

# Fishery Cooperatives and Sustainable Blue Economy: Scoping Review from a Business Perspective <sup>†</sup>

Dewi Kartika Sari \*  and Andhita Yukihana Rahmayanti

Accounting Study Program, Vocational Education Program, Universitas Indonesia, Depok 16424, Indonesia

\* Correspondence: dewi.kartika@vokasi.ui.ac.id; Tel.: +62-812-132-983-63

† Presented at the 5th International Conference on Vocational Education Applied Science and Technology 2022, Teluk Betung, Indonesia, 26–28 October 2022.

**Abstract:** The Fishery Cooperative is one of the economic entities engaged in fisheries. Although the concept of a blue economy emerged in 2014, there is no research linking fishery cooperatives with the blue economy. Therefore, this scoping review aims to identify evidence of the contribution of fishery cooperatives to a sustainable blue economy, especially from a business perspective. This scoping review uses all articles in the SCOPUS database. The scoping review shows that the fishery cooperative supports a sustainable blue economy. It can increase economic growth by increasing fishermen's harvest, improving fisheries and non-fisheries sectors, and developing a sustainable environment and economy.

**Keywords:** fishery cooperative; blue economy; sustainability

## 1. Introduction

The blue economy is a concept that aims to develop the global economy based on sustainable practices. The World Bank defined the “Blue Economy” as “the sustainable use of ocean resources for economic growth, social inclusion, and the preservation or improvement of livelihoods while at the same time ensuring environmental sustainability of the oceans and coastal areas” [1]. The blue economy has diverse components, including ocean industries, such as fisheries, maritime transport, and tourism. It is urged to be implemented internationally in the fisheries and marine sectors.

Fishery cooperatives are ancient economic entities that play a significant role in helping fishermen. They have essential roles in facilitating information exchanges, improving communities' negotiating power with market intermediaries, building partnerships, networks, and linkages to other organizations, and fostering the sharing of traditional and indigenous knowledge [2]. Through service provision and empowerment of small-scale fishers, fishery cooperatives are contributing to lifting them out of poverty and building their resilience to climate and market shifts.

Although the concept of a blue economy emerged in 2014 [3], there is no research linking fishery cooperatives with the blue economy. Previous studies have only conducted a literature review on the blue economy in the Indian Ocean [4], the blue economy and coastal tourism [5], and the blue economy and circular economy [6]. Therefore, this scoping review aims to map the research on fishery cooperatives and then identify evidence of the contribution of fishery cooperatives to a sustainable blue economy, especially from a business perspective.

This research provides a couple of contributions. First, this research adds to the literature on fishery cooperatives, primarily carried out as a literature review. Second, this study provides evidence of a relationship between fishery cooperatives and the blue economy.



**Citation:** Sari, D.K.; Rahmayanti, A.Y. Fishery Cooperatives and Sustainable Blue Economy: Scoping Review from a Business Perspective. *Proceedings* **2022**, *83*, 30. <https://doi.org/10.3390/proceedings2022083030>

Academic Editors: Ari Nurfikri, Triana Karnadipa, Karin Amelia Safitri, Debrina Vita and Widyo Swasto

Published: 27 December 2022



**Copyright:** © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

## 2. Materials and Method

### 2.1. Design

A scoping review of the literature was carried out by identifying the literature related to fishery cooperatives in the SCOPUS database. This research adopts Tricco et al. modified steps, which consist of (1) identifying the research question, (2) identifying relevant previous research, (3) charting the data by summarizing qualitative thematic analysis, and (4) collating, summarizing, and report the results [7].

### 2.2. Identifying the Research Question

This scoping review aims to answer the following question: “What is the role of fishery cooperatives in the blue economy from a business perspective?” Since we are undertaking a scoping review of blue economy from a business perspective, we focused on articles that discuss the impact of fishery cooperatives on economic growth. We use qualitative research types as our research design.

### 2.3. Search Strategy

Relevant published articles were searched using a computer in the SCOPUS database. A complete keyword search was performed using the Boolean AND/OR to find relevant published articles. The review process follows the systemic approach of PRISMA (Preferred Reporting Items for Systematic Reviews and Met-Analysis) guidelines [8]. The keywords used in the search for articles were “fishery cooperatives” OR “fishery cooperative” OR “fishery cooperation” OR “fisheries cooperation”.

