

Mind the Gap: A Bibliometric Analysis on Unrecognized Role of Women in Fisheries Sector

Justin Dores

Assistant Professor

Government Arts and Science College, Karunagappally, Kerala, India

Dr. Biju T

Associate Professor

Department of Commerce

School of Business Management and Legal Studies

Kariavattom, Kerala, India

Sanu F

Research Scholar

Department of Commerce

School of Business Management and Legal Studies

Kariavattom, Kerala, India

Abstract

Gender research in the fishery sector gains scholars' attention in recent times. Also, the contribution of women in fisheries is significant but unrecognized. Therefore, the increasing gender gap in fisheries demands a holistic research approach to investigate the research trend in this area, and a systematic review based on science mapping will facilitate further research. The present study is based on the bibliometric analysis of 105 articles from the Web of Science database from 1992 to March 2021. Results of analysis have shown the growth trend in publishing in 'women/gender in fisheries' in publication, author distribution, citation, and source. The findings from the bibliometric analysis indicate that the first article was published in the year 1992. The Work of (Weeratunge et al., 2014) has been identified as the most relevant with 116 citations. The journals' Marine Policy' and 'Women Studies International Forum' are the most relevant sources. The USA has the most scientific production, and Canada is the most cited country with 390 citations. Moreover, Gerrad S remains the most relevant author with 64 citations and has the highest H index. The result also showed that the most frequently used keywords are Women, Gender, Fisheries, and Livelihood.

Key Words: *fisheries, fisherwomen, gender issues, biblioshiny*

INTRODUCTION

Science mapping, which is based on the quantitative approach of bibliometric research methods, is increasingly used to map the structure and development of scientific fields and disciplines (Chen, 2017; Li & Xu, 2021). Articles from reputed journals in the repositories like Web of Science, Scopus, PubMed are extracted, and bibliometric data are analyzed. In this regard, primary software tools like Vos Viewer, Pajek, R-Biblioshiny, are used to describe the status and trend of a research field, and the literature are systematically reviewed. Thus, bibliometric analysis is increasingly used to map the composition of scientific fields and complement the qualitative approach of a structured literature review and the quantitative approach of meta-analysis (Aria & Cuccurullo, 2017). In this article, five major tools of Bibliometrics (Zupic, 2015) viz., citation analysis, co-citation analysis, bibliographic coupling, co-authorship, and co-word analysis are applied with the bibliometrix **R-package** to scientifically map the gender disparities in fisheries.

A Review of Topic

"Fishing" is often narrowly defined as catching fish at sea from a vessel using specialized gears (McClanahan & Abunge, 2017). Both men and women are involved in small scale fisheries, but often in different roles and activities (Di & Schiavetti, 2012). Fisheries research, management, and policy have traditionally focused on direct, formal, and paid fishing activities often dominated by men, ignoring indirect, informal, and unpaid activities where women are concentrated (McClanahan & Abunge, 2017). This scenario has led to a situation where contribution of men and women to fisheries are not equally valued or even recognized. This has resulted in women being primarily excluded from decision-making process fisheries. (Solano et al., 2021). In this background,

gender equality and mainstreaming gender-specific problems are vital for the sustainable and equitable development of the fisheries sector (Mangubhai & Lawless (2021). Further, the policy interventions of the government have to be holistically designed and fruitfully implemented by analyzing the issues related to gender norms, resource use patterns, and power relations (Ngwenya et al., 2012); (Torell et al., 2020) since no environmental problems can be solved without a feminist theory (D. Davis & Gerrard, 2000).

The roles of men and women in the small scale fisheries sector are deeply integrated but unequal, especially concerning workload, leadership, and decision-making (Torell et al., 2020). Moreover, women and men often respond quite differently to factors affecting their livelihood (Novak Colwell et al., 2017). (Kabeer, 2015) delves deep into the realities that affect the livelihood of fisheries from gender perspectives. In times of severe stress, women are more likely to cut back on the amount of food they eat to conserve funds and ensure their family members have sufficient nutrition. Women are identified with household managers and livelihood makers even at the cost of their income from fishing and allied activities (Harper et al., 2013). Wosu (2019) observes that women in the fishery sector face disparities in making decisions regarding permission to fishing and that there is an unequal gender relation at different points in fishing, such as chain access, marketing, and price fixation. According to (Calhoun et al., 2016) even though fisherwomen play a significant role in various dimensions of the fishery sector, this industry is still primarily considered a male-dominated industry.

The contribution of fisherwomen to their families and communities is unrecognized and undervalued (Szymkowiak et al., 2020); (Ameyaw et al., 2020). (Forkuor et al., 2017) argue that the fishing industry has a great potential to reduce poverty, and women empowerment is the only solution to that effect. Women empowerment in fisheries rests upon enhancing a conducive environment to flourish economically and beyond gender discrimination. Further, (Harper, Grubb, Stiles, Sumaila, et al., 2017) opines that efforts are needed to recognize the valuable contribution of fisherwomen and that their participation in small scale fisheries needs to be accorded.

The increasing gender gap in fisheries demands a holistic approach to investigate the research trend. This article tries out a systematic literature review in this area. Primarily, the article gives a view of the available literature and the progress made by scholars on fisheries. Moreover, the scientific mapping helps to identify the research gap and areas that need more attention and enables the scholars to decide upon the areas for future research with gender equity perspective.

