

Supply Chain and Sustainable Fisheries Development of Portable Inflated Solar Power Cold Storage House Technology in Indonesia, Bibliometric Analysis

Muhammad Ikhsan Setiawan¹, Dahlan Abdullah², Veronika Nugraheni Sri Lestari³, Yuniningsih⁴

¹Department of Civil Engineering, Narotama University, Surabaya, Indonesia

²Department of Informatics, Universitas Malikussaleh, Lhokseumawe, Indonesia

³Department of Economic Development Study, Dr. Soetomo University, Surabaya, Indonesia

⁴Department of Management, UPN Veteran Jawa Timur, Surabaya, Indonesia

¹ikhsan.setiawan@narotama.ac.id

Abstract— Based on Scopus Analyze search results and VOS Viewer analysis of supply chain and fisheries research, the development of the portable inflated solar power cold storage house technology is on the right track for the future research and publication in Indonesia. The future research and publication of supply chain and fisheries research in Indonesia are increasing. The country ranks eighth in the supply chain and fisheries research from 1947 to 2019, ranks sixth and twenty-first in the fisheries research from 2019 to 2020 and from 1851-2020, respectively. Universitas Gajah Mada, Universitas Padjadjaran, Universitas Diponegoro, and Institut Pertanian Bogor are dominant universities in the field. Indonesia must increase sponsorship as the source of funding, especially in the development of the portable inflated solar power cold storage house technology, for better and sustainable development of the fisheries.

Keywords— portable inflated solar power, cold storage solar power, supply chain, fisheries

1. Introduction

Indonesia consists of 17,502 islands, and 81,000 km of coastline with the sea area of fisheries of about 5.8 million km², which includes 3.1 million km² of territorial waters, and 2.7 million km² of the Indonesian Exclusive Economic Zone (EEZ). The country has the highest level of biodiversity in terms of fish resources that live in the territorial waters, which represent 37% of fish species of the world (the Office of the State Minister for the Environment, 1994). There are several types of high economic value fish, such as tuna, skipjack, shrimp, tuna, mackerel, snapper, squid, and some species of reef fish, such as grouper, rabbitfish, barong shrimp or lobster [1]. The maximum sustainable yield (MSY) of capture fisheries

resources is estimated at 6.4 million tons per year, while the allowable catch that is 80% of MSY is 5.12 million tons per year. The Ministry of Maritime Affairs and Fisheries (KKP) estimates that Indonesia's capture fisheries production to reach 7 million tons by the end of 2015, a growth of 16.7 percent compared to the realization of capture fish production in 2014 of 6 million tons, and 8 million tons in 2016, an increase of 14.3 percent compared to the achievement in 2015. The government policy of limiting ships, which can catch only under 10 GT (Gross Ton), and the fishing gear for sustainable fisheries, increased fishing production. Unfortunately, the abundance of fish production raises concerns about losses of the fishermen, given that the increased amounts of fish catches causes falling fish prices. Fishers need a fish storage area to keep fish fresh for an extended time. During this time, cold storage can be a solution to preserve the quality of fish or other catches. Many fishing shelters do not have cold storage due to the cost and electricity's limitations. The cold storage technology solution for fishers at an economical price, which is capable of displaying the sale of fishery products, is the Portable Inflated Solar Power Cold Storage House Technology. It has to meet the requirements of strength, comfort in space, and speed in placing cold storage in a fishing shelter [1]

2. Material and Method

Global fish production currently reaches 158 million tons, with the most significant amount of 91.3 million tons come from the capture fisheries sector. It is estimated that 136.2 million tons of fish are used directly for consumption and the rest as raw material for fish and animal feed. Indonesia ranks second after China in the capture fisheries

sector, and fourth after China, India, and Vietnam in the fish farming sector. Exports continued to increase to reach USD 35.4 billion in 2012. Portable Inflated Solar Power Cold Storage House technology as a supporting facility for fisheries production and marketing, can be built and moved to specific residential or housing locations easily, safely, quickly and lightly, as it is made of 0.55mm PVC Tarpaulin. The long-term goal is to develop a prototype of a Portable Inflated Solar Power Cold Storage House that meets the aspects of strength, speed, effectiveness, and comfort and increases the absorption of the National Fish. The specific target is to assure the availability of a prototype of the Portable Inflated Solar Power Cold Storage House that is cheap, profitable, and highly-potential to be mass-produced [1]

The Urgency of the Research: (1) Indonesia is one of the key players in global fisheries. For capture fisheries, the country ranks second after China, and fourth after China, India, and Vietnam, for fish farming. In terms of foreign exchange earnings, the exports of Indonesian fishery products reached USD 35.4 billion in 2012; (2) Portable Inflated Solar Power Cold Storage House technology is supported by the application of technology that meets the requirements of strength, speed, comfort in space, and suitability; (3) Portable Inflated Solar Power Cold Storage House technology is a solution to the availability of fresh fish in urban areas. It provides hygienic, inexpensive, and profitable fish due to its flexibility. It can be placed in an urban area as it is accompanied by technology that is easy to be found by the community; (4) It is highly-potential to be mass-produced by the industry partners, due to the high demand of fresh urban fish and the lack of availability of clean but inexpensive fish production facility [1]

The Specific Research Objectives of the Portable Inflated Solar Power Cold Storage House Technology: (1) Design development; (2) Develop the prototype, mechanical-electrical, automatic, followed by technical and field tests; (3) Test the ease and effectiveness in the process of transporting, assembling, installing, and dismantling; (4) Test the level of thermal comfort (temperature, humidity, and air pressure) [1]

The first stage of the research of the design development is started with the analysis of future trend research by using the Scopus' database of 21,911 fisheries research documents' title from the year 1851 to 2020, 1,020 fisheries research documents' title from the year 2019 to 2020, 390

supply chain and fisheries research documents' title, abstract and keywords from the year 1947 to 2019. It is followed then by Scopus Analyze search results and VOS Viewer analysis. VOS Viewer and Visualizing Scientific Landscapes are used for visual analysis of bibliographic data that contains bibliographic fields that include Title, Abstract, Keywords, Authors. Bibliometric analysis is used for design development, and to figure out future research trends and publication trends. The bibliometric study in this article uses the Scopus RIS format data that includes: (1) Co-authorship Analysis: an analysis of the collaboration between writers with other authors, whose visualization results are based on the name of the author, author's organization, or country of origin of the author; (2) Co-occurrence Analysis: the network analysis between keywords; (3) Citation Analysis: the analysis of the relationships between documents to find out citation between documents, and self-citation; (4) Bibliographic Coupling Analysis: the analysis of the article visualization and its network to show the closeness of studies between documents; (5) Co-citation Analysis: the visual analysis of the document's references to determine the dominant references that are used by the article. The VOS Viewer analysis uses the full and fractional counting method. The full counting method counts for what it is. The fractional process is influenced by how many co-authors in the document that are tested. The data-title or abstract analyzes and visualizes the interrelationships between the words. The visualization of data analysis of VOS Viewers includes network visualization, overlay visualization, and density visualization. The network visualization shows the relationship between terms that are visualized. Overlay visualization shows research history. The visualization of the density shows the density or the emphasis of the study group. Density's visualization looks at parts of research that are still rarely done.

