IJARSCT



International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal

Volume 3, Issue 1, June 2023

Fisheries Management Techniques As An Efficient Tool in Sustainable Fisheries - A Review

Viji C S¹, Sayeed Mohamed P K², Sivakumar G³

Assistant Professor, Department of Fisheries and Aquaculture St. Albert's College (Autonomous), Ernakulam¹²³ vijiaquajis@gmail.com

Abstract: Fisheries being categorized as acommon property resource is under continuous exploitation. In 2019, only 64.6% of the population of the fishing stock fell within the range of sustainable norms. As the fisheries resource is considered as a renewable resource, effective fisheries management could successfully rebuild stocks and increase catches within ecosystem boundaries and thereby contribute to sustainable fisheries. However, the phase of the fishery viz. underdeveloped, developed and depleted, decides the management strategies to be implemented in order to conserve the stock. The paper reviews the different phases of fishery and some of the important management measures that are in effect.

Keywords: Common Property Resource, fisheries management, sustainable fisheries, phases of fishery.

REFERENCES

[1] FAO (Food and agriculture Organization of the United Nations). "The State of World Fisheries and Aquaculture, Towards Blue Transformation". Rome, 2022. Pp:236.https://doi.org/10.4060/cc0461en

[2] N. B. Khanal and U. Deb, "Fish and Fishery Products Trade by India: Trends, Competitiveness and Comparative Advantage." *Asian Journal of Agriculture and Development* 19(2): 51-72, 2022.

[3] A. Frank and S. D. Martin, "Trade and fisheries: Key issues for the World Trade Organization", WTO Staff Working Paper, No. ERSD-2010-03, *World Trade Organization (WTO)*, Geneva, 2010.

[4] G. Silvestre and D. Pauly. "Management of tropical coastal fisheries in Asia: an overview of key challenges and opportunities". In: Status and Management of Tropical Coastal Fisheries in Asia (G. Silvestre and D. Pauly, eds.). *ICLARM Conf. Proc.*, 1997, (53), 8-25.

[5] J. Csirke and G. D. Sharp (eds), 1984 "Reports of the Expert Consultation to examine changes in abundance and species composition of neritic fish resources". San José, Costa Rica, 18–29 April 1983. A preparatory meeting for the FAO World Conference on fisheries management and development. *FAO Fish. Rep.*, 1984, (291) Vol.1: 102 p.

[6] E.Vivekanandan, "Fisheries management techniques: In Technical notes for the winter school on Ecosystem based management of marine fisheries held at CMFRI, 2004 (Mohammed,K.S. ed.): 98-109.

[7] FAO (Food and agriculture Organization of the United Nations), *The state of world fisheries and aquaculture*, 2018. Rome.

[8] R. Arnason, "The Icelandic Individual Transferable Quota System: A Descriptive Account". *Marine Resource Economics*, *8*, 201-218. 1993.

[9] R. Hannesson, "Fishery management in Norway. In: Managing Fishery Resources" (E.A. Loayza, ed.). World Bank Discussion Papers, Fisheries Series, 1994, 217, 11-21.

[10] LIFE (Lawyers Initiative for Forest and Environment), 2014. "Legal Framework for Conservation of Coastal and Marine Environment of India: A Review". *CMPA Technical Series No. 02.* Indo-German Biodiversity Programme, GIZ- India. Pp: 35, New Delhi.

[11] Y. Ye, "Assessing effects of closed seasons in tropical and subtropical penaeid shrimp fisheries using a length-based yield-per-recruit model". *ICESJ. Mar. Sci.* 55, 1112–1124, 1998.

[12] C. J. Arendse, A. Govender and G. M. Branch, "Are closed fishing seasons an effective means of increasing reproductive output?", *Fisheries Research*, 85 (1-2), 93–100. 2007. https://doi.org/10.1016/J.FISHRES.2007.01.001



IJARSCT



International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal

Volume 3, Issue 1, June 2023

[13] FAO (Food and agriculture Organization of the United Nations). Code of Conduct for Responsible Fisheries. Rome, FAO. 1995. 41 p. ISBN 92-5-103834-5

[14] M. P. Sissenwine, J. E. Kirkley and Northeast Fisheries Center (U.S.). & United States. National Marine Fisheries Service. Northeast Fishery Management Task Force, 1980, "Fishery management techniques, a review". Woods Hole, Mass : U.S. Dept. of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Northeast Fisheries Center.

[15] A. G. Kalawar, M. Devaraj and A. Parulekar,. "Report of the Expert Committee on Marine Fisheries in Kerala". CIFE, Mumbai,1985, pp: 467.

[16] O. A. Misund, J. Kolding and P. Freon, "Fish Capture Devices in Industrial and Artisanal Fisheries and their Influence on Management". Fisheries, 2008, 13–36. https://doi.org/10.1002/9780470693919.

[17] M. R. Boopendranath, "Biodiversity Conservation Technologies in Fisheries". *Journal of Aquatic Biology & Fisheries* Vol. 1(1 & 2) 2013 : 10-22, 2013.

[18] C. M. Roberts and N.V.C. Polunin," Are marine resources effective in management of reef fisheries?" *Rev. Fish. Biol.*, 1, 65-91, 1991.

[19] L. J. Sanchez, "Closed areas for fisheries management: How much is enough"?. Mediterranean Num Esp., 2015, 41 52.10.14198/MDTRRA2015.ESP.03.

[20] A. Lopez- Sanz, V. Stelzenmuller, F. Maynou and A. Sabates, "The influence of environmental characteristics on fish larvae spatial patterns related to a marine protected area: the Medes islands (NW Mediterranean)". *Estuarine, Coastal and Shelf Science*, 92:521-533, 2011.

[21] A. Forcada, C. Valle, P. Bonhomme, G. Criquet, G. Cadiou, P. Lenfant and L. J. Sanchez, "Effects of habitat on spillover from marine protected areas to artisanal fisheries". *Marine Ecology Progress Series*, 2009, 379: 197-211.