Research Objective

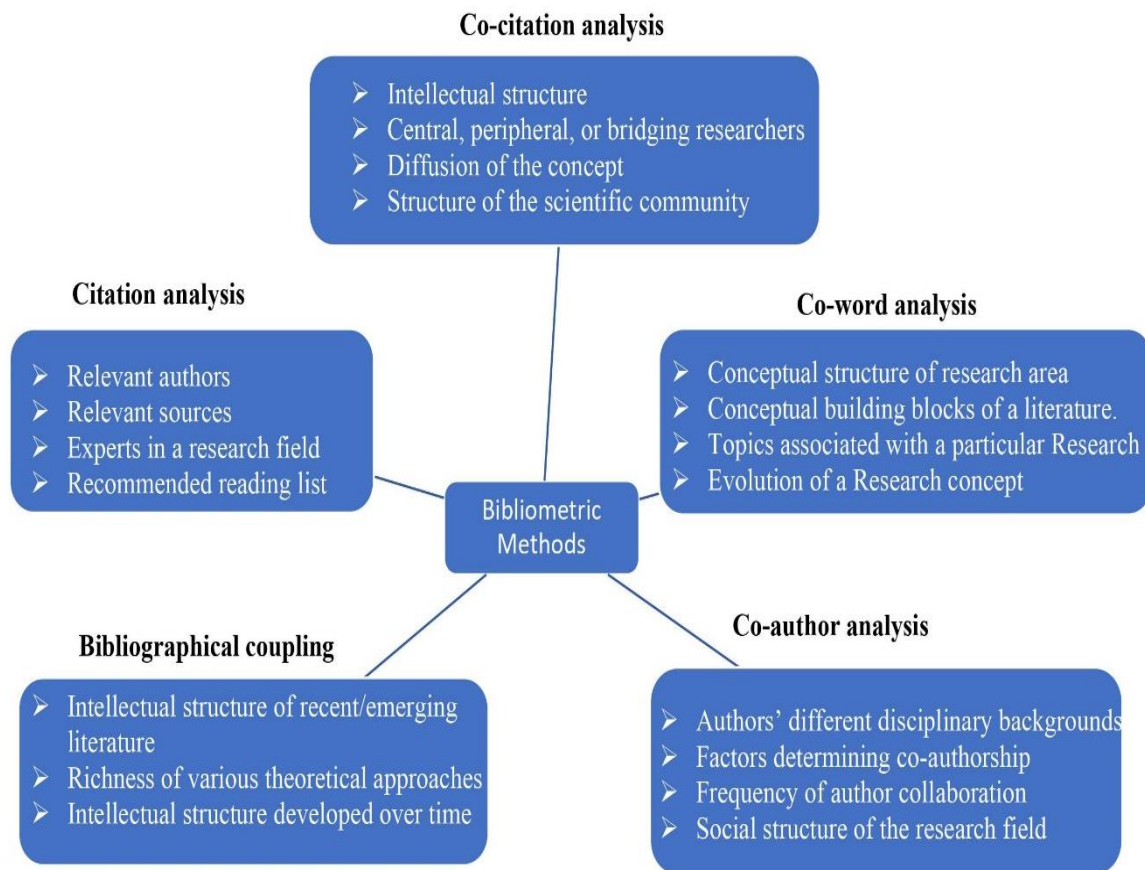
This article's primary objective is to identify a literature base of the topic under study and map it scientifically to gain worldwide insights from the scientific community. In order to attain the primary objective, the researchers addressed the following research questions:

1. Which authors, institutions, journals, and countries contributed most to gender issues in fisheries?
2. In which year did more citations are made in gender issues in fisheries?
3. In which year were more articles produced, and which are the most cited in gender issues in fisheries?
4. What are the most frequently used keywords in this area?
5. What are the conceptual structures explored within gender issues in fisheries?

Methodology

The methodology adopted in this research has been influenced by bibliometric methods given figure 1.

Figure 1: Bibliometric methods



Source: Zupic, 2015.

The present study is based on the data browsed from Web of Science, a comprehensive database designed to support scholarly research. Web of Science (WoS) is the world's oldest, most widely used, and authoritative research publications and citations database. It is a selective, structured, and balanced database with complete citation linkages and enhanced metadata that supports a wide range of information purposes (Birkle *et al.*, 2020). The Science Citation Index, founded by Eugene Garfield in 1964, has expanded its selective, balanced, and complete coverage of the world's leading research to cover 34,000 journals (Birkle *et al.*, 2020).

This review applied bibliometric mapping analysis. The method of analysis adapted was PRISMA framework for selecting datasets and the Biblioshiny R package. The Preferred Reporting Items for Systematic Reviews and Meta - Analyses (PRISMA), statement was designed to help systematic reviewers transparently report why the reviews was done, what the authors did, and what they found (Page *et al.*, 2021)

This study is restricted to the analysis of 'Women/Gender in Fisheries Sector' by collecting journal articles. To ensure the scientific effort conducive to replication and reproduction, this study has been conducted in four stages:

Stage 1: Database/ Journal Selection.

Stage 2: Selection of articles, using inclusion and exclusion criterion.

Stage 3: Data analysis, using bibliometric analysis.

Stage 4: Reporting of results.

Stage 1: Database/ Journal Selection

In the first stage, the researcher conducted a document search on the Web of Science database. The study area has been confined to 'Women/Gender in Fisheries sector' to keep focus of topic. The extraction of data was conducted on 31st March 2021.

Literature Search and Data Collection

The literature search was made in the search tab set as 'TOPIC' in the 'Web of Science Core Collections' by using a combination of keywords. Setting the search tab 'TOPIC' would facilitate the searching and sorting of the titles, abstracts, author keywords, and Keywords Plus of the scientific works. In recent times, Keywords Plus supplies additional search terms extracted from the titles of articles cited by authors in their bibliographies and footnotes. The Keywords Plus algorithm identifies recurring words or phrases in a paper's list of cited references (Garfield, 1990). The results in Basic Search Mode produced by search tab is given in table 1.

Table 1: Keywords

Keywords	Frequency
"Women" AND "Fisheries"	397
"Gender" AND "Fisheries Sector"	55
"Fisher Women" AND "Fisheries Sector"	10
"Gender" AND "Fisher Women"	429
“Gender” AND “Fisheries”	448
Total	1339

Source: Web of Knowledge

Stage 2: Inclusion and Exclusion Criterion

A basic search in the Web of Science repository has produced 1339 results. These are now filtered to exclude those irrelevant items for analysis using the inclusion and exclusion criteria given in figure 2. Finally, after excluding the irrelevant dataset, the articles are selected for investigating the research questions. A detailed data refining is described in Figure 2.

Figure 2: Inclusion and Exclusion Criteria



Source: Web of knowledge

Table 2: Inclusion and exclusion criteria for retrieving data

Inclusion Criteria	Exclusion Criteria
Article containing one of the watchwords in title, abstract, or keyword or keyword plus	Source types that are not Journals
All dates of publication	Document types that are not articles
Articles are written in English	Articles in press
Web of Science Categories	

Source: biblioshiny

Table 2 explains the Inclusion and Exclusion criteria that suit the topic. The analysis is done on a timeline trajectory to focus on the origin and development of the topic 'All date of Publication.' The readers are constituted chiefly from English-speaking countries: thus 'Articles Written in English.' The Topic-wise search looks for articles containing the watchwords in Title, Abstract. Keyword

or keyword plus, and this is the primary inclusion criterion. The inclusion criterion also looks for Web of Science categories specifically mentioned to narrow down the topic. The categories viz., Fisheries, Sociology, Women Studies, Economics, and Environmental Science are included to keep the dataset relevant and specific.

The Exclusion criteria focus on the source types that are not journals and the document types that are not articles since the citation analysis is done mainly on articles. Hence, all the documents and sources other than journal articles are excluded.

Thus, based on the inclusion and exclusion criteria, the process has produced 451 documents as output. These documents are further combined in an MS Excel sheet to detect the duplications and doublings and eliminate them. Finally, after a careful and critical reading of the content, citations of 105 articles are selected as the dataset for the analysis, and the same is exported as a 'BibTex' File.