Some high-grade journals in Scopus, analysis by VOS viewer for future research, future innovations, and future trends in social sciences, applied sciences, engineering, economic, business, etc. Computer methods and programs in biomedicine journal, high-grade Q1 and Q2 Scopus journal, country Netherlands, H index 83, subject area and category computer science, computer science applications, software, medicine, health informatics, publisher Elsevier bv, publication type journals, ISSN 01692607, coverage 1985-ongoing (scimagojr.com, 2019). VOS Viewer analysis of research trends by cited papers, keywords, authors, institutions and countries, bibliographic, co-

citation, and co-occurrence. Research analysis for detected future research of computer methods and programs in biomedicine [2]. Tourism recreation research journal, high-grade Q1 and Q2 Scopus journal, country UK united kingdom, H index 36, subject area and category business, management and accounting, tourism, leisure and hospitality management, environmental science, management, monitoring, policy and law, social sciences, cultural studies, geography, planning and development, publisher Taylor and Francis Ltd, publication type journals, ISSN 02508281, 23200308, coverage 1976-ongoing. VOS viewer analysis of publications, citations, cited papers, productive authors, and diversity of institutions. Research analysis for detected future research of [3]. Quality and quantity journal, high-grade journal Q2 and Q3 Scopus journal, country Netherlands, H index 46, subject area and category mathematics, statistics and probability, social sciences, social sciences (miscellaneous), publisher Kluwer academic publishers, publication type journals, ISSN 00335177, 15737845, coverage 1967-ongoing (scimagojr.com, 2019). VOS Viewer analysis of research trends by impact, topics, authors, universities, and countries. Analysis visualization of the bibliographic, co-citation, citation, co-authorship, and co-occurrence. Research analysis for detected future research of quality and quantity [4]. Industrial marketing management journal, high-grade journal Q1 Scopus, country Netherlands, H index 114, subject area and category business, management and accounting, marketing, publisher Elsevier BV, publication type journals, ISSN 00198501, coverage 1971-ongoing. VOS viewer analysis of research trends by citations, future topics, future research, future innovation, future performance, future marketing, future technologies in industrial and future online marketing. Research analysis for detected future research of industrial marketing management [5]. Computers and industrial engineering journal, high-grade Q1 journal in Scopus, country United Kingdom, H index 111, subject area and category computer science, computer science (miscellaneous), engineering, engineering (miscellaneous), publisher Elsevier Ltd, publication type journals, ISSN 03608352, coverage 1976-ongoing (scimagojr.com, 2019), VOS viewer analysis of bibliographic, co-occurrence, keywords and how the journal is connected with other journals through co-citation analysis. Research analysis for detected future research of computers and industrial engineering [6]. Transportation Research, Part A: Policy and Practice, Part B: Methodological, Part C: Emerging Technologies, Part D: Transport and Environment,

Part E: Logistics and Transportation Review, Part F: Traffic Psychology and Behaviour, High-grade Q1 and Q2 Journal, Country United Kingdom, H Index 77-118, Subject Area and Category Decision Sciences, Management Science and Operations Research, Engineering, Civil and Structural Engineering, Social Sciences, Transportation, Computer Science, Computer Science Applications, Automotive Engineering, Business, Management and Accounting, Business and International Management, Environmental Science, Environmental Science (miscellaneous), Psychology, Applied Psychology, Publisher Elsevier Ltd, Publication type Journals, ISSN 01912615 Coverage 1979-ongoing, ISSN 09658564 Coverage 1982, 1992-ongoing, ISSN 0968090X Coverage 1993-ongoing, ISSN 13665545 Coverage 1997-ongoing, ISSN 13619209 Coverage 1996-ongoing, ISSN 13698478 Coverage 1998-ongoing (scimagojr.com, 2019), VOS viewer analysis of trends in impact, topics, authors, universities, countries, bibliographic, co-citation, citation, co-authorship, and co-occurrence. Research analysis for detected future research of Transportation [7].

3. Result and Discussion

3.1 Fisheries Research Data Analysis

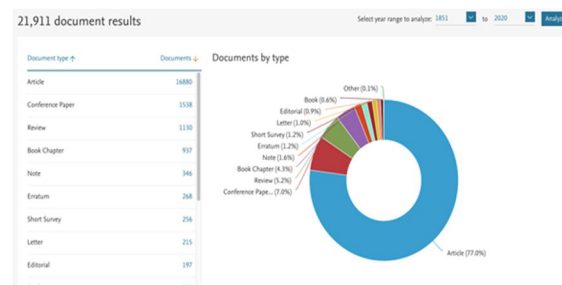


Figure 1. Scopus Documents by Title, from 1851 to 2020

21,911 documents result Fisheries research title, by 11 type, published in Scopus, 1851-2020, included: 16,880 documents Article 77.0%; 1,538 documents Conference Paper 7.0%; 1,130 documents Review 5.2%; 937 documents Book Chapter 4.3%; 346 documents Note 1.6%; 268 documents Erratum 1.2%; 256 documents Short Survey 1.2%; 215 documents Letter 1.0%; 197 documents Editorial 0.9%; 123 documents Book 0.6%; 0,1% documents Conference Review, Abstract Report, Data Paper, Report and others.

