

# Development of the Sentul Koi Centre to Develop the Empowerment and Coaching Culture Model of Koi in Bojong Koneng, Bogor, West Java

<sup>1</sup>Abinawanto, <sup>2</sup>W. Wardhana, <sup>3</sup>Q.G. Fadhilah, <sup>4</sup>S. Evani, <sup>5</sup>C. Ikhsan, <sup>6</sup>Taryana, <sup>7</sup>F.R. Budiman, <sup>8</sup>A. Said, \*<sup>9</sup>R. Lestari

**ABSTRACT--** *Koi fish is famous ornamental fish in Indonesian people, especially ornamental fish lovers. Koi cultivation can be a promising source of livelihood for the community. The striking and varied colour and size is one of the benchmarks for selling koi fish. Sentra Koi Sentul is a community empowerment model for the village of Bojong Koneng, Sentul through fish culture training. Sentra Koi Sentul encourage participation Bojong Koneng resident to develop it as centre Koi fish commodity. Training and education about cultivation held properly during these periods. The success of koi cultivation will increase people's income.*

**Keywords--** *colour, culture model, koi*

## I. INTRODUCTION

Koi fish (*Cyprinus carpio Linnaeus 1758*) is famous ornamental fish in Indonesian people. Koi fish first entered are the result of crossing of Japanese koi fish with Indonesian carp. Indonesia in 1991 as a souvenir for President Soeharto when Emperor Akihito visited Indonesia. Koi fish were the result of domestication and selective breeding of common carp by fish farmers in Japan in the 17th century. It makes they have striking and varied colours (Bachtiar 2002: 1--2). The diverse colours and patterns are grouped into several varieties. According to the Japanese Koi Association, koi varieties based on their colour patterns are divided into 13 varieties namely kohaku, taisho sanke, kawarimono, kinginrin, asagi, shusui, bekko, utsurimono, hikari utsurimono, hikarimoyo-mono, tancho, ogun, and sansoku show. Colour pattern of Koi fish are black, red, white, yellow, and blue (Papilon & Effendi 2017: 18-20).

Koi cultivation can be a promising source of livelihood for the community. The striking and varied colour and size is one of the benchmarks for selling koi fish. Koi that have high prices are bright-coloured and large-sized koi

---

<sup>1</sup> Department of Biology, Faculty of Mathematics and Sciences, Universitas Indonesia, Depok, 16424.

<sup>2</sup> Department of Biology, Faculty of Mathematics and Sciences, Universitas Indonesia, Depok, 16424.

<sup>3</sup> Department of Biology, Faculty of Mathematics and Sciences, Universitas Indonesia, Depok, 16424.

<sup>4</sup> Department of Biology, Faculty of Mathematics and Sciences, Universitas Indonesia, Depok, 16424.

<sup>5</sup> Department of Biology, Faculty of Mathematics and Sciences, Universitas Indonesia, Depok, 16424.

<sup>6</sup> Department of Biology, Faculty of Mathematics and Sciences, Universitas Indonesia, Depok, 16424.

<sup>7</sup> Pandu Cendekia Foundation.

<sup>8</sup> Pandu Cendekia Foundation.

<sup>9</sup>\*Department of Biology, Faculty of Mathematics and Sciences, Universitas Indonesia, Depok, 16424, [retno.lestari.budiman@gmail.com](mailto:retno.lestari.budiman@gmail.com).

(Bachtiar 2002: 1). Even, there are several areas in Indonesia that are well-known as koi fish cultivators these days. These areas include Sukabumi, Jakarta, Cianjur, Makassar and Blitar. These areas are known as the producers of superior koi fish whose sales until international (Kursini *et al.*, 2015: 71).

Community empowerment is optimization local resource by community development for any sector. The purpose of community empowerment is well-being the community. Uneven development between one region and another makes community empowerment necessary. People need human resources to develop independently in the future. People who are equipped with certain abilities and skills enable them to improve their own welfare. The community can improve the economy by utilizing natural resources in the area.

Sentra Koi Sentul is a community empowerment model for the village of Bojong Koneng, Sentul through fish culture training. Sentra Koi Sentul was built on Bumi Kepanduan Sentul. This program is in the form of making ponds, providing fish, and training in Koi fish farming. In addition, Koi Sentul strives for koi to be marketed to the wider community. Community empowerment in Bojong Koneng emphasizes increasing the independence of the Sentul people in improving the welfare of Bojong Koneng village.