Stage 3: Data Analysis

The first three analyses mentioned in figure 1 use the citation data to construct measures of influence and similarity viz., citation analysis, co-citation analysis, and bibliographical coupling. Co-author analysis uses co-authorship data to measure collaboration. Finally, Co-word analysis finds connections among concepts that co-occur in document titles, keywords, or abstracts. Thus, the bibliometric analysis focuses on these three main segments, i.e., citations, authorship collaborations, and Keywords used.

Stage 4: Reporting of results

At this stage, the generated results are reported. The results from the study are given under the heading 'results and discussion'.

RESULTS AND DISCUSSION

This session presents the results generated from data analysis and discussed in detail.

Growth and Trend of Research in Women/Gender in Fisheries Sector

Result of analyses presented in table 3 shows the growth in publishing in the area of 'Women/Gender in fisheries'; in terms of publication, author distribution, citation, and source.

Table 3: Main Information about Data

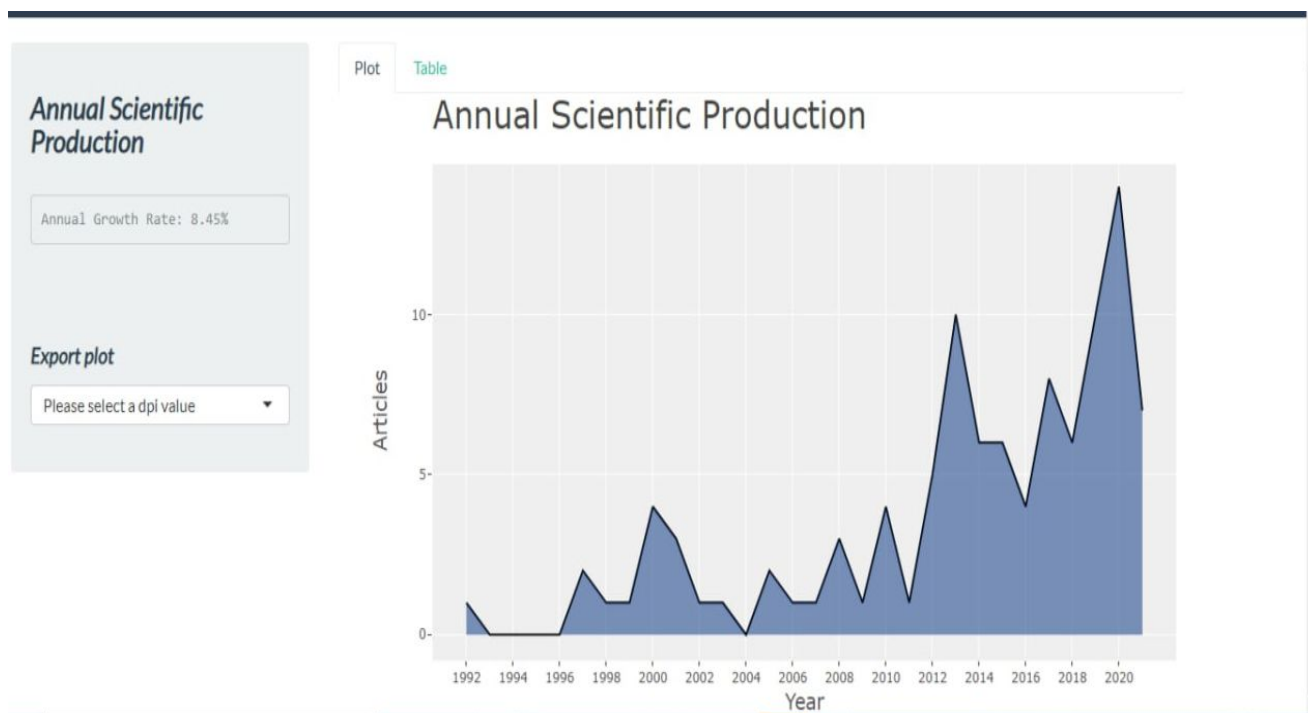
Description	Results
Timespan	1992:2021
Sources (Journals)	55
Documents	105
Average years from publication	7.74
Average citations per documents	16.22
Average citations per year per doc	1.946
References	4332
DOCUMENT CONTENTS	
Keywords Plus (ID)	216
Author's Keywords (DE)	295
AUTHORS	
Authors	285
Author Appearances	320
Authors of single-authored documents	20
Authors of multi-authored documents	265
AUTHORS COLLABORATION	
Single-authored documents	23
Documents per Author	0.368
Authors per Document	2.71
Co-Authors per Documents	3.05
Collaboration Index	3.23

Source: biblioshiny

Annual Scientific Production

This section presents the results of the annual scientific production of articles and average citation per year in Women/Gender in the Fisheries Sector.

Figure 3: Annual scientific production



As shown in Figure 3, the first journal article on "Women/Gender in Fisheries" was published in 1992, which indicates the beginning of research in women/gender in fisheries. Moreover, from 1992 to 2011, there is a variation between one to four publications. Most articles (14) are published in the year 2020. Since the analysis was conducted in March 2021, it is assumed that more articles will be published in 2021 as compared to the previous years. The R package analysis results show that the publication in Women/Gender in Fisheries has an annual growth rate of 8.45% of scientific production from 1992 to 2021 (Figure 3).

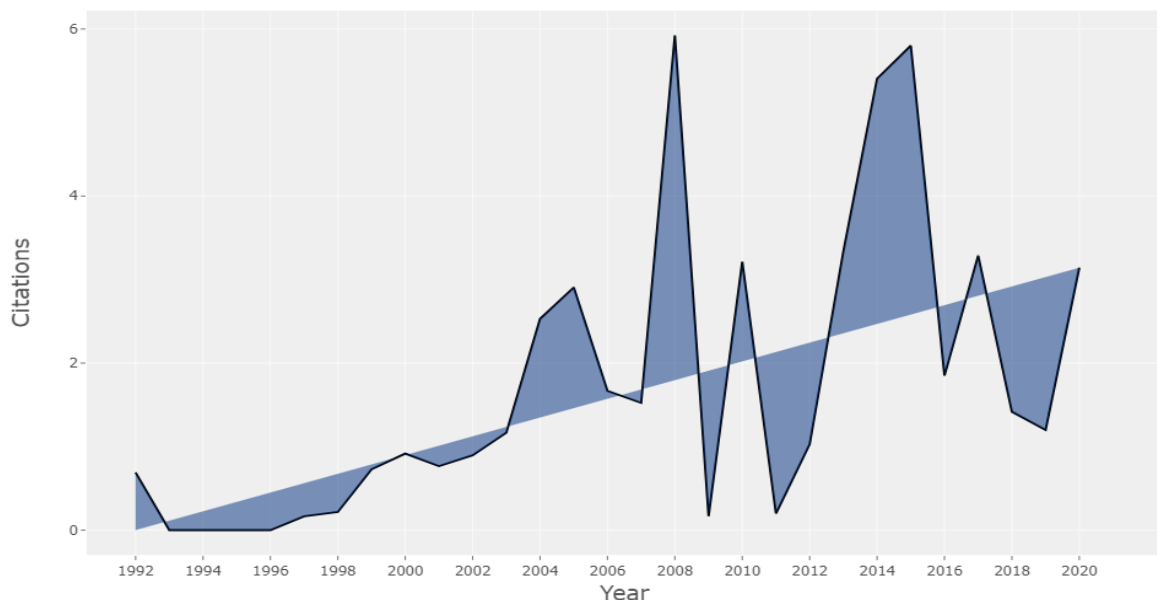
Table 4
Average article citation per year