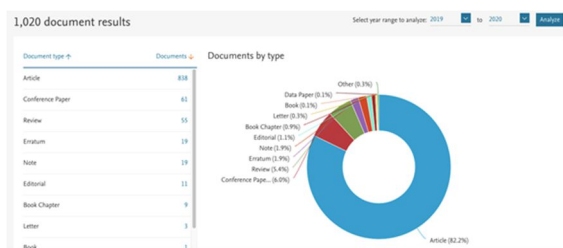


Figure 2. Scopus Documents by Affiliation, from 2019 to 2020

21,911 documents result in Fisheries research title, by 39 affiliation up to 10 documents published in Scopus, 2019-2020, included: The University of British Columbia, 47 documents; National Oceanic and Atmospheric Administration, 36 documents; University of Washington, Seattle, 33 documents; James Cook University, Australia, 23 documents; CNRS Centre National de la Recherche Scientifique, 21 documents; University of California, Santa Barbara, 20 documents; CSIRO Oceans and Atmosphere, 19 documents; NOAA Fisheries Service, and Centre for the Environment Fisheries and Aquaculture Science, 18 documents; Fisheries and Oceans Canada; University of Florida, and University of Western Australia, 17 documents; Dalhousie University; NOAA National Marine Fisheries Service Northwest Regional Office, and UiT The Arctic University of Norway, 16 documents; United States Geological Survey; University of Tasmania; Nature Conservancy; Stockholms universitet, and Bogor Agricultural University, 15 documents; Simon Fraser University, and IFREMER Institut Francais de Recherche pour l'Exploitation de la Mer, 14 documents; NOAA Northwest Fisheries Science Center, and Carleton University, 13 documents; Chinese Academy of Sciences; Ocean University of China, and Michigan State University, 12 documents; Helsingin Yliopisto; NOAA National Marine Fisheries Service Northeast Fisheries Science Center; Inter-American Tropical Tuna Commission; Universitas Diponegoro; Leibniz Center for Tropical Marine Research, and Shanghai Ocean University, 11 documents; University of Cape Town; Instituto Espanol de Oceanografia; Wageningen University and Research Centre; North Carolina State University; Memorial University of Newfoundland, and AZTI Fundazioa, 10 documents.

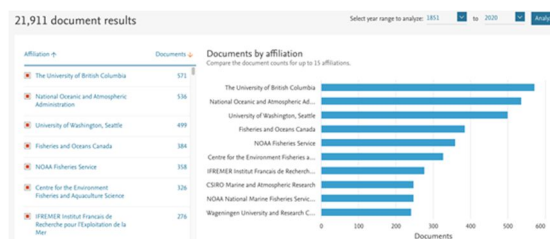


Figure 3. Scopus Documents by Affiliation, from 1851 to 2020

21,911 documents result Fisheries research title, by 158 affiliation up to 50 documents published in Scopus, 1851-2020, included: The University of British Columbia, 571 documents; National Oceanic and Atmospheric Administration, 536 documents; University of Washington, Seattle, 499 documents; Fisheries and Oceans Canada, 384 documents; NOAA Fisheries Service, 358 documents; Centre for the Environment Fisheries and Aquaculture Science, 326 documents; IFREMER Institut Francais de Recherche pour l'Exploitation de la Mer, 276 documents; CSIRO Marine and Atmospheric Research, and NOAA National Marine Fisheries Service Northwest Regional Office, 247 documents; Wageningen University and Research Centre, 240 documents; University of Tasmania, 239 documents; UiT The Arctic University of Norway, 236 documents; NOAA National Marine Fisheries Service Northeast Fisheries Science Center, 229 documents; Danmarks Tekniske Universitet, 228 documents; James Cook University, Australia, 220 documents; Food and Agriculture Organization of the United Nations, 219 documents; University of Cape Town, 211 documents; Instituto Espanol de Oceanografia, 200 documents; Havforskningstituttet, 185 documents; NOAA National Marine Fisheries Service Southwest Regional Office, 183 documents; Oregon State University, 179 documents; Memorial University of Newfoundland, 178 documents; United States Geological Survey, 164 documents; IRD Institut de Recherche pour le Developpement, 162 documents; University of California, Santa Barbara, 161 documents; University of Florida, 151 documents; University of Rhode Island, 145 documents; Dalhousie University, 144 documents; Michigan State University, 142 documents; Simon Fraser University, and University of Portsmouth, 141 documents; CNRS Centre National de la Recherche Scientifique, 140 documents; University of Hawaii at Manoa, 139 documents; University of Maine, and University of Tokyo, 138 documents; University of Queensland, and WorldFish, 133 documents; National University Corporation Tokyo University of Marine Science and Technology, 130 documents; Commonwealth Scientific and Industrial Research Organization, 128 documents; CSIC - Instituto de Ciencias del Mar ICM; University of California, Davis; CSIRO Oceans

and Atmosphere, 127 documents; NOAA Northwest Fisheries Science Center, 122 documents; Fisheries Research Agency, 118 documents; Scripps Institution of Oceanography, 116 documents; Imperial College London, 114 documents; Universidade do Algarve, and Hellenic Centre for Marine Research, 110 documents; Consiglio Nazionale delle Ricerche; Pacific Biological Station, Fisheries and Oceans Canada; and University of Miami, 109 documents; Stockholms universitet, 108 documents; AZTI Fundazioa, 107 documents; Carleton University, 104 documents; ICAR - Central Marine Fisheries Research Institute, Kochi, 103 documents; University of California, San Diego, and Shanghai Ocean University, 102 documents; National Institute of Water and Atmospheric Research, New Zealand, and University of Hull, 101 documents; Stanford University, 97 documents; University of Aberdeen, and Natural Resources Institute Finland Luke, 95 documents; Rosenstiel School of Marine and Atmospheric Science, and Instituto Português do Mar e da Atmosfera, 94 documents; University of Alaska Fairbanks, and Haskoli Islands, 93 documents; University of California, Santa Cruz, 92 documents; Virginia Institute of Marine Science, 90 documents; Consejo Superior de Investigaciones Científicas, 89 documents; Helsingin Yliopisto, and The College of William and Mary, 88 documents; Australian National University; Universitetet i Bergen; Bedford Institute of Oceanography, Fisheries and Oceans Canada, 87 documents; University of East Anglia; Wildlife Conservation Society; Woods Hole Oceanographic Institution, and University of Western Australia, 86 documents; Consejo Nacional de Investigaciones Científicas y Técnicas; North Carolina State University; and Marine Scotland, 85 documents; University of Wollongong and South Australian Research and Development Institute, 82 documents; Cornell University; Duke University; Hokkaido University; Texas A&M University; British Antarctic Survey; Inter-American Tropical Tuna Commission and Thünen Institute of Fisheries Ecology, 81 documents; Newcastle University, United Kingdom and Marine and Coastal Management, 80 documents; Centro Interdisciplinario de Ciencias Marinas; NOAA Southeast Fisheries Science Center; Bangor University; and Rhodes University, 79 documents; Ocean University of China, 78 documents; European Commission Joint Research Centre, 77 documents; Sveriges lantbruksuniversitet, 76 documents; Aménagement des Usages des Ressources et des Espaces Marins et Littoraux - Centre de Droit et d'économie de la mer Amure, 75 documents; US Fish & Wildlife Service and Instituto Politécnico Nacional, 73 documents; Marine Institute Ireland and University of Exeter, 72 documents; Leibniz-Institute of Freshwater