This research includes articles using the English language, categorized as final journal source type, and fall into Economics, Econometrics and Finance, and Business Management and Accounting subject areas. The abstract and full-text screening process used inclusion and exclusion criteria. The PRISMA flowchart was used to document the selection process.

### 2.4. Charting Data

The data were extracted using Microsoft Word, and the extraction elements involved the title, author(s), objective, methodology, and result reported.

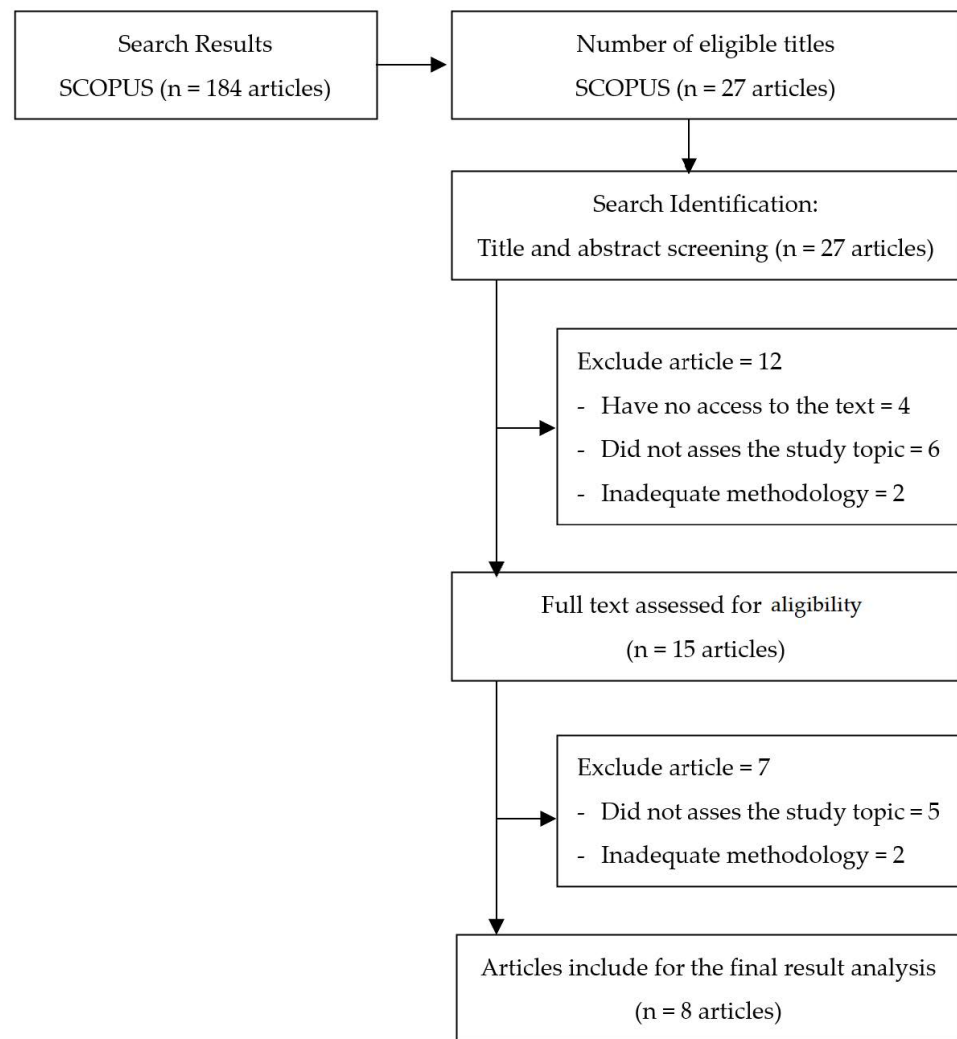
### 2.5. Collating and Summarizing the Results

After the data extraction, a thematic content analysis was conducted, and the results were summarized and coded manually.

## 3. Results

### 3.1. Literature Search

During the initial search, 184 documents were retrieved from the SCOPUS database, with 27 articles meeting the screening criteria. After the abstract screening, 15 articles were selected, of which 8 articles met the inclusion criteria and were moved on to the full-text screening stage. We exclude the article for several reasons. First, we do not have access to the text. Second, the article did not assess the study topic. Lastly, the articles have an inadequate methodology. We found that some articles are conceptual papers. Figure 1 shows the flow diagram of research selection, and Table 1 shows a summary of the characteristics of the identified studies.