Year	Articles	Average citation
1992	1	0.7
1997	2	0.2
1998	1	0.2
1999	1	0.7
2000	4	0.9
2001	3	0.8
2002	1	0.9
2003	1	1.2
2004	1	2.5
2005	2	2.9
2006	1	1.7
2007	3	1.5
2008	3	5.9
2009	2	0.2

2010	3	3.2
2011	1	0.2
2012	4	1
2013	10	3.3
2014	6	5.4
2015	5	5.8
2016	4	1.9
2017	7	3.3
2018	4	1.4
2019	10	1.2
2020	14	3.1

Source: biblioshiny

Figure 4
Average Article Citations per Year



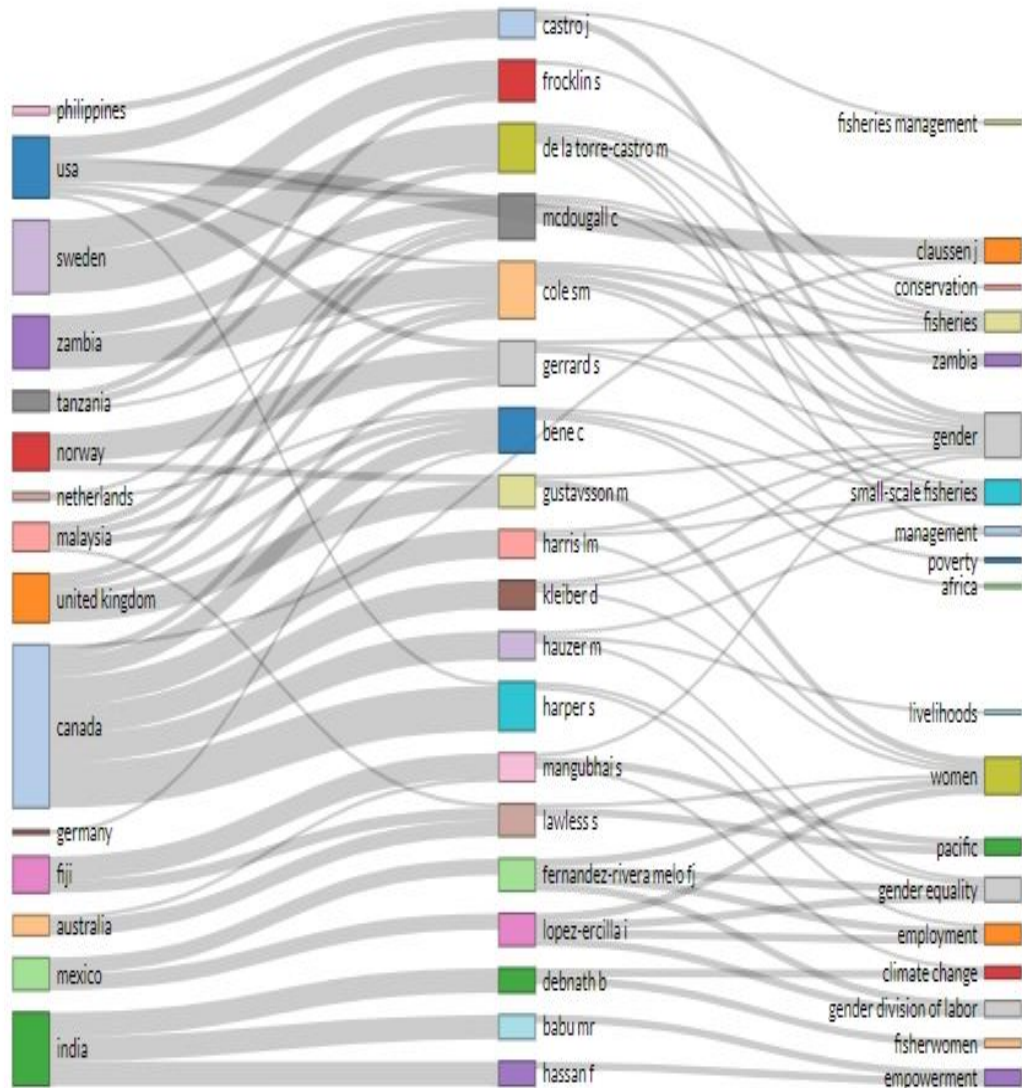
Source: biblioshiny

An average number of citations per year shows the impact of the publication in Women/Gender in the Fisheries Sector. The result shows that the only single publication in 2004 received an average number of 2.5 citations. (Figure 4). There was an increase in citations in 2014 and 2015 (5.4 & 5.8 respectively). It is also notable that, despite high article production in 2020, the number of citations in that year is low (3.1) (Table 4) compared to 2014 and 2015, having scientific production 6 and 5 respectively.

Three Field Plot of Countries, Authors, and Keywords

A detailed presentation of authors, countries, and keywords in Women/Gender in the Fisheries Sector is shown in figure 5. The figure has a three-field plot of articles contributed by authors, countries, and the number of occurrences of keywords in the field of Women in the Fisheries Sector. The left column represents the countries having more author affiliation, the middle column represents the authors contributing from those countries, and the right column shows the most used keywords in Women/Gender in the Fisheries Sector. More emphasis is given to the height of the box and the thickness of connecting line; the taller the box and the thicker the lines shown, the more volume of Work in the field is produced.

Figure 5: Three field plot



Source: biblioshiny

The result in figure 5 shows that Canada has more author affiliation followed by Sweden and India. By observing the thickness of the connecting line from country to author, we can find that Sarah Harper is the main contributor from Canada. In Sweden, De la Torre and Castro remain the most contributing authors. Similarly, Hassan, Babu, and Debnath are the main contributors from India.

Relevant Sources of Women/Gender in Fisheries Publications

This section shows the most relevant sources focused on publishing articles in Women/Gender in Fisheries Sector. In addition, the section also presents the result of the most local cited sources among the selected 52 sources.