Ecology and Inland Fisheries, and Chinese Academy of Fishery Sciences, 70 documents; Ontario Ministry of Natural Resources; Western Australian Marine Research Laboratories; NHH Norwegian School of Economics; University of Wisconsin-Madison, and Virginia Polytechnic Institute and State University, and Rutgers University–New Brunswick, 68 documents; University of Maryland, 67 documents; Chinese Academy of Sciences; Secretariat of the Pacific Community Noumea, and SINTEF Ocean, 65 documents; University of Victoria, and National Research Institute of Fisheries Science, FRA, 64 documents; Nature Conservancy, 62 documents; University of Concepcion; NSW Department of Primary Industries, and Universidad de Santiago de Compostela, 61 documents; University of York, and Queensland Department of Agriculture and Fisheries, 60 documents; Ministry of Education China; Kyoto University; Australian Antarctic Division, and Leibniz Center for Tropical Marine Research, 59 documents; Saint Mary's University, and National Taiwan Ocean University, 58 documents; Humboldt-Universität zu Berlin, 56 documents; Centro Nacional Patagonico; UNESP-Universidade Estadual Paulista; Universitetet i Oslo; National Research Institute of Far Seas Fisheries, FRA; Université de Brest UBO and Pontificia Universidad Católica de Chile, 55 documents; University of Toronto; CSIC-UIB - Instituto Mediterraneo de Estudios Avanzados IMEDEA, and Bogor Agricultural University, 54 documents; Universidade Federal do Rio Grande; Ege Üniversitesi and University of New South Wales UNSW Australia, 53 documents; Natural Environment Research Council; University of Massachusetts Dartmouth; University of Massachusetts Amherst; Universidade de Vigo; University of Ottawa, Canada; Københavns Universitet and Graduate School of Agricultural and Life Sciences The University of Tokyo 53 documents; NOAA Pacific Islands Fisheries Science Center; Pukyong National University, and Murdoch University, 51 documents; University of Auckland, Deakin University, Museum National d'Histoire Naturelle, Curtin University, and Kenya Marine and Fisheries Research Institute, 50 documents.

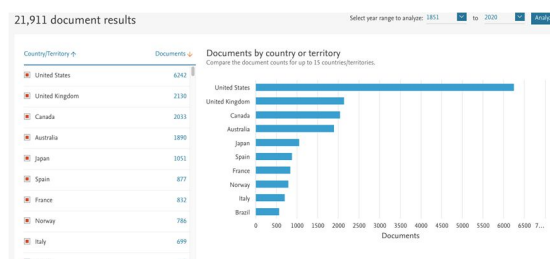


Figure 4. Scopus Documents by Country or Territory, from 1851 to 2020

21,911 documents result in Fisheries research title, by 37 country or territory, 1851-2020, published in Scopus up to 100 documents, included: United States, 6,242 documents; United Kingdom, 2,130 documents; Canada, 2,033 documents; Australia, 1,890 documents; Japan, 1,051 documents; Spain, 877 documents; France, 832 documents; Norway, 786 documents; Italy, 699 documents; Brazil, 558 documents; Germany, 543 documents; India, 511 documents; China, 507 documents; Denmark, 478 documents; South Africa, 458 documents; Netherlands, 436 documents; Mexico, 415 documents; New Zealand, 366 documents; Sweden, 344 documents; Portugal, 318 documents; Indonesia, 293 documents; Chile, 280 documents; Greece, 209 documents; Finland, 208 documents; Malaysia, 196 documents; Argentina, 189 documents; Philippines, 174 documents; Turkey, 158 documents; Ireland, 152 documents; Iceland, 150 documents; Belgium, 137 documents; South Korea, 137 documents; Kenya, 136 documents; Russian Federation, 136 documents; Taiwan, 125 documents; Thailand, 123 documents, and New Caledonia, 100 documents.

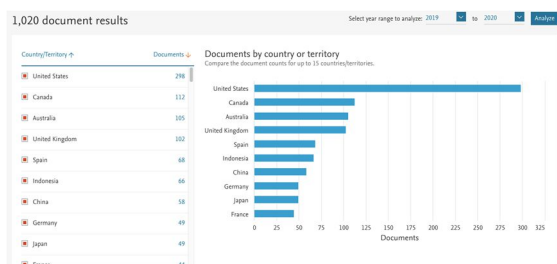


Figure 5. Scopus Documents by Country or Territory, from 2019 to 2020.

1,020 Fisheries research title, documents result by 31 country or territory, 2019-2020, published in Scopus up to 10 documents, included: United States, 298 documents; Canada, 112; Australia, 105 documents; United Kingdom, 102 documents; Spain, 68 documents; Indonesia, 66 documents; China, 58 documents; Germany, and Japan, 49 documents; France, 44 documents; Norway, 40 documents; Italy, 36 documents; Brazil, 34 documents; Sweden, 30 documents; India, 29 documents; South Africa, 25 documents; Denmark, 24 documents; Chile, 23 documents; Mexico, and Portugal, 22 documents; Netherlands, 18 documents; Finland, 17 documents; New Zealand, 16 documents; Greece, and Kenya, 13 documents; Colombia, 12 documents; Malaysia, 11 documents; Argentina; Belgium; Ireland; Philippines, and Russian Federation, 10 documents.

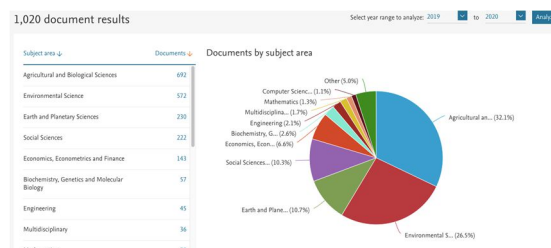


Figure 6. Scopus Documents by Subject Area, from 2019 to 2020.

21,911 documents result in Fisheries research title, by 23 subject areas, 2019-2020 published in Scopus, included: (1) 32.1% Agricultural and Biological Sciences, 692 documents; (2) 26.5% Environmental Science, 572 documents; (3) 10.7% Earth and Planetary Sciences, 230 documents; (4) 10.3% Social Sciences, 222 documents; (5) 6.6% Economics, Econometrics and Finance, 143 documents; (6) 2.6% Biochemistry, Genetics and Molecular Biology, 57 documents; (7) 2.1% Engineering, 45 documents; (8) 1.7% Multidisciplinary, 36 documents; (9) 1.3% Mathematics, 28 documents; (10) 1.1% Computer Science, 24 documents; 5.0% Others in (11) Arts and Humanities, 15 documents; (12) Energy, 14 documents; (13) Business, Management and Accounting, 13 documents; (14) Chemistry, 13 documents; (15) Decision Sciences, 13 documents; (16) Physics and Astronomy, 10 documents; (17) Immunology and Microbiology, 9 documents; (18) Materials Science, 6 documents; (19) Medicine, 5 documents; (20) Pharmacology, Toxicology and Pharmaceuticals, 4 documents; (21) Chemical Engineering, 3 documents; (22) Neuroscience, 1 documents, and (23) Veterinary, 1 documents.