Community empowerment needs to be done in the Bojong Koneng village. The majority Bojong Koneng resident is farmers and farm laborers can't improve their well-being yet. Bojong Koneng is suitable place to build Sentra Koi Sentul. Bumi Kepanduan Sentul on Bojong Koneng village, Bogor, will provide good atmosphere for training. The idle land of Bojong Koneng village can be explored because it is not utilized properly by residents of Bojong Koneng. There is a waterfall called the Bojong Koneng waterfall in the Sentul City tourism area. Areas that are close to tourist attractions will facilitate the marketing process of products from the Bojong Koneng residents. The potential of the Bojong Koneng region is the amount of vacant land, and the area that is close to tourist attractions makes the Bojong Koneng region suitable for being a koi fish cultivation area.

Bojong Koneng village has young people of high productive age. Our team built Sentra Koi Sentul for encourage productivity and innovation of Bojong Koneng residents. want to increase participation of local communities in the development of Koi as one alternative community empowerment. Bojong Koneng resident will increase their income through koi fish cultivation.

## II. METHODS

### *2.1 Location Sentra Koi Sentul*

Sentra Koi Sentul is located in Bojong Koneng Village, Babakan Madang Subdistrict, Bogor Province. The village has an area of 2,477 hectares. The location is about 25 km from Bogor City. This makes Bojong Koneng a partner village that is very suitable for the integration of Koi fish cultivation. Bumi Kepanduan Sentul Camping Ground as a meeting point for training and cultivation of Koi fish.

### *2.2. Training Cultivation of Koi Fish*

Socialization of Koi fish cultivation encompass educate Bojong Koneng resident how to cultivate. We form groups Bojong Koneng resident to join the cultivation Koi fish training. We held Koi fish cultivation training includes breeding brood stock, spawning, and hatching of larvae in Sentul. Training will be coaching by expert in

Koi. Koi fish marketing models will be included as e-commerce development training, and build selling points will be strived in Bogor-Jakarta.

### III. RESULTS AND DISCUSSION

#### 3.1 Introduction Koi Cultivation to Bojong Koneng Villagers

Our team built a fish pond as a for koi cultivation in Bumi Kepanduan Sentul, Bojong Koneng Village. The team conducts training sort out the Koi parental and how-to maintenance Koi. The selected parent is a parent that can move swiftly, large, and brightly coloured. We wait the parent until they reproduction feature is mature. Gonad mature parent were select for spawning, the koi is injected by the Gonadotropin-releasing hormone. Bojong Koneng resident was trained in injected hormone method. Koi was successfully spawned after 12 hours from injection time. The final observations showed a lot of larvae produced from the spawning. Koi larva rearing was in special rearing ponds. Larvae need special treatment such as particular temperature and feed. After adult the koi will be moved to the rearing pond. All of the steps for cultivate Koi was trained by Koi experts and lecturers from Universitas Indonesia.



**Figure 1:** Constructing Koi fish pond



**Figure 2:** Sorting the parental of Koi fish



**Figure 3:** Sorting the parental of Koi fish

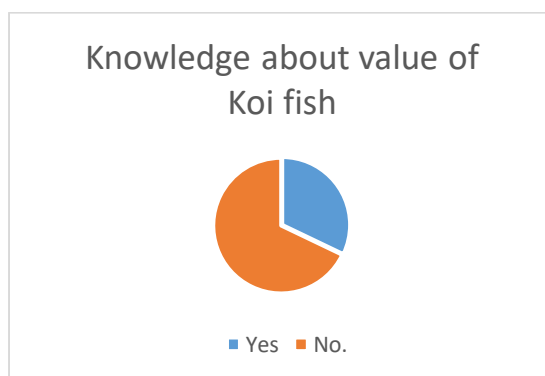


**Figure 4:** Spawning Koi fish

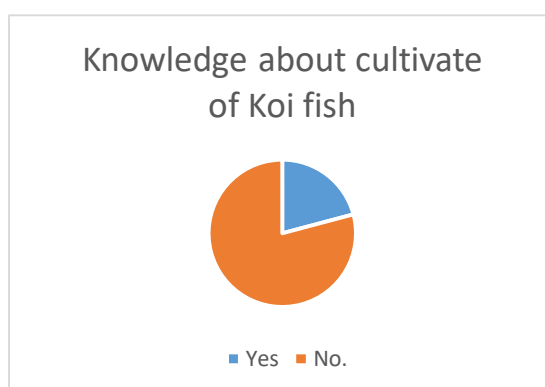
### ***3.2 Observation Data on Skill of Participants in Koi Cultivation***