Table 5: Most Relevant Sources

Sources	Articles
Marine Policy	14
Women Studies International Forum	6
Fisheries	5
Frontiers in Marine Science	5
World Development	5
Fish and Fisheries	4
Indian Journal of Fisheries	4
Fisheries Research	3
Gender Place and Culture	3
Plos One	3
Total	52

Source: biblioshiny

In Table 5, the result of the most relevant ten sources among 52 sources focused on publishing articles on 'Women/Gender in Fisheries'. This result is based on the dataset retrieved from the Web of Science database in March 2021. The result shows that 'Marine Policy' is the topmost relevant source with 14 articles in the research area of 'Women/Gender in Fisheries'. Other relevant sources include Women Studies International Forum, Fisheries, Frontiers in Marine Science, and World Development.

Further analysis of most locally cited sources among the selected 52 sources (Table 6), "Marine Policy" seems to be the most locally cited source with 221 articles. Followed by this cited source is "Fish and Fisheries" with 115 articles, followed by "World Development" (90 articles), "Maritime Studies" (72 articles), and "Ambio" (52 articles).

Table 6
Most Locally Cited Sources

Sources	Articles
Marine Policy	221
Fish and Fisheries	115
World Development	90
Maritime Studies	72
Ambio	52
Ocean Coast Management	50
Development (London)	48
Ecological Society	46
Society and Natural Resources	44
Women Studies International Forum	44
Total	782

Source: Biblioshiny

Relevant Documents in the Field of Women/Gender in Fisheries

This section discusses the results of the most cited documents concerning local and global citation.

Table 7: Most Cited Articles

Authors	Articles	Local Citations	Global Citations
(Weeratunge et al., 2010)	Gleaner, fisher, trader, processor: understanding gendered employment in fisheries and aquaculture	28	88
(Kleiber et al., 2015)	Gender and small-scale fisheries: a case for counting women and beyond	24	111
(Frocklin et al., 2013)	Fish Traders as Key Actors in Fisheries: Gender and Adaptive Management	12	40
(Kleiber et al., 2014)	Improving fisheries estimates by including women's catch in the Central Philippines	12	34
(Benec & Merten, 2008)	Women and Fish-for-Sex: Transactional Sex, HIV / AIDS and Gender in African Fisheries	10	126
(Harper, Grubb, Stiles, & Sumaila, 2017)	Contributions by Women to Fisheries Economies: Insights from Five Maritime Countries	10	33
(Hauzer et al., 2013)	The fisherwomen of Ngazidja island, Comoros: Fisheries livelihoods, impacts, and implications for management	8	33
(Fröcklin et al., 2014)	Towards Improved Management of Tropical Invertebrate Fisheries: Including Time Series and Gender	8	34
(Rubinoff, 1999)	Fishing for Status: Impact of Development on Goa's Fisherwomen	7	16
(Weeratunge et al., 2014)	Small-scale fisheries through the wellbeing lens	7	139

Source: biblioshiny

Concerning the most relevant documents in fisheries publications, the study analyses the publication's global and local citations. Global citation measures the total number of citations a document had from the entire database, in this case, the Web of Science database. However, local citation measures the number of citations a document received from the documents included in the data taken for analysis. The analysis results show that the most globally cited article between 1992 and the beginning of 2021 came to be the work done by Weeratunge et al. (2014), with a total global citation of 139. The study focused on the well-being of small-scale fisheries at the individual, household, and community levels. They reviewed nine different approaches in the practice of well-being. Among the nine, gender has been identified as a crucial factor. However, it is interesting to note that Weeratunge et al. (2014) received only seven local citations, the smallest number among the top 10 most cited articles (Table 7).

Scientific production by Countries and Most Cited Countries

The study analyses the number of publications and contributions to Women/Gender in the Fisheries Sector across countries and analyses the most cited countries in this specific research area. Table 8 shows the results of the top 10 countries by scientific production and most cited countries.

Table 8: Country Scientific Production

Country	Frequency
USA	71
Canada	41
UK	31
Australia	22
India	21
Mexico	18
Norway	14
Malaysia	11
Zambia	11
Brazil	10
Total	250

Source: biblioshiny

The result in Table 8 shows that the USA has the highest publication, followed by Canada, UK, Australia, and India. However, as far as the topmost cited countries are concerned (Table 8), Canada remains the top country in total citation and average citation of 390 and 32.50, respectively. This indicates that although Canada has fewer publications than the USA, a few publications significantly influence the specific research area.

Table 9: Most Cited Countries

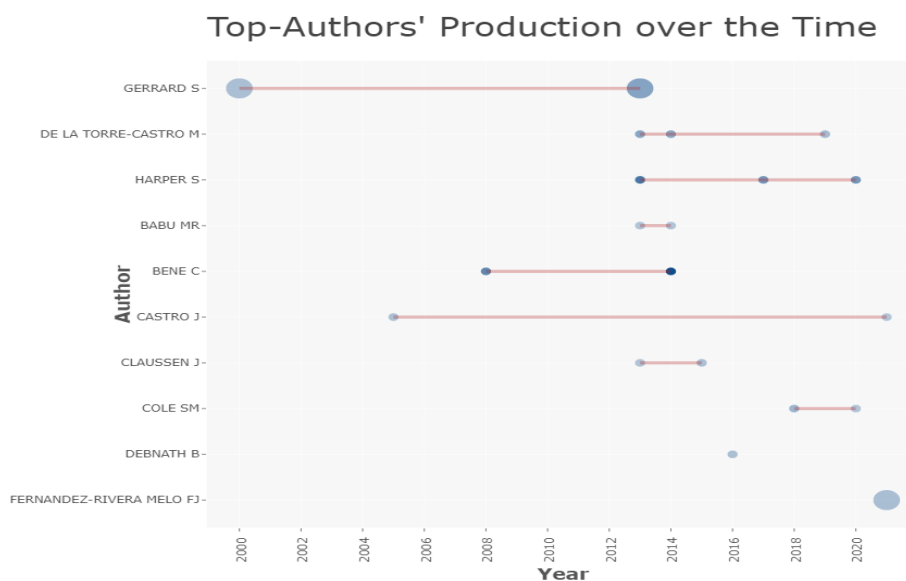
Country	Total Citations	Average Article Citations
Canada	390	32.50
USA	262	12.48
Malaysia	227	113.50
United Kingdom	155	15.50
Egypt	126	126.00
Sweden	78	26.00
Ethiopia	65	65.00
Brazil	44	14.67
Switzerland	42	42.00
France	40	40.00

Source: biblioshiny

Relevant Authors, Author's Affiliation and Collaboration Network

The analysis of the top 10 relevant authors in Women/Gender in Fisheries from 1992 to March 2021 based on the extracted data set is presented in figure 6. The figure represents the authors' timeline; bubble size represents the number of yearly publications by the author, and the color intensity shows the citation count, bubble with deeper color indicates the highest citation.

Figure 6



Source: biblioshiny

The result shows that the author Gerrard.S had produced a total of 4 articles and received 64 citations. (Table 10). He has the highest H index, which indicates that Gerrard S remains the most relevant author in Women/Gender in the Fisheries Sector. Gerrard's first article was published in 2000 with a total citation per year of 0.91. The second most significant author in this field is De La Torre Castro M, with three publications. De La Torre Castro M started publishing in this field in 2013 with a total citation per year 4.4.

Table 10: Author Impact

Author	H index	Total Citation
Gerrard S	4	64
De La Torre-Castro M	3	78
Gustavsson M	1	3
Harper S	3	148
Babu M R	1	2
Bene C	2	265
Castro J	1	11
Claussen J	2	8
Cole S M	1	9
Debnath B	1	5

Source: biblioshiny

Regarding the institutional affiliation to Women/Gender in Fisheries Sector, the study investigated the publications from the top 10 institutions. The result given Table 11 shows that the University of British Columbia remains top with 17 articles, followed by World Fish Centre (11) and Stockholm University (10 articles).

Table 11: Most Relevant Affiliations

Institutions	Articles
University of British Columbia	17
World Fish Centre	11
Stockholm University	10
National Autonomous University of Mexico	8
Memorial University of Newfoundland	7
University Trosmo	7
Alaska Fisheries Science Centre	6
University of Amsterdam	6
University of California Santa Barbara	5
University of Exeter	5
Total	

Source: biblioshiny

Figure 7: Collaboration Network



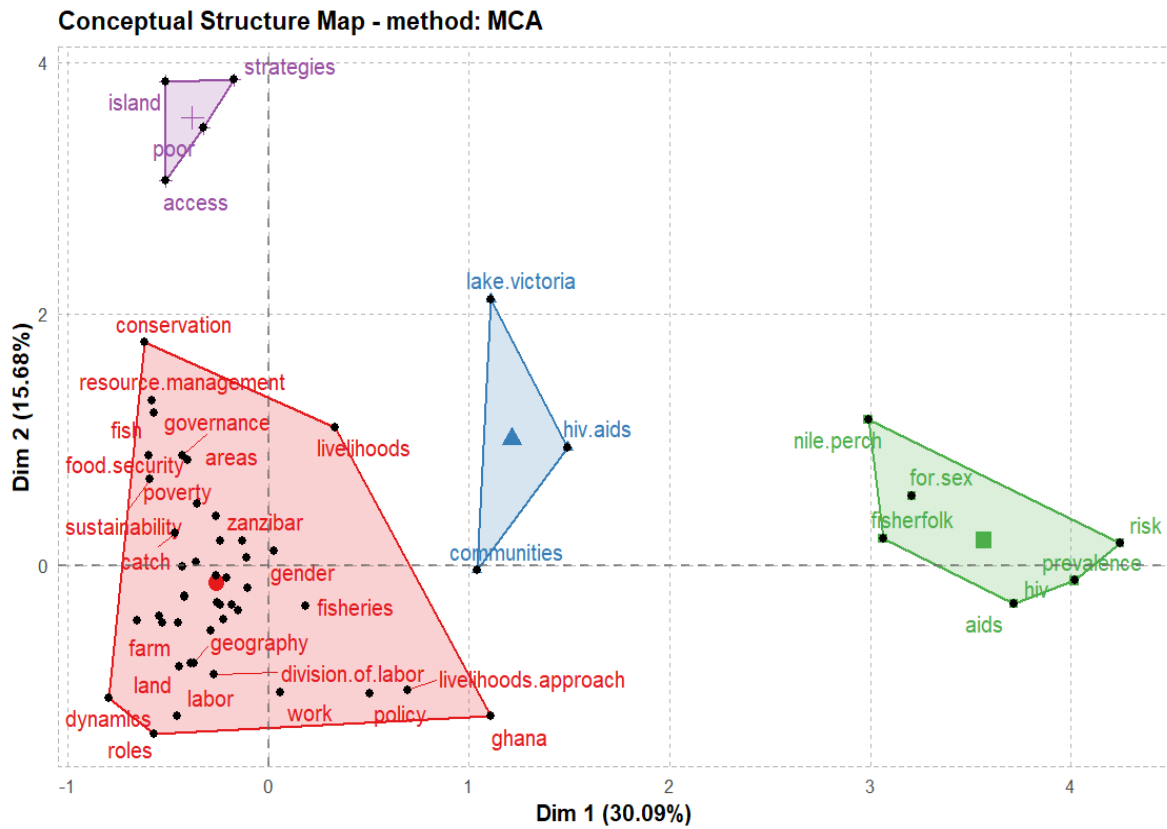
Source: biblioshiny

The results of the authors' collaboration network are shown in figure 7. In the authors' collaboration network, authors' names are written in the boxes; the more significant the box, there exist more extensive the network between authors. The result shows that the authors such as Fernandez Rivera Melo, De La Torre Castro, and Harper have a well-established collaboration network.

Co-Word Analysis: Word Cloud, Word Dynamics, Co-occurrence network and Trend Topics

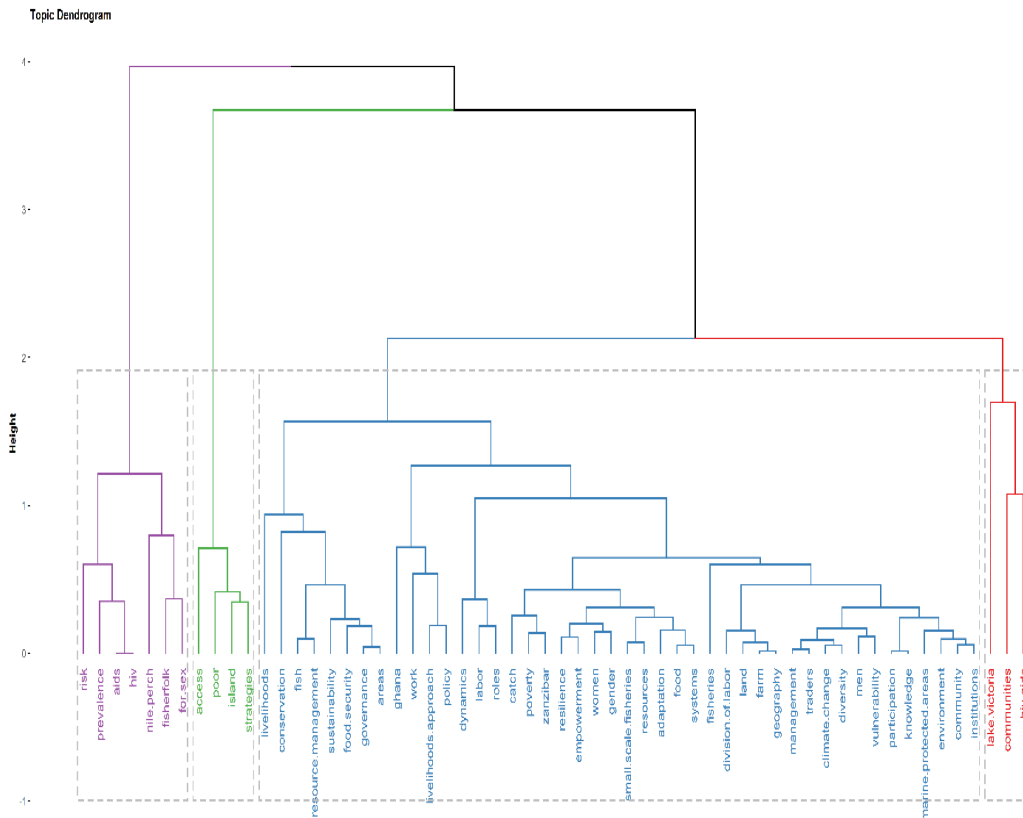
This section presents the results of analysis of Keywords by investigating most frequently used keywords, frequency of its occurrence, association between those keywords and trending topics in the field of study between 1992 and 2021. A visualisation of most frequently used keywords in in the research area of Women/Gender in Fisheries Sector is presented in figure 8. The result shows that the most frequently used keywords are Women, Small-scale fisheries, Gender, Fisheries and Livelihood.