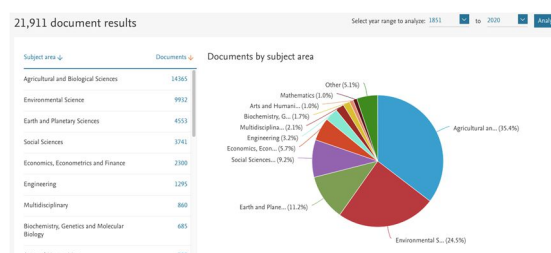


Figure 7. Scopus Documents by Subject Area, from 1851 to 2020.

21,911 documents result Fisheries research title, by 27 subject area, 1851-2020 published in Scopus, included: (1) 35.4% Agricultural and Biological Sciences, 14,365 documents; (2) 24.5% Environmental Science, 9,932 documents; (3) 11.2% Earth and Planetary Sciences, 4,553 documents; (4) 9.2% Social Sciences, 3,741 documents; (5) 5.7% Economics, Econometrics and Finance, 2,300 documents; (6) 3.2% Engineering, 1,295 documents; (7) 2.1% Multidisciplinary, 860 documents; (8) 1.7% Biochemistry, Genetics and Molecular Biology, 685 documents; (9) 1.0% Arts and Humanities, 399 documents; (10) 1.0%

Mathematics, 394 documents; 5.1% Other in (11) Medicine, 334 documents; (12) Computer Science, 330 documents; (13) Business, Management and Accounting, 286 documents; (14) Immunology and Microbiology, 185 documents; (15) Energy, 168 documents; (16) Chemistry, 130 documents; (17) Decision Sciences, 129 documents; (18) Veterinary, 116 documents; (19) Physics and Astronomy, 97 documents; (20) Chemical Engineering, 91 documents; (21) Pharmacology, Toxicology and Pharmaceutics, 89 documents; (22) Materials Science, 45 documents; (23) Neuroscience, 27 documents; (24) Nursing, 23 documents; (25) Psychology, 20 documents; (26) Health Professions, 11 documents; (27) Dentistry, 1 documents and Undefined, 6 documents.

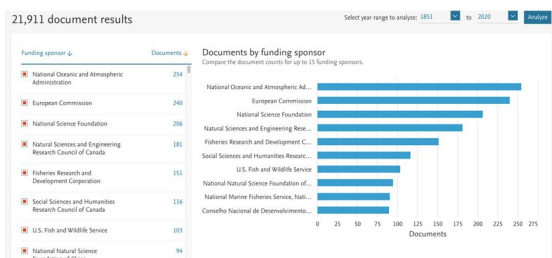


Figure 8. Scopus Documents by Funding Sponsor, from 1851 to 2020.

21,911 documents result Fisheries research title, by 73 Funding sponsor up to 30 documents, 1851-2020 published in Scopus, included: National Oceanic and Atmospheric Administration 254 documents, European Commission 240 documents, National Science Foundation 206 documents, Natural Sciences and Engineering Research Council of Canada 181 documents, Fisheries Research and Development Corporation 151 documents, Social Sciences and Humanities Research Council of Canada 116 documents, U.S. Fish and Wildlife Service 103 documents, National Natural Science Foundation of China 94 documents, National Marine Fisheries Service, National Oceanic and Atmospheric Administration 90 documents, Conselho Nacional de Desenvolvimento Científico e Tecnológico, and David and Lucile Packard Foundation 89 documents, Natural Environment Research Council 88 documents, Pew Charitable Trusts 72 documents, Seventh Framework Programme 63 documents, Australian Research Council 60 documents, Commonwealth Scientific and Industrial Research Organisation 60 documents, Fundação para a Ciência e a Tecnologia 58 documents, Japan Society for the Promotion of Science 57 documents, U.S. Department of Commerce 56 documents, Department for Environment, Food and Rural Affairs 55 documents, Consejo Nacional de Ciencia y Tecnología 54 documents, Coordenação de Aperfeiçoamento de Pessoal de Nível Superior 51

documents, University of British Columbia 50 documents, Australian Centre for International Agricultural Research, Fisheries Agency, Gordon and Betty Moore Foundation, and Norges Forskningsråd 49 documents, National Fish and Wildlife Foundation, and United States Agency for International Development 44 documents, Erzincan Üniversitesi, and National Research Foundation 43 documents, Fisheries and Oceans Canada, and Xunta de Galicia 41 documents, Gulf States Marine Fisheries Commission 36 documents, Great Lakes Fishery Commission 35 documents, U.S. Geological Survey 34 documents, Agence Nationale de la Recherche, and European Regional Development Fund 32 documents, Oregon Chapter of the American Fisheries Society, and Wildlife Conservation Society 31 documents, Canada Research Chairs, Indian Council of Agricultural Research, and Svenska Forskningsrådet Formas 30 documents.

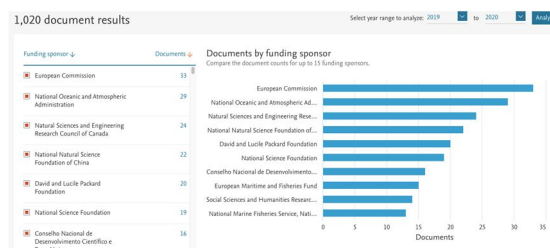


Figure 9. Scopus Documents by Funding Sponsor, from 2019 to 2020.

21,911 documents result Fisheries research title, by 49 Funding sponsor up to 5 documents, 2019-2020 published in Scopus, included: European Commission 33 documents, National Oceanic and Atmospheric Administration 29 documents, Natural Sciences and Engineering Research Council of Canada 24 documents, National Natural Science Foundation of China 22 documents, David and Lucile Packard Foundation 20 documents, National Science Foundation 19 documents, Conselho Nacional de Desenvolvimento Científico e Tecnológico 16 documents, European Maritime and Fisheries Fund 15 documents, Social Sciences and Humanities Research Council of Canada 14 documents, National Marine Fisheries Service, National Oceanic and Atmospheric Administration 13 documents, Coordenação de Aperfeiçoamento de Pessoal de Nível Superior 12 documents, Australian Research Council 11 documents, Japan Society for the Promotion of Science, University of British Columbia, and Xunta de Galicia 10 documents, Australian Centre for International Agricultural Research, Natural Environment Research Council, Seventh Framework Programme, and United States Agency for International Development 9 documents, Bundesministerium für Bildung und Forschung, Fisheries and Oceans Canada, Fundação para a Ciência e a Tecnologia, Gordon and Betty Moore