**Figure 1.** A flow diagram of the research selection.

**Table 1.** Research characteristics.

| Territory             | Research Purposes | Fishery Cooperative Impact |
|-----------------------|-------------------|----------------------------|
| Puerto Rico           | Descriptive       | Positive                   |
| Japan                 | Descriptive       | Positive                   |
| Alaska                | Explanatory       | Positive                   |
| Cuba                  | Explanatory       | Positive                   |
| United States         | Explanatory       | Positive                   |
| Mexico                | Explanatory       | Positive                   |
| Major oceanic regions | Explanatory       | Positive                   |
| United States         | Descriptive       | Positive                   |

### 3.2. Research Characteristics

The research selection shows that research related to fishery cooperatives and business (economic growth) is carried out in various countries, but it mainly reflects the observed area’s conditions. The purpose of the research is divided into descriptive and exploratory.

## 4. Discussion

In the Scopus database, the search results only show 184 articles categorized as Economics, Econometrics, Finance, and Business Management and Accounting using the words “fishing cooperatives” OR “fishing cooperatives” OR “fishing cooperatives” OR

“fishing cooperatives “cooperative” in the title, abstract, or keywords. Among these articles, only eight articles met the selection criteria for scoping reviews.

Scoping review analysis shows that fishery cooperatives in various regions can positively impact local economic growth by increasing fishermen’s harvest, improving fisheries and non-fisheries sectors, and developing a sustainable environment and economy. In Alaska, fishery cooperatives can help fishermen share information with their cooperatives, which can increase their harvest [9]. In the United States, fishery cooperatives have proven to make fishermen more efficient, reduce fishing costs, and minimize transaction costs for negotiating contracts [10].

Well-designed cooperative fisheries have proven to be able to help improve the fisheries sector in Cuba [11], overcoming non-industrial fisheries challenges in the United States [12]. They have also proven to be an alternative solution during a crisis of fish shortages in Puerto Rico [13]. Even on Mexico’s Pacific coast, local communities benefit significantly from managing community-based fishery cooperatives. Moreover, with the poor conditions of government services, the local community depends on cooperatives for their survival [14].

The study conducted by Ovando et al. [15] was the only study in this scoping review that used global data. The data includes 67 cooperatives from the world’s foremost marine areas of developed and developing countries. The results of the empirical analysis show that Cooperatives have the potential to improve economic conditions and reduce the environmental impact that has destroyed many fisheries around the world.

Scoping review analysis also shows that the Japanese society is one step ahead in managing fisheries and the environment. In Japan, local fishery cooperatives apply local wisdom called Satoumi. This approach combines traditional and modern knowledge to achieve environmental and economic sustainability through careful human–nature interaction (fishery cooperative management) [16].

The results of this scoping review have practical implications for the government as a policymaker. The government should be more focused on paying attention to and developing fishery cooperatives because fishery cooperatives play a vital role in a sustainable blue economy.

This scoping review has several limitations. First, this scoping review only uses the SCOPUS database. Future research should use more databases to enrich the literature sources and results. Second, this research only uses Economics, Econometrics and Finance, Business Management, and Accounting subject areas. Future research should also use the social science subject area to capture the benefits of fishery cooperatives on the blue economy, which may be rich in the socio-economic area.

## 5. Conclusions

This scoping review uses the SCOPUS database to find the relationship between fishery cooperatives and the sustainable blue economy. The scoping review specifically includes observations from a business perspective. Although most research on fishery cooperatives is carried out through observation of specific areas, all the results show that fishery cooperatives support the realization of a sustainable blue economy. This is because the existence of fishery cooperatives can increase local economic growth by increasing fishermen’s harvest, improving fisheries and non-fisheries sectors, and developing a sustainable environment and economy.

**Author Contributions:** Conceptualization, D.K.S. and A.Y.R.; methodology, D.K.S.; software, D.K.S.; validation, D.K.S.; formal analysis, D.K.S. and A.Y.R.; investigation, D.K.S.; resources, D.K.S.; data curation, D.K.S.; writing—original draft preparation, D.K.S.; writing—review and editing, D.K.S.; visualization, D.K.S. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research received no external funding.