Figure 12: Conceptual structure map



Source: Biblioshiny

Figure 13: Topic Dendrogram



Source: biblioshiny

Figure 13 represents the topic dendrogram, and it is the hierarchical order and the relationship between the keywords generated by hierarchical clustering. The cut in the figure and the vertical lines facilitate an investigation and interpretation of the different clusters (Secinaro et al., 2020). There is no perfect association level between clusters, but the clusters in themselves explain how the topics are related to each other. The closely-knit topics like policy and livelihood approaches, areas and governance, food and systems empowerment, and resilience in the significant cluster depicted in blue deal with elementary themes. The topics in the other three clusters which meet the central cluster at such a height show that they are making a high impact in the scientific community and are emerging topics in 'women/gender in fisheries'.

Conclusion

The present paper has tried to systematically review journal articles in the field of "Women/Gender in Fisheries" since its identification in the literature using bibliometric analysis. The study investigated the literature on "Women/Gender in Fisheries Sector" in article production per year; average article citation per year; most relevant journals; most cited authors and most cited articles in the analyzed area. A total of 105 journal articles have been retrieved from the Web of Science database for review. Firstly, a general analysis of the dataset has been carried out. It revealed that the first journal article on 'women/ gender in fisheries' was published in 1992, indicating the beginning of research in women in fisheries. Concerning authorship status, the majority of the documents are multi-authored.

2020 has been identified as the highest article production with 14 articles in terms of average article production per year. The result of average citation per year shows, 2004 stands a chiefly cited year. About the emphasis on the referenced citation, the study titled "Gleaner, fisher, trader, processor: understanding gendered employment in fisheries and aquaculture" (Weeratunge et al., 2014) has been identified as most relevant with 116 citations. The journal "Marine Policy" appears to be the most relevant source with 14 articles followed by "Women's Studies International Forum" with six articles in the analyzed area of research.

Furthermore, the study found that the USA has the most scientific production and Canada became the most cited country with 390 citations. Moreover, Gerrard S remains the most relevant author with 64 citations and has the highest H index. Regarding the institutional affiliation to Women/Gender in Fisheries Sector, the University of British Columbia remains top with 17 articles. The result also showed that the most frequently used keywords are Gender, Women, Fisheries, and Small-scale Fisheries.

By sharing this paper, the researchers hope to encourage the scholars to conduct extensive studies in Women/Gender in Fisheries to bridge the gap. Although women in fisheries contribute heavily, their contribution is often called 'Unrecognized' and "Undervalued." As inequality is an addressing factor, it is expected that further research in the area will continue to flourish.

Limitations of the Study

Despite the methodical precision, the study has some limitations. Primarily, the study limitation is the extraction of data. The sample data has been collected only from the Web of Science database due to the technical limitation of merging data from different databases. However, excluding relevant databases such as Scopus, Pubmed, Google Scholar may lead to the exclusion of relevant articles in Women in the Fisheries Sector. As future research is concerned, it is suggested that collecting data from other databases would improve the significance of the study.

References

1. Ameyaw, A. B., Breckwoltd, A., Reuter, H., & Aheto, D. W. (2020). From fish to cash: Analyzing the role of women in fisheries in the western region of Ghana. *Marine Policy*, 113(October 2017), 103790. <https://doi.org/10.1016/j.marpol.2019.103790>
2. Aria, M., & Cuccurullo, C. (2017). bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, 11(4), 959–975. <https://doi.org/10.1016/j.joi.2017.08.007>
3. Birkle, C., Pendlebury, D. A., Schnell, J., & Adams, J. (2020). Web of Science as a data source for research on scientific and scholarly activity. *Quantitative Science Studies*, 1(1), 363–376. https://doi.org/10.1162/qss_a_00018
4. Calhoun, S., Conway, F., & Russell, S. (2016). Acknowledging the voice of women : implications for fisheries management and policy. *Marine Policy*, 1–8. <https://doi.org/10.1016/j.marpol.2016.04.033>
5. Chen, C. (2017). Science Mapping: A Systematic Review of the Literature. *Journal of Data and Information Science*, 2(2), 1–40. <https://doi.org/doi:10.1515/jdis-2017-0006>
6. Davis, D., & Gerrard, S. (2000). Introduction. *Women's Studies International Forum*, 23(3), 279–286. [https://doi.org/10.1016/s0277-5395\(00\)00086-8](https://doi.org/10.1016/s0277-5395(00)00086-8)
7. Davis, D. L., & Nadel-Klein, J. (1992). Gender, culture, and the sea: Contemporary theoretical approaches. *Society and Natural Resources*, 5(2), 135–147. <https://doi.org/10.1080/08941929209380782>
8. Di, R. C., & Schiavetti, A. (2012). Ocean & Coastal Management Women participation in the management of a Marine Protected Area in Brazil. *Ocean and Coastal Management*, 62, 15–23. <https://doi.org/10.1016/j.ocecoaman.2012.02.010>
9. Fiorella, K. J., Camlin, C. S., Salmen, C. R., & Omondi, R. (2015). Transactional Fish-for-Sex Relationships Amid Declining Fish Access in Kenya. *WORLD DEVELOPMENT*, 74, 323–332. <https://doi.org/10.1016/j.worlddev.2015.05.015>
10. Forkuor, D., Peprah, V., & Alhassan, A. M. (2017). Assessment of the processing and sale of marine fish and its effects on the livelihood of women in Mfantseman. *Environment, Development and Sustainability*.