Foundation, U.S. Fish and Wildlife Service 8 documents, Consejo Nacional de Ciencia y Tecnología 7 documents, Bonefish and Tarpon Trust, Comisión Nacional de Investigación Científica y Tecnológica, Department for Environment, Food and Rural Affairs, Directorate-General for Maritime Affairs and Fisheries, Fisheries Research and Development Corporation, Indian Council of Agricultural Research, MAVA Foundation, National Fish and Wildlife Foundation, Pew Charitable Trusts, Svenska Forskningsrådet Formas, University of Western Australia, Walton Family Foundation, and Wildlife Conservation Society 6 documents, European Regional Development Fund, Fondo Nacional de Desarrollo Científico y Tecnológico, Instituto Español de Oceanografía, Ministry for Food, Agriculture, Forestry and Fisheries, Ministry of Agriculture of the People's Republic of China, National Research Foundation, National Sleep Foundation, Nature Conservancy, Oak Foundation, U.S. Geological Survey, and University of Florida 5 documents.

3.2 Analysis of Supply Chain and Fisheries Research Data

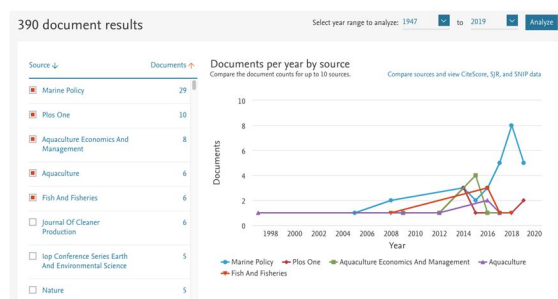


Figure 10. Scopus Documents per year source, from 1947 to 2019.

390 document results, Supply Chain and Fisheries, Title, Abstract and Keywords, per year by source published in Scopus, 1947-2019, included: Marine Policy, 29 documents; Plos One, 10 documents; Aquaculture Economics And Management, 8 documents; Aquaculture, Fish And Fisheries, an Journal Of Cleaner Production, 6 documents; IOP Conference Series Earth and Environmental Science, Nature, Ocean And Coastal Management, Sustainability Switzerland, 5 documents; Fisheries Research, Food Control, International Journal Of Life Cycle Assessment, International Journal Of Supply Chain Management, Journal Of Fish Biology, Journal Of Industrial Ecology, and Science Of The Total Environment, 4 documents; Ambio, Frontiers In Marine Science, Global Environmental Change, ICES Journal Of Marine Science, IOP Conference Series Materials Science And Engineering, New Medit, Nongye Gongcheng Xuebao Transactions Of The Chinese Society Of Agricultural Engineering, Proceedings Of The

National Academy Of Sciences Of The United States Of America, Quality Access To Success, Reviews In Fish Biology And Fisheries, and Water Science And Technology, 3 documents.

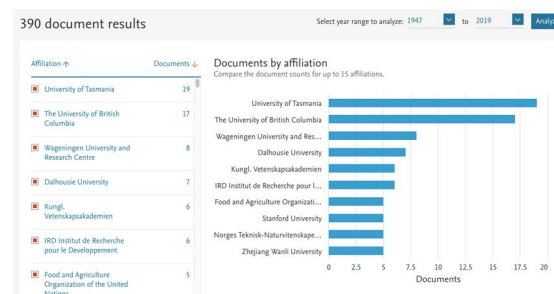


Figure 11. Scopus Documents by Affiliation, from 1947 to 2019

390 document results, Supply Chain and Fisheries, Title, Abstract, and Keywords, by affiliation published in Scopus, 1947-2019, included: University of Tasmania, 19 documents; The University of British Columbia, 17 documents; Wageningen University and Research Centre, 8 documents; Dalhousie University, 7 documents; Kungl. Vetenskapsakademien, and IRD Institut de Recherche pour le Developpement, 6 documents; Food and Agriculture Organization of the United Nations, Stanford University, Norges Teknisk-Naturvitenskapelige Universitet, Zhejiang Wanli University, University of Washington, Seattle, IFREMER Institut Francais de Recherche pour l'Exploitation de la Mer, James Cook University, Australia, University of Stirling, Stockholms universitet, and CSIRO Oceans and Atmosphere, 5 documents; University of Calgary, NOAA Fisheries Service, University of Auckland, Newcastle University, United Kingdom, CNRS Centre National de la Recherche Scientifique, Universitatea Dunarea de Jos din Galati, Kyoto University, Oregon State University, University of Hawaii at Manoa, Universitetet i Stavanger, Memorial University of Newfoundland, INRA Institut National de La Recherche Agronomique, University of Technology Sydney, University of Tokyo, University of Oxford, Universidad de Santiago de Compostela, Commonwealth Scientific and Industrial Research Organization, Københavns Universitet, Michigan State University, Pontificia Universidad Catolica del Peru, and European Commission Joint Research Centre, 4 documents; Sustainability Incubator, Conservation International, Centre for Social Innovation, Gulf Maine Research Institute, Swedish Institute for Food and Biotechnology, University of Glasgow, Australian National University, Queensland University of Technology QUT, Danmarks Tekniske Universitet, University of Florida, Bangladesh Agricultural University, University of Guelph, CSIRO Marine and Atmospheric Research, Centre for the Environment Fisheries and

Aquaculture Science, Macquarie University, NOAA National Marine Fisheries Service Northwest Regional Office, Universidade de Aveiro, WorldFish, University of Edinburgh, National Oceanic and Atmospheric Administration, Alma Mater Studiorum Università di Bologna, Dalian Maritime University, Universite de Nantes, Universitas Gadjah Mada, Universitas Padjadjaran, NOFIMA, and Laboratoire d'Économie et de Management de Nantes-Atlantique, 3 documents.



Figure 12. Scopus Documents by Country or Territory, from 1947 to 2019

390 document results, Supply Chain and Fisheries, Title, Abstract and Keywords, by country or territory published in Scopus, 1947-2019, included: United States, 83 documents; Australia, and United Kingdom, 54 documents; Canada, 46 documents; China, France, and Norway, 23 documents; Indonesia and Italy, 20 documents; Japan, 19 documents; Netherlands, 17 documents; Sweden, 15 documents; Spain, 14 documents; Germany, 12 documents; Brazil, and Thailand, 11 documents; and South Africa, 10 documents.