**Institutional Review Board Statement:** Not applicable.

**Informed Consent Statement:** Not applicable.

**Data Availability Statement:** Not applicable.

**Conflicts of Interest:** The authors declare no conflict of interest.

## References

1. World Bank. *The Potential of the Blue Economy: Increasing Long-Term Benefits of the Sustainable Use of Marine Resources for Small Island Developing States and Coastal Least Developed Countries*; World Bank: Washington, DC, USA, 2017.
2. International Labour Organization (ILO). *Transforming Our World: A Cooperative 2030 Series*; International Labour Organization (ILO): Genève, Switzerland, 2019.
3. United Nations. Blue Economy Concept Paper. 2014. Available online: <https://sustainabledevelopment.un.org/content/documents/2978BEconcept.pdf> (accessed on 24 January 2022).
4. Zimbhoff, A.; Senaratne, M. The Blue Economy in the Indian Ocean—A Literature Review. *Seychelles Res. J.* **2019**, *1*, 121–145.
5. Kabil, M.; Priatmoko, S.; Magda, R.; David, L.D. Blue Economy and Coastal Tourism: A Comprehensive Visualization Bibliometric Analysis. *Sustainability* **2021**, *13*, 3650. [CrossRef]
6. Martinez-Vazquez, R.M.; Milan-Garcia, J.; de Pablo Valenciano, J. Challenges of the Blue Economy: Evidence and research trends. *Environ. Sci. Eur.* **2021**, *33*, 61. [CrossRef]
7. Tricco, A.C.; Lillie, E.; Zarin, W.; O'Brien, K.; Colquhoun, H.; Kastner, M.; Levac, D.; Ng, C.; Sharpe, J.P.; Wilson, K.; et al. A scoping review on the conduct and reporting of scoping reviews. *BMC Med. Res. Methodol.* **2016**, *16*, 15. [CrossRef] [PubMed]
8. Peters, M.D.J.; Godfrey, C.M.; Khalil, H.; McInerney, P.; Parker, D.; Soares, C.B. Guidance for conducting systematic scoping reviews. *Int. J. Evid. Based Healthc.* **2015**, *13*, 141–146. [CrossRef] [PubMed]
9. Felthoven, R.G.; Lee, J.; Schnier, K.E. Cooperative Formation and Peer Effects in Fisheries. *Mar. Resour. Econ.* **2014**, *2*, 133–156. [CrossRef]
10. Kitts, A.W.; Edwards, S.F. Cooperatives in US fisheries: Realizing the potential of the fishermen's collective marketing act. *Mar. Policy* **2003**, *27*, 357–366. [CrossRef]
11. Wielgus, J.; Poon, S.; del Rio, E.C.; Munoz, D.; Whittle, D.; Fujita, R. Fishery cooperatives in Cuba: Potential benefits, legal feasibility, and governance pre-conditions. *Mar. Policy* **2014**, *45*, 128–137. [CrossRef]
12. Sylvia, G.; Cusack, C.; Swanson, J. Fishery cooperatives and the Pacific Whiting Conservation Cooperative: Lessons and application to non-industrial fisheries in the Western Pacific. *Mar. Policy* **2014**, *44*, 65–71. [CrossRef]
13. Villegas, C.; Gomez-Andujar, N.X.; Harte, M.; Glaser, S.M.; Watson, J.R. Cooperation and conflict in the small-scale of Puerto Rico. *Mar. Policy* **2021**, *134*, 104809. [CrossRef]
14. McCay, B.J.; Micheli, F.; Ponce-Diaz, G.; Murray, G.; Shester, G.; Ramirez-Sanchez, S.; Weisman, W. Cooperatives, concessions, and co-management on the Pacific coast of Mexico. *Mar. Policy* **2014**, *44*, 49. [CrossRef]
15. Ovando, D.A.; Deacon, R.T.; Lester, S.E.; Costello, C.; Van Leuvan, T.; McIlwain, K.; Strauss, C.K.; Arbuckle, M.; Fujita, R.; Gelcich, S.; et al. Conservation incentives and collective choices in cooperative fisheries. *Mar. Policy* **2013**, *37*, 132–140. [CrossRef]
16. Mizuta, D.D.; Vlachopoulou, E.I. Satoumi concept illustrated by sustainable bottom-up initiatives of Japanese Fisheries Cooperative Associations. *Mar. Policy* **2017**, *78*, 143–149. [CrossRef]

**Disclaimer/Publisher's Note:** The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.