<https://doi.org/10.1007/s10668-017-9943-7>

11. Fröcklin, S., De La Torre-Castro, M., Håkansson, E., Carlsson, A., Magnusson, M., & Jiddawi, N. S. (2014). Towards improved management of tropical invertebrate fisheries: Including time series and gender. *PLoS ONE*, 9(3). <https://doi.org/10.1371/journal.pone.0091161>
12. Fröcklin, S., De La Torre-Castro, M., Lindström, L., & Jiddawi, N. S. (2013). Fish traders as key actors in fisheries: Gender and adaptive management. *Ambio*, 42(8), 951–962. <https://doi.org/10.1007/s13280-013-0451-1>
13. Garfield, E. (1990). KeyWords Plus: ISI's Breakthrough Retrieval Method. Part 1. Expanding Your Searching Power. *Current Contents on Diskette*, 32, 3–7.
14. Harper, S., Grubb, C., Stiles, M., & Sumaila, U. R. (2017). Contributions by Women to Fisheries Economies: Insights from Five Maritime Countries. *Coastal Management*, 45(2), 91–106. <https://doi.org/10.1080/08920753.2017.1278143>
15. Harper, S., Grubb, C., Stiles, M., Sumaila, U. R., Harper, S., Grubb, C., Stiles, M., & Sumaila, U. R. (2017). Contributions by Women to Fisheries Economies : Insights from Five Maritime Countries Contributions by Women to Fisheries Economies : Insights from. *Coastal Management*, 45(2), 91–106. <https://doi.org/10.1080/08920753.2017.1278143>
16. Harper, S., Zeller, D., Hauzer, M., Pauly, D., & Rashid, U. (2013). Women and fisheries : Contribution to food security and local economies. *Marine Policy*, 39, 56–63. <https://doi.org/10.1016/j.marpol.2012.10.018>
17. Hauzer, M., Dearden, P., & Murray, G. (2013). The fisherwomen of Ngazidja island, Comoros: Fisheries livelihoods, impacts, and implications for management. *Fisheries Research*, 140, 28–35. <https://doi.org/10.1016/j.fishres.2012.12.001>
18. Journal, A. I., Baker-médard, M., & Baker-médard, M. (2016). Gendering Marine Conservation : The Politics of Marine Protected Areas and Fisheries Access Gendering Marine Conservation : The Politics of Marine Protected Areas and Fisheries Access. *Society & Natural Resources*, 0(0), 1–15. <https://doi.org/10.1080/08941920.2016.1257078>
19. Kabeer, N. (2015). Gender , poverty , and inequality : a brief history of feminist contributions in the field of international development Gender , poverty , and inequality : a brief history of feminist contributions in the field of international development. *Gender & Development*, 23(2), 189–205. <https://doi.org/10.1080/13552074.2015.1062300>
20. Kleiber, D., Harris, L. M., & Vincent, A. C. J. (2014). Improving fisheries estimates by including women's catch in the Central Philippines. *Canadian Journal of Fisheries and Aquatic Sciences*, 71(5), 656–664. <https://doi.org/10.1139/cjfas-2013-0177>
21. Kleiber, D., Harris, L. M., & Vincent, A. C. J. (2015). Gender and small-scale fisheries: A case for counting women and beyond. *Fish and Fisheries*, 16(4), 547–562. <https://doi.org/10.1111/faf.12075>
22. Li, B., & Xu, Z. (2021). A comprehensive bibliometric analysis of financial innovation. *Economic Research-Ekonomika Istraživanja*, 1–24. <https://doi.org/10.1080/1331677X.2021.1893203>
23. Mangubhai, S., & Lawless, S. (2021). Exploring gender inclusion in small-scale fisheries management and development in Melanesia. *Marine Policy*, 123, 104287. <https://doi.org/10.1016/j.marpol.2020.104287>
24. McClanahan, T. R., & Abunge, C. (2017). Fish trader's gender and niches in a declining coral reef fishery: implications for sustainability. *Ecosystem Health and Sustainability*, 3(6). <https://doi.org/10.1080/20964129.2017.1353288>
25. Ngwenya, B. N., Mosepele, K. K., & Magole, L. (2012). A case for gender equity in governance of the Okavango Delta fisheries in Botswana. *Natural Resources Forum*, 36(2), 109–122. <https://doi.org/10.1111/j.1477-8947.2012.001450.x>
26. Novak Colwell, J. M., Axelrod, M., Salim, S. S., & Velvizhi, S. (2017). A Gendered Analysis of Fisherfolk's Livelihood Adaptation and Coping Responses in the Face of a Seasonal Fishing Ban in Tamil Nadu & Puducherry, India. *World Development*, 98, 325–337. <https://doi.org/10.1016/j.worlddev.2017.04.033>
27. Page, M. J., Mckenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-wilson, E., Mcdonald, S., ... Moher, D. (2021). *The PRISMA 2020 statement : an updated guideline for reporting systematic reviews Systematic reviews and Meta-Analyses*. <https://doi.org/10.1136/bmj.n71>
28. Secinaro, S., Brescia, V., Calandra, D., & Biancone, P. (2020). Employing bibliometric analysis to identify suitable business models for electric cars. *Journal of Cleaner Production*, 264, 121503. <https://doi.org/10.1016/j.jclepro.2020.121503>
29. Solano, N., Lopez-Ercilla, I., Fernandez-Rivera Melo, F. J., & Torre, J. (2021). Unveiling Women's Roles and Inclusion in Mexican Small-Scale Fisheries (SSF). *Frontiers in Marine Science*, 7(January), 1–14. <https://doi.org/10.3389/fmars.2020.617965>
30. Szymkowiak, M., Rhodes-reese, M., & Frazier, J. M. (2020). *Addressing the Gender Gap : Using Quantitative and Qualitative Methods to Illuminate Women ' s Fisheries Participation*. 7(May), 1–16. <https://doi.org/10.3389/fmars.2020.00299>
31. Torell, E., Castro, J., Lazarte, A., & Bilecki, D. (2020). *ANALYSIS OF GENDER ROLES IN*. <https://doi.org/10.1002/jid.3520>
32. Weeratunge, N., Béné, C., Siriwardane, R., Charles, A., Johnson, D., Allison, E. H., Nayak, P. K., & Badjeck, M. C. (2014). Small-scale fisheries through the wellbeing lens. *Fish and Fisheries*, 15(2), 255–279. <https://doi.org/10.1111/faf.12016>
33. Weeratunge, N., Snyder, K. A., & Sze, C. P. (2010). Gleaner, fisher, trader, processor: Understanding gendered employment in fisheries and aquaculture. *Fish and Fisheries*, 11(4), 405–420. <https://doi.org/10.1111/j.1467-2979.2010.00368.x>
34. Wosu, A. (2019). Access and institutions in a small-scale octopus fishery: A gendered perspective. *Marine Policy*, 108(July), 103649. <https://doi.org/10.1016/j.marpol.2019.103649>

35. Zupic, I. (2015). *Bibliometric Methods in Management and Organization*. 18(3), 429–472.
<https://doi.org/10.1177/1094428114562629>