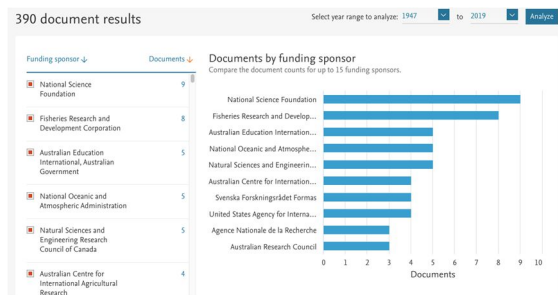


Figure 12. Scopus Documents by Funding Sponsor, from 1947 to 2019

390 document results, Supply Chain and Fisheries, Title, Abstract and Keywords, by funding sponsor published in Scopus, 1947-2019, included: National Science Foundation, 9 documents; Fisheries Research and Development Corporation, 8 documents; Australian Education International, Australian Government, National Oceanic and Atmospheric Administration, and Natural Sciences and Engineering Research Council of Canada, 5 documents; Australian Centre for International Agricultural Research, Svenska Forskningsrådet Formas, and United States Agency for International Development, 4 documents; Agence Nationale de

la Recherche, Australian Research Council, David and Lucile Packard Foundation, European Commission, Japan Society for the Promotion of Science, Royal Swedish Academy of Sciences, and Walton Family Foundation, 3 documents.

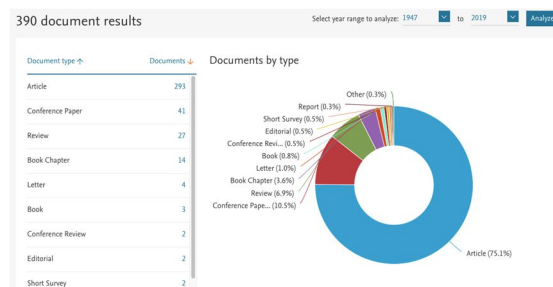


Figure 13. Scopus Documents by Type, from 1947 to 2019

390 document results, Supply Chain and Fisheries, Title, Abstract and Keywords, by type published in Scopus, 1947-2019, included: 75.1% Article, 293 documents; 10.5% Conference Paper, 41 documents; 6.9% Review, 27 documents; 3.6% Book Chapter, 14 documents; 1.0% Letter, 4 documents; 0.8% Book, 3 documents; 0.5% Conference Review, Editorial, Short Survey, 2 documents; and 0.3% Report, 1 documents.

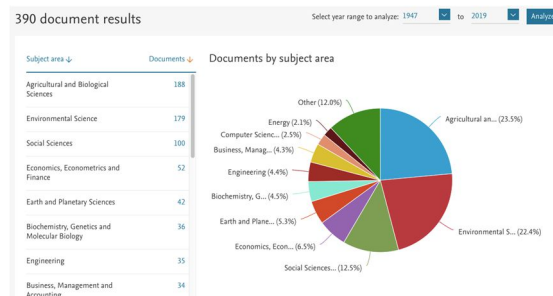


Figure 14. Scopus Documents by Subject Area, from 1947 to 2019

390 document results, Supply Chain and Fisheries, Title, Abstract and Keywords, by subject area published in Scopus, 1947-2019, included: 23.5% Agricultural and Biological Sciences, 188 documents; 22.4% Environmental Science, 179 documents; 12.5% Social Sciences, 100 documents; 6.5% Economics, Econometrics and Finance, 52 documents; 5.3% Earth and Planetary Sciences, 42 documents; 4.5% Biochemistry, Genetics and Molecular Biology, 36 documents; 4.4% Engineering, 35 documents; 4.3% Business, Management and Accounting, 34 documents; 2.5% Computer Science, 20 documents; 2.1% Energy, 17 documents; Other 12.0%, Multidisciplinary, 16 documents; Medicine, 15 documents; Decision Sciences, 11 documents; Mathematics, 9 documents; Chemistry, 8 documents; Arts and Humanities, and Immunology and Microbiology, 5 documents; Chemical Engineering, Materials Science, Nursing, Physics and Astronomy, and

Veterinary, 4 documents; Neuroscience, and Pharmacology, Toxicology and Pharmaceutics, 3 documents; and Psychology, 1 documents

390 document results, Supply Chain and Fisheries, Keywords, published in Scopus, 1947-2019, VOSviewer analysis result:

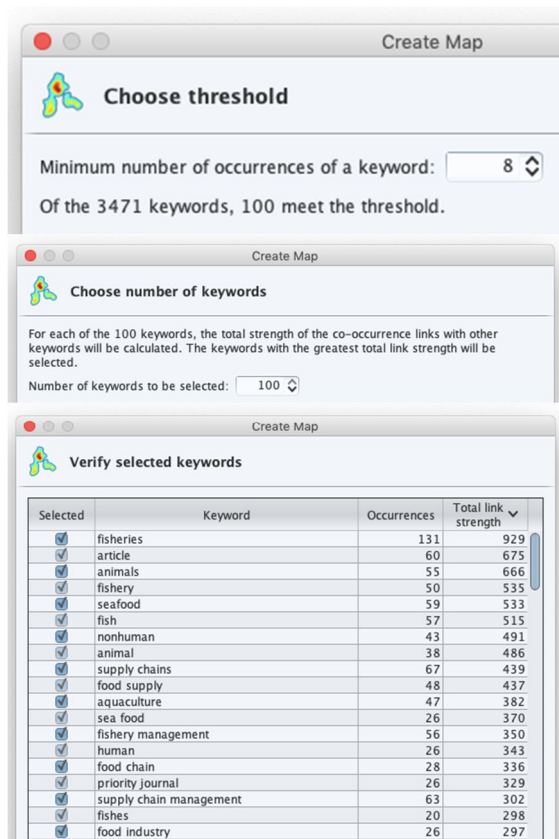


Figure 15. VOSviewer keyword analysis

390 document results, Supply Chain and Fisheries, Keywords, published in Scopus, 1947-2019, VOSviewer analysis result, state that fisheries, sustainability, seafood, food supply, fishing industry, fisheries management, sustainable seafood, life cycle assessment, environmental impact, and food safety are dominant research keywords for Supply Chain and Fisheries research subject nowadays.