**Figure 5:** The diagram of knowledge about koi fish



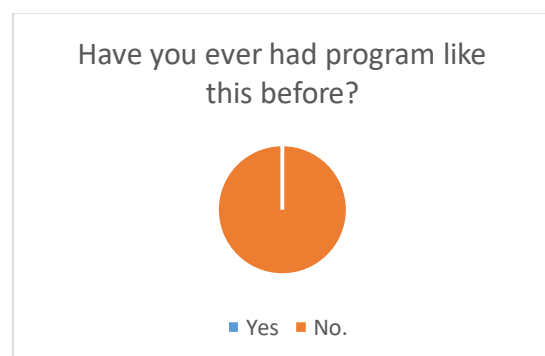
**Figure 6:** The diagram of knowledge about value of koi fish



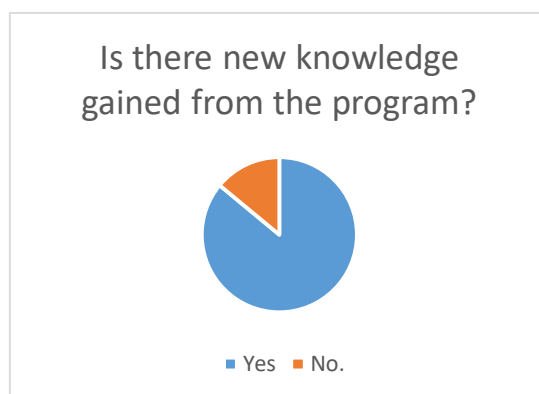
**Figure 7:** The diagram of knowledge about cultivate of koi fish

Based on the data in Table 1., there are 78.6% of respondents in the Bojong Koneng village who already know what koi fish. Even so, only 32.1% knew the selling power of koi fish and 17.9% of respondents knew how to cultivate koi fish. From this data, we learned about the Bojong community beforehand, not knowing the great opportunities that can be obtained from koi fish cultivation. The Koi Sentul Sentra Program can provide significant benefits for the community.

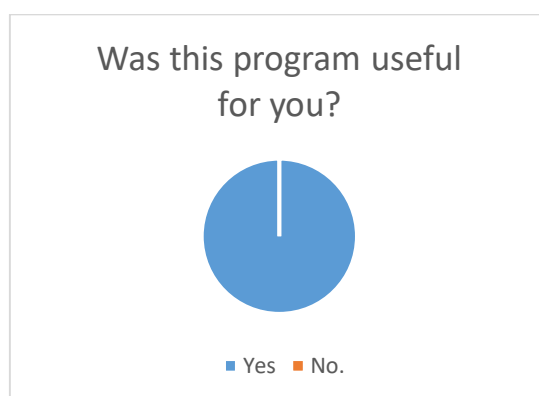
### **3.3 Bojong Koneng Resident Knowledge of Koi Cultivation**



**Figure 8:** Information about koi fish cultivation



**Figure 9:** New knowledge for community



**Figure 10:** The benefits of program

The data has been collected, it showed that this was the first koi cultivation training program for Desa Bojong Koneng. Enthusiasm of Bojong Koneng villagers were very high. Every training and education from our team were attend bulk of villagers. There are 86% of respondents get new knowledge about koi cultivation. All respondents in Bojong Koneng Village felt this program was very useful.

Sentra Koi Sentul program was a new program in Bojong Koneng village. Sentra Koi Sentul encourage participation Bojong Koneng villagers to develop Koi fish commodity. Training and education about cultivation held properly during these periods. The success of koi cultivation will increase community income.

#### **IV. CONCLUSION**

Sentra Koi Sentul program was a new program in Bojong Koneng village. Sentra Koi Sentul encourage participation Bojong Koneng villagers to develop Koi fish commodity. Training and education about cultivation held properly during these periods. The success of koi cultivation will increase community income.

## **V. ACKNOWLEDGMENTS**

We are grateful to the Directorate of Research and Community Engagement, Universitas Indonesia (DRPM UI) for the financial supports (Community Engagement Grant No. **NKB-1358/UN2.R3.1/HKP.05.00/2019**), Faculty of Mathematics and Sciences Universitas Indonesia (FMIPA UI), Bumi Kepanduan Sentul, Bojong Koneng villagers, and thank to Pandu Cendekia Foundation for the contribution and supports, so this program can be held.

## **REFERENCES**

1. Bachtiar, Y. 2002. *Mencemerlangkan Warna Koi*. AgroMedia Pustaka, Jakarta; vi + 74 pp.
2. Kusrini, E., S. Cindelas & A.B. Prasetyo. 2015. Pengembangan budidaya ikan hias koi (*Cyprinus carpio*) lokal di Balai Penelitian dan Pengembangan Budidaya Ikan Hias Depok. *Media Akuakultur*. **10**(2): 71--78 .
3. Papilon, U. M. & M. Effendi. 2017. *Ikan Koi*. Penebar Swadaya, Jakarta: iv + 140pp.