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Sustaining ocean health and productivity in the South China Sea

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Ocean health and productivity will be a critical issue in the near future. As the ocean health and productivity declines, the sequential depletion of fisheries stock will have a direct impact on the supply of seafood protein to the community. One point in time, aquaculture is thought to be an alternative to reduce harvesting stress on the capture fisheries; nevertheless, it failed to answer the call, instead the aquaculture industry expanded at an expense of wild fisheries stock in the sea. Several approaches were introduced to conserve and sustain fisheries stock in the sea such as the single species or multiple species fisheries management plan (FMP) and carrying capacity. These approaches have been proven to be inadequate and the latest ecosystem-based approach is proposed to compliment existing strategies for sustainable fisheries management. In line with this development, sixty four large marine ecosystem (LME) have been identified to carry out the ecosystem-based fisheries management. South China Sea is one of the LMEs that, together with the other sixty three LMEs contributed about 80% of the annual world's marine fisheries catch and provided \$12.6 trillion worth of goods and services. As compared to other LMEs, South China Sea is relatively shallow yet the most productive LME in the world. Three out of the seventeen mega-diverse countries are fringing the South China Sea. In order to pursue the ecosystem base fisheries management, it is essential to establish a baseline condition against which to measure success or failure of action debited by the five modules which includes, 1) productivity and oceanography, 2) fish and fisheries, 3) pollution and ecosystem health, 4) socio-economics and 5) governance. This paper intends to summarize the scientific publications in relation to the above modules published from 1967 till 2012 in the South China Sea based on the SCOPUS database. Within the period of review, there are approximately seven thousands publications pertinent to the SCS, 86% of which are contributed by China, United States of America, Taiwan, Japan, Hong Kong, Australia, Germany, United Kingdom, South Korea, France, and Malaysia. As compared to the other oceans/seas, scientific data available in the South China Sea is relatively scarce, most of the studies are centred on the physical and oceanographic processes. Most of the studies are single discipline rather than integrated multi-disciplinary, this presented an important gap in the understanding of the sustainable management of the sea.

Biography

Mohd Azmi Ambak has completed his Ph.D. at the age of 33 years from University Putra Malaysia and postdoctoral studies from University of Stirling in 1985. He has held many post in the University, such as the director of Institute of Tropical Aquaculture, Dean of the Faculty of Science & Technology and Dean of Graduate School, University of Malaysia Terengganu, Malaysia. He has published more than 200 papers in reputed journals and serving as the chief editor of the Journal of Sustainability Science and Management. Recently, he was awarded Professor Emeritus by University Malaysia Terengganu.

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