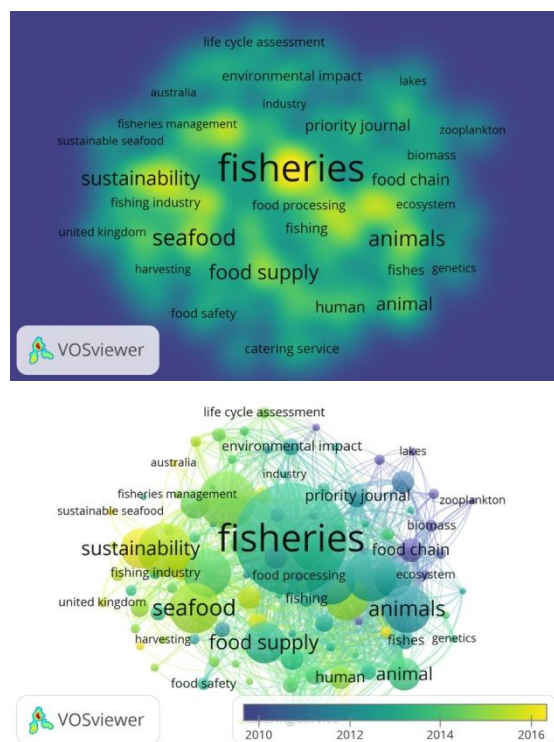


Figure 16. VOSviewer keyword analysis result

390 document results, Supply Chain and Fisheries, Title and Abstract, published in Scopus, 1947-2019, VOSviewer analysis result:

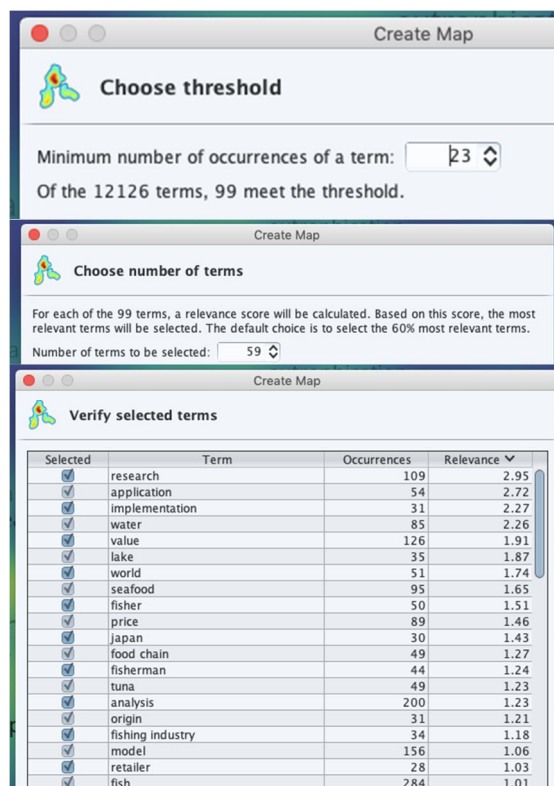


Figure 17. VOSviewer title and abstract analysis

390 document results, Supply Chain and Fisheries, Title and Abstract, published in Scopus, 1947-2019, VOSviewer analysis result, state that System,

development, research, study, fishing industry, fisherman, relationship, market, consumer, risk, cost, trade, price, sustainability are dominant research title and abstract for Supply Chain and Fisheries research subject nowadays.

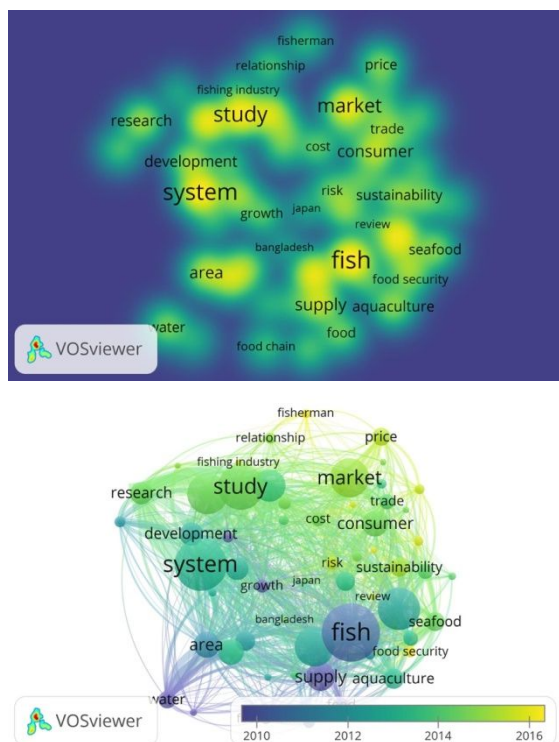


Figure 18. VOSviewer title and abstract analysis result

4. Conclusions

Based on Scopus analyse search result and VOS viewer analysis of supply chain and fisheries research, portable inflated solar power cold storage house technology development in the right track of future research and publication of in Indonesia. Future research and future publication of supply chain and fisheries research in Indonesia increasing. Supply chain and fisheries research, 1947-2019, Indonesia peringkat 8, fisheries research 2019-2020, Indonesia peringkat 6 and fisheries research 1851-2020, Indonesia peringkat 21 with Universitas Gajah Mada, Universitas Padjadjaran, Universitas Diponegoro and Institut Pertanian Bogor, dominant. But Indonesia must increased funding sponsor for supply chain and fisheries research, especially in portable inflated solar power cold storage house technology development, for better and sustainable fisheries.

Acknowledgements

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References

- [1] E. O. Okon, "Climate Change: Space Technology and Climate-Resilient Development in Nigeria," International Journal of Social Sciences Perspectives, Vol. 1, No. 1, pp. 6-19, 2017.
- [2] N. Shukla, J. M. Merigó, T. Lammers, and L. Miranda, "Half a century of computer methods and programs in biomedicine: A bibliometric analysis from 1970 to 2017," Computer Methods and Programs in Biomedicine, Vol. 183, 2020.
- [3] P. S. Olowolaju, "Effect of Non-interest Income on Profitability of Deposit Money Banks in Nigeria," Journal of Banking and Financial Dynamics, Vol. 2, pp. 1-8, 2018.
- [4] I. Onyinye, A. Orji, E. Jonathan, and O. Emmanuel, "Disaggregated Foreign Capital Inflows and Economic Growth in a Developing Economy: Empirical Evidence from Nigeria," Journal of Empirical Studies, Vol. 5, No. 1, pp. 1-11, 2018.
- [5] O. F. OROKPO and C. Ochanja, "ICT as Alternative Model for Poverty Reduction in Nigeria: An Appraisal of the Telecom Revolution," International Journal of Publication and Social Studies, Vol. 2, No. 1, pp. 14-22, 2017.
- [6] C. A. Cancino, K. Amirbagheri, J. M. Merigó, and Y. Dessouky, "A bibliometric analysis of supply chain analytical techniques published in Computers & Industrial Engineering," Computers and Industrial Engineering, Vol. 137, 2019.
- [7] Z. Osman and I. Sentosa, "Mediating effect of customer satisfaction on service quality and customer loyalty relationship in Malaysian rural tourism," International Journal of Economics Business and Management Studies, Vol. 2, No. 1, pp. 25-37, 2013.