
Cost per year	4,558,375	2,279,187
Profit per harvesting	1,151,250	575,625
Profit per year	27,630,000	13,815,000

Analysis of revenues and costs ( $R/C$ ) serves to determine the ratio between total revenues and total costs. With the  $R/C$  value, it can be seen whether a business is profitable or not profitable. Business efficiency (profitable) if the value of  $R/C > 1$ .

Table 4. Income and Cost Ratios of Cultivator

Extensive cultivation pool(m <sup>2</sup> )	R/C value
200	5.83
450	5.7
980	2.59
2100	3.33
2800	8.20
3500	1.67
20000	2.61

Overall, the business of carp's larvae in Ciparay has economic feasibility because the R/C ratio is greater than 1. The largest R /C comes from larvae collectors who have a pool of 2800 m<sup>2</sup> with a value of 8.20 which means that every one rupiah costs incurred. for hatchery business, generate revenues of Rp. 800,00. The smallest R/C of hatchery business is 1.67 with a pool area of 3,500 m<sup>2</sup>. This is because even though the volume and pool are calculated widely but cannot maximize production. Nevertheless there is a hatchery business that has a greater advantage than other hatchery businesses, because the wider the pool owned, the greater the revenue compared to the smaller pool size.

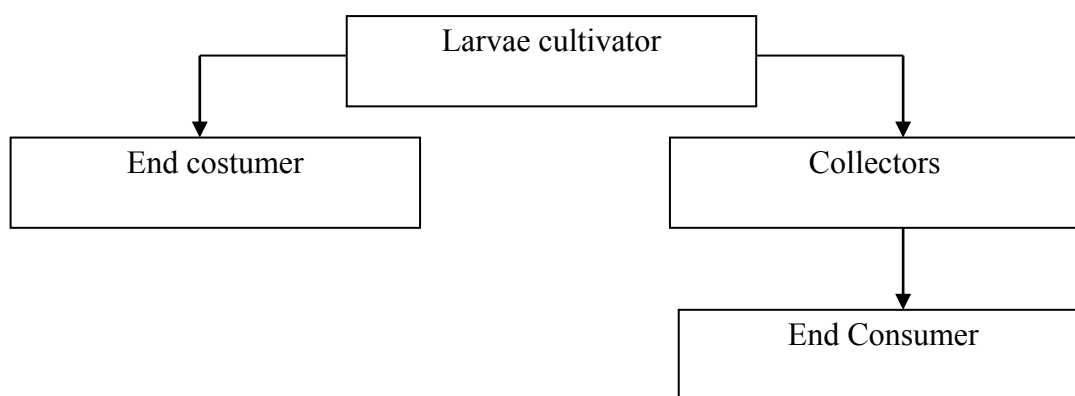


Figure 8. Channel of Marketing of carp's larvae in Ciparay Subdistrict

The marketing channel of the carp's larvae found in Ciparay Subdistrict shows that it is done directly and indirectly, which means that sales are done face-to-face between farmers and end consumers without going through intermediaries. Whereas indirect distribution channels are characterized by larvae sales carried out

through intermediary traders / collectors. The channel for marketing the carp's larvae in Ciparay can be seen in the chart.

Marketing margins and marketing costs are related. This can be caused by each marketing function issuing marketing costs that will affect the value of marketing margins. The short length of the marketing channel also affects efficiency. Marketing channel 1 has a shorter flow than marketing channel 2 because without involving collectors/groups as intermediaries, it does not produce greater profits than channel 2. Fish larvae cultivators sell carp's larvae to final traders with an average selling price of Rp. 10,000.00 per glass. Channel 1 is not through an intermediary so there is no marketing margin. At marketing channel 2, larvae sales are carried out through collectors / groups as intermediaries. Collectors get a margin of around Rp. 2,250.00 by selling it to end customer. The most efficient marketing channel is found in marketing channel 2 with R/C 8.20. However, it can be said that the marketing of carp's larvae cannot be said to be fully efficient because of the uneven distribution of margins and cost benefit ratios.

The marketing costs incurred in marketing channels 2 by collectors/groups include terminal costs (wages, plastics, oxygen) and transportation costs in the form of gasoline. The average total marketing costs incurred by collectors/groups is Rp311,30.00 per glass. The transportation costs incurred by collectors are Rp. 66.30,00 per year.

## CONCLUSION

Based on the results, there are two marketing channels formed. Marketing institutions involved include larvae producers and collectors. The two marketing institutions carry out the exchange function, the physical procurement function and the smoothing function. The marketing channel two is the most efficient marketing channel with a margin of Rp 2,500.00 per glass and a profit ratio of 8.20. The value of the ratio of income and costs and uneven margins shows that marketing of carp is not efficient. Information access for carp's larvae cultivator/fish larvae cultivators for non-members should be done by joining groups or collectors. The group or collectors will later become marketing brokers so that the pricing will be uniform and will benefit both parties, both fish larvae cultivators and collectors, so that they can increase the bargaining position of fish larvae cultivators.

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