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Impact of climate variability on Pakistan's coastal fishery

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The North Arabian Sea offers products and services essential for the development of Pakistan's coastal economy. The productive fishery potential of developing coastal states bordering the Arabian Sea would be impacted by climate variability. Marine ecosystems are likely to become less productive as a result of the changes to the ocean chemistry, water quