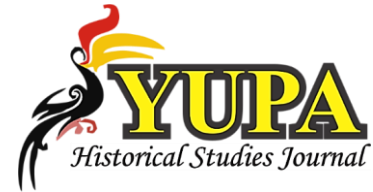


P-ISSN: 2541-6960; E-ISSN: 2549-8754

Yupa: Journal of Historical Studies

Vol. 8 No. 1, 2024 (171-179)

<http://jurnal.fkip.unmul.ac.id/index.php/yupa>



## Mudjair: Intellectual Progress and Fisheries Innovation in the Dutch Colonial Period

Moch Nizam Alfahmi<sup>1</sup>, Deny Yudho Wahyudi<sup>2</sup>, Hariyono<sup>3</sup>, Gedhe Ashari<sup>4</sup>

<sup>1</sup> Universitas Negeri Malang, Malang, Indonesia

<sup>2</sup> Universitas Negeri Malang, Malang, Indonesia

<sup>3</sup> Universitas Negeri Malang, Malang, Indonesia

<sup>4</sup> Universitas Negeri Malang, Malang, Indonesia

<sup>1</sup>nizamalfahm@gmail.com, <sup>2</sup>deny.yudo.fis@um.ac.id, <sup>3</sup>hariyono.fis@um.ac.id

Submitted	Revised	Accepted
14/12/2023	14/02/2024	28/02/2024

**Abstract** Several historical studies that exist today have reviewed how the fishing industry developed during the colonial period. However, generally existing studies focus more on aspects of marine and port fisheries. The inland or freshwater fisheries aspect is not highlighted much. One of the results of the development of inland fisheries knowledge and technology is the innovation of mudjair fish. This paper tries to dig deeper into the innovators of mudjair fish both in terms of background knowledge and domestication methods. The method used in this paper is the historical method. Based on the results of the study, Mudjair's knowledge as an innovator is based on informal knowledge. The series of fish domestication processes he used were scientific organic knowledge. This is evidence of intellectual progress and innovation in the field of fisheries.

**Keywords:** mudjair, knowledge, domestication

*Beberapa kajian sejarah yang ada saat ini telah mengulas bagaimana industri perikanan berkembang pada masa kolonial. Namun umumnya penelitian yang ada lebih fokus pada aspek kelautan dan perikanan pelabuhan. Aspek perikanan darat dan air tawar tidak banyak ditonjolkan. Salah satu hasil pengembangan ilmu pengetahuan dan teknologi perikanan darat adalah inovasi ikan mudjair. Tulisan ini mencoba menggali lebih dalam mengenai inovator ikan mudjair baik dari latar belakang pengetahuan maupun metode domestikasinya. Metode yang digunakan dalam tulisan ini adalah metode sejarah. Berdasarkan hasil penelitian, pengetahuan Mudjair sebagai inovator didasarkan pada pengetahuan informal. Rangkaian proses domestikasi ikan yang ia gunakan merupakan ilmu pengetahuan organik. Hal ini merupakan bukti kemajuan intelektual dan inovasi di bidang perikanan.*

**Kata Kunci :** mudjair, pengetahuan, domestikasi



This work is licensed under

[Creative Commons Attribution-ShareAlike 4.0 International License.](https://creativecommons.org/licenses/by-sa/4.0/)

## INTRODUCTION

One of the impacts of colonialism in the archipelago was the emergence and development of industrialization in various fields. For example, in the field of plantations and mining. In the field of plantations, industrialization gave rise to coffee, sugarcane, cotton and so on. While in the field of mining gave rise to the exploration of several types of mines such as coal and petroleum in several places. Along with the development of industrialization, several technologies to support this were also introduced (Harkantiningih, 2014). Technologies such as oil drilling and irrigation infrastructure are key in establishing production chains within the framework of industrialization.

Another industry in the colonial period that is often discussed is the fishing industry. Although the field of fishing had long been developed—even beyond the boundaries of the island in the 16th century, in the 1800s fisheries began to orient towards a wider market. It is characterized by the growth of fish processing and marketing business. At the beginning of the 20th century one of the most important fishing ports was the city of Bagan Si Api Api in North Sumatra. The city has exported fishery products to Java, especially dried fish (salted) and shrimp paste (Mardiati, 2022).

The development of the fishing industry in the colonial period has attracted interest in the historical study of this topic. Several existing writings have highlighted the fishing industry and its dynamics with ports. For example, in addition, Widodo wrote about the development of the port of Pekalongan into a fishing port (Widodo, 2002). Through this study, it is known how the development of the marine fisheries industry during the colonial period developed in Pekalongan. In addition, Mardiati highlighted the life of fishermen on the north coast of Pasuruan in 1900-1940 (Mardiati, 2022). Another study that also discusses marine fisheries from the point of view of fishermen's activities was carried out by Utomo who appointed fishermen on the coast of Pematang as the main players in the fishing industry (Utomo, 2022). From some of the studies mentioned earlier, the tendency of fisheries history studies to highlight the marine fisheries industry more.

The fishing industry is not just limited to marine fisheries. The inland fishing industry is no less interesting to discuss. This is because inland fisheries have a different approach. Marine fisheries prioritize fishing aspects while inland fisheries prioritize aquaculture aspects. So that the direction of knowledge and technology development in these two industries is also different. However, the historical theme of inland fisheries is not studied much in history. One of the interesting topics studied in the inland fisheries industry is the development of knowledge and technology of fish domestication. This topic is important to talk about because it is evidence of the advancement of fisheries knowledge and innovation.

The domestication of mudjair is one of the evidences of the progress of fisheries knowledge and technology innovation in the colonial period. Mudjair fish is an innovation that is very influential not only in the post-independence period, but the dynamics of this fish can also be traced from the Dutch colonial era and Japanese occupation. There have been several writings discussing this (Aryono, 2016) (Santoso, 2014). However, some of these earlier writings on the history of fish do not contain much narrative about fish domestication methods and the intellectual aspects of Mudjair as a fisheries innovator. Departing from that, this paper tries to raise the domestication method and intellectual aspects of Mudjair as a fisheries innovator. So the purpose of this study is to examine how the knowledge base of mudjair fish domestication and how the method of mudjair fish domestication and its dynamics in the Dutch to Japanese colonial era. Thus, at least this study can be a trigger for the topic of fisheries history, especially inland fisheries in Indonesia.

## **METHOD**

This research uses historical research methods, which consist of topic selection, heuristics, criticism, interpretation and historiography (Kuntowijoyo, 2005). Through these stages, the focus to be developed in this history paper is the method of fish domestication and the intellectual aspects of Mudjair as a fisheries innovator. In the heuristic process, data search is carried out in the form of historical sources in the form of archives through various platforms such as KITLV and Delpher.nl. The sources obtained were fisheries reports and research results of landbow schools and several newspapers concerning mudjair. In addition, at this stage, interviews were also conducted with the Mudjair family.

The result of this heuristic process then goes through the next stage, namely criticism to assess the authenticity of the source and the credibility of the content of the existing source. Some archival sources were also compared with interviews with the Mudjair family as historical actors. The third stage is interpretation. This stage is carried out by interpreting information from sources that have been obtained and criticized. Operationally, interpretation is carried out by means of analysis (parsing facts) and synthesis (gathering facts). The facts obtained are interpreted both verbally, technically, logically, factually and psychologically (Ratih, 2022). Furthermore, the facts that have been interpreted are then written down in the historiographic stage. This process uses historical, diachronic and synchronic approaches.

## **RESULTS AND DISCUSSION**

### **Knowledge Background**

Questions regarding the background of Mudjair's character are important to answer. However, there are not many written sources that are able to answer this question. At least until

this article is written, the source that is able to explain Mudjair's background is the testimony of his surviving son, Munir, or often called Mbah Munir. Through this figure, the track record of education, work and social life of a Mudjair is obtained.

Mudjair or often referred to as Mbah Mudjair is a village administrator from Papungan, Blitar Regency, East Java. Mudjair was born in 1890 in the village of Kuningan—south of Papungan. His family background is a village official, so it is not surprising that he also has a career as a village administrator. He served as *Jogoboyo*. In Java, it is commonly known as the village government system led by the village head. A village head is assisted by several devices such as: *Carik, Jogoboyo, Kamituwo, Ulu-ulu, Modin and Head of Hamlet*(Kartikasari & Simanulang, 1997). Each position of the device has its own function. Job specifics *Jogoboyo* has a duty in terms of village security.

Mudjair never received formal education from an official government institution. The only education he underwent was informal education. In 1917 before becoming a village administrator, Mudjair became a student at an Islamic boarding school in Kuningan Village. This pesantren is managed by Kyai Soleh. It was through this figure that mbah Mudjair received an education. In the hut he learned not only religious knowledge but also other skills. In between religious studies, Mudjair was assigned to maintain a carp pond. So that indirectly the experience of raising fish becomes knowledge about aquaculture.

Javanese people are accustomed to aquaculture. They developed a cultivation system using artificial ponds. It can be found both in inland and coastal areas. Fish farming in ponds such as the Kyai Soleh Islamic boarding school has at least been known to have existed since the 14th century. The book "Kutara Menawa" which dates back to the Majapahit era mentions theft protection in the Majapahit era. *Siwakan*(Devi Purwanti, 2017). Term *Siwakan* It refers to the place of freshwater fish that are usually found in inland areas.

Mudjair's knowledge of aquaculture through pesantren can be classified as traditional knowledge. Traditional knowledge is informal because it does not result from modern research(Heryanto et al., 2018). Unlike modern scientific knowledge, informal knowledge has simpler contents, methods, epistemologies, and contextual attachments. But these two types of knowledge do not negate each other. Traditional knowledge can be scientifically valid, and scientific knowledge can provide solutions for very specific local contexts(Šūmane et al., 2018).

### **Domestication Process**

In the Blitar or Java region in general there is a habit of making spiritual journeys. Idiologically, spiritual journey is defined as the process of human effort to reach a certain state by freeing oneself from all forms of attachment and attachment and belonging, be it physical or spiritual(Kholis, 2018). Especially in the area of residence of Mudjair carried out spiritual journeys in connection with the commemoration of the Islamic New Year or *Suroan*. This activity

is carried out on foot from Papungan to Serang Beach—a beach in Blitar Regency 40-kilometers from Papungan.

In 1936 Mudjair along with some villagers carried out activities *Suroan* to Serang Beach. It was on this spiritual journey to Serang Beach that Mudjair "discovered" a previously unknown fish. Mudjair was interested and took the initiative to bring the fish home. This fish comes from the mouth of the river in Serang Beach. As is known, the estuary of the river becomes a meeting between salt water from the sea and fresh water from the river. These confluences give rise to brackish water with range zones depending on tidal strength and river discharge (Harfiyanto et al., 2020). This zone became the initial habitat of the fish that Mudjair "found".

The fish brought by Mudjair from Serang Beach later died after arriving home. At first, he thought that the fish died because of a long journey. Because he was increasingly interested in the fish, he then tried to take the fish again from Serang Beach. But then he realized that the fish died from different water. It is understandable that the level of salinity in brackish water is different from freshwater, causing fish to be unable to adapt.

Not to forget, Mudjair then tried to mix fresh water with brackish water. On the eighth experiment, he found that the fish he was trying to raise had already begun to live, although not for long. Mudjair then continued to try by reducing brackish water gradually until leaving only fresh water. It was not until the tenth attempt that the fish he brought from Serang Beach survived. He then raised them until they became numerous.

The process carried out by Mudjair can be categorized as fish domestication. The fish brought from Serang Beach is a wild species that was previously unknown to the Mudjair community and the local community. However, against the background of his knowledge in fish farming at the cottage, he indirectly applied the concept of animal domestication. Looking back, the concept of domestication dates back 11,000 years (Zeder, 2012). Domestication is the process carried out so that animals, including in this case fish, that live wild, can live, and be bred under controlled conditions. So that the domestication of fish changed wild fish species into aquaculture species (Juliana et al., 2018). Generally, the main goal of this process is nothing but economic interests.

### **Mudjair Fish from the Colonial Era to Japan**

Although successfully domesticated in 1936, this fish from Serang Beach was only known to academic and government circles in the late 1930s. A Dutchman, W.H. Schuster heard the news about this fish raised by Mudjair. He visited Papungan to see fish (Zeder, 2012). On November 9, 1939 the fish were brought to an inland fisheries conference in Surabaya. Schuster later named the fish after its owner, the tillair fish (Hofstede & Botke, 1950). Because of his success in cultivating fish, Mudjair was later awarded by the government. Every month he was given 6 guilders ("Waardering Voor Viskweker," 1951).

In 1940 mudjair fish was then introduced to West Java. The first specimen was released by the Inland Fisheries Laboratory in Buitenzorg (Bogor) in a pond not located near the laboratory. Furthermore, West Java received a number of broodstock to be raised, some to be released as trials in ponds in Tasikmalaja, while some for pond pilot complexes in Kemayungan(Hofstede, 1941).

Mudjair fish then continue to be studied, the Inland Fisheries Subdivision of the Ministry of Economy began an investigation related to this fish(Kong, n.d.). Some reports related to tilapia research include Schuster, Hofstede, Vaas and Botke(Hofstede & Botke, 1950). These studies focus on several things. In addition to focusing on the scientific identification of mudjairfish, some of these early studies also tried to explore how to transplant mudjair fish from one habitat to another. In addition, mudjair fish are also studied how it affects the prevention of malaria mosquitoes.

However, research on Mudjair fish at that time did not explain much and discuss the figure behind it, namely Mudjair. So, what Mudjair did, namely the process of domestication of fish from the attack coast, escaped. This can be understood as a result of colonialism at that time. Mudjair was not placed as a "scientific" person plus he was part of the object of colonialism. So, the name is indeed used as a naming of fish but that it has carried out a series of domestication methods tends to go unrecognized. Unfortunately, Mudjair's memory also does not recall many domestication methods.

When World War II broke out, with various motives behind it Japan invaded various regions in the Dutch East Indies including Java(Nurohmat, 2021). Soon Japan formed an occupation government to win the Pacific War. In that effort a series of propaganda was carried out both through film(Safitri, 2022) and print media(Hashina, Rosalini and Dwi Prianti 2022). The impact of the Japanese occupation also caused the dynamics of mudjair fish.

In the Japanese occupation era, mudjair has been widely known as another commodity fish along with milkfish and carp. Mudjair fish is one of the main fishery commodities in East Java. Kediri-Syuu became a major mudjair producer at that time, with Blitar as its center(Wiretno & Santoso, 2017). So that mudjair fish become a variable in the provision of protein in the community. So, it is not strange if this fish is finally also mastered by the Japanese.

During the Japanese occupation, mudjair fish were also referred to as "Nippon fish". Some previous research on mudjair shows how influential this fish is in the field of freshwater fisheries. The Japanese then circulated mudjair seeds to various regions. There were at least two main functions of mudjair fish at that time, namely as an alternative to handling malaria and a substitute for milkfish supply(Hofstede, 1941).

In addition to fear of war, malaria is also one of the factors that kill many soldiers. Research on the use of mudjair in dealing with mosquito larvae shows that the spread of this fish

can reduce the spread of malaria. For this reason, Japan spreads mudjair seeds to be released wildly in any puddle, which becomes a mosquito nest. So that this fish spread to various regions(Hofstede & Botke, 1950).

During the war (1942-1949), mudjair played an important role in replacing milkfish seedlings in Jakarta and its surroundings. Under normal conditions before Japan, milkfish seedlings were supplied by train from Central Java and East Java. When war broke out in Indonesia during the Japanese period transportation services were not well available (Vaas, 1947; Hofstede, 1948). Mudjair seeds that can develop relatively faster and easier are a substitute solution. So after the war, fisheries experts found all the brackish water pools around Jakarta filled only with mudjair(Vass, 1947). However, after the end of the war, milkfish still maintained its position as a consumer fish among the people—thanks in large part to the tradition of people who still like milkfish(ORMELING, 1950).



Figure 1. Dried Mudjair Fish (Baroe, 1943)

Around 1941 it was clear that Mudjair fish posed no danger. However, Hofstede later warned about the consequences of introducing animals into their natural habitat, or transplants in terms. He argued that when this form of transplatation was largely under human influence, a beneficial transplant could be achieved. However, transplants are not always done carefully and with precautions and the necessary knowledge and know-how and it is understandable that transplants sometimes fail and / or lead to adverse consequences(Hofstede, 1955).

## CONCLUSION

Mudjair is a figure who does not have formal education, the foundation of his knowledge about fisheries is built through education in pesantren. But that doesn't mean it makes his knowledge unscientific. The series of fish domestication processes he used were scientific organic knowledge. The innovation of the mudjair fish has shown that knowledge production cannot only

come from official knowledge institutions. Ordinary people, through their organic knowledge, are also able to produce innovative products that are able to answer the challenges of their time.

This writing about the history of the domestication of mudjair fish can be one of the contributions and triggers in writing the history of inland fisheries in the colonial period and afterwards. In the context of education, this paper can also be used as teaching material for local history with the theme of fisheries history. Thus, it is natural that aspects of Mudjair's knowledge as an innovator are inherited and further developed.

## REFERENCES

- Aryono. (2016). The Beginning of the Tilapia. *Historia.Id*.  
<https://historia.id/ekonomi/articles/awal-mula-ikan-mujair%02vjd2b>
- Baroe, D. (1943). *Djawa Baroe May 15, 1943*. <http://hdl.handle.net/1887.1/item:3236582>
- Devi Purwanti, A. (2017). Development of milkfish cultivation in Gresik in 1982-1989. *Avatara, e-Journal of Historical Education*, 5(1), 177–189.
- Harfiyanto, E., Nurhayati, N., & Marsudi, M. (2020). Salinity characteristics of the Pawan River by conductivity measurement method. *Journal of CIVIL ENGINEERING*, 20(1), 2–10.  
<https://doi.org/10.26418/jtsft.v20i1.44429>
- Harkantiningasih, N. (2014). Colonial Influence in Indonesia. *Kalpataru*, 23(1), 67–80.
- Hashina Rosalini, R., & Dwi Prianti, D. (2022). Japanese propaganda through Djawa Baroe Magazine during its Occupation in Indonesia. *Journal of Communication*, 16(2), 223–238.  
<https://doi.org/10.20885/komunikasi.vol16.iss2.art8>
- Heryanto, M. A., Supyandi, D., & Sukayat, Y. (2018). Agricultural Local Knowledge System: Lesson Learn from Rural Development in Mekarjaya Village, Purwakarta Regency. *IOP Conference Series: Earth and Environmental Science*, 166(1).  
<https://doi.org/10.1088/1755-1315/166/1/012046>
- Hofstede, A. E. (1941). Enige mededelingen over Ikan Mudjair. *Serie Binnenvisserij*, 3.
- Hofstede, A. E. (1955). MERKWAARDIGE VISTRANSPLANTATIES. *Landbouwkundig Tijdschrift*.
- Hofstede, A. E., & Botke, F. (1950). Tilapia mossambica Peters as a factor in malaria control in the vicinity of Djakarta. *Landbouw Djakarta*, 22, 453–468.
- Juliana, Koniyo, Y., & Lamadi, A. (2018). *Domestication and Its Application to Manggabai Fish*.
- Kartikasari, T., & Simanulang, B. (1997). *Traditional Government System in Special Region of Yogyakarta*. Project for the Study and Development of Cultural Values Directorate of History and Traditional Values Directorate General of Culture Ministry of Education and Culture.
- Kholis, N. (2018). *Javanese Makrifat Science Sangkan Paraning Dumadi: Sufistic Exploration of the Concept of Knowing Yourself in Islamic Literature Kejawen Kunci Swarga Miftahul Djanati*.
- Kong, S. H. (n.d.). *Binnenvisserij Indonesia : 1941-1950*.



- Kuntowijoyo, D. R. (2005). *Introduction to historical science*. Bibliography.
- Mardiati, V. (2022). THE LIFE OF THE NORTH COAST FISHING COMMUNITY OF PASURUAN IN 1900-1940 VIRA. *Avatara, e-Journal of Historical Education*, 12(1), 1–13. <http://io.ppi-jepang.org/article.php?id=133#top>
- Nurohmat, A. (2021). Japanese motifs before invading the Dutch East Indies in 1942-1945. *FOOTPRINT : Journal of History & History Education*, 1(2), 52–56. <https://doi.org/10.22437/jejak.v1i2.15749>
- ORMELING, F. J. (1950). HET VISVIJVERLANDSCHAP LANGS JAVA'S NOORDKUST. *Tijdschrift van Het Aardrijkskundig Genootschap*.
- Ratih, D. (2022). Dutch East Indies Colonial City 1800-1942: Judging from the problems of urban history. *Journal of Artifacts*, 9(1), 49. <https://doi.org/10.25157/ja.v9i1.4197>
- Safitri, I. (2022). The Journey of Traveling Cinema from Entertainment Media to Propaganda. *Siginjai Journal*, 2(2), 27–44. <https://doi.org/10.22437/js.v2i2.21524>
- Santoso, A. H. (2014). *Mudjair (1890-1957): The Story of the Discovery of New Fish Species in 1936 in Blitar*. State University of Malang.
- Šūmane, S., Kunda, I., Knickel, K., Strauss, A., Tisenkopfs, T., Rios, I. des I., Rivera, M., Chebach, T., & Ashkenazy, A. (2018). Local and farmers' knowledge matters! How integrating informal and formal knowledge enhances sustainable and resilient agriculture. *Journal of Rural Studies*, 59, 232–241. <https://doi.org/10.1016/j.jrurstud.2017.01.020>
- Utomo, I. N. (2022). *Fishermen's activities in Pemalang colonial period of the XX century*. 9, 88–95.
- Vass, K. F. (1947). Biologische Inventarisatie van de Binnenvisserij in Indonesie. *Landouw School*.
- Waardering voor viskweker. (1951). *De Vrije Pers: Ochtendbulletin*, 1.
- Widodo, S. K. (2002). *The development of Pekalongan Port into a fishing port, 1900-1990*. University of Indonesia.
- Wiretno, & Santoso, E. B. (2017). Kediri-syuu Japanese Occupation: The Influence of Japanese Military Government Policy on Social Life 1942-1945. *VERLEDEN: Journal of History*, 10(1), 23–35.
- Zeder, M. A. (2012). The animals domestication. *Journal of Anthropological Research Competition*, 68(2), 161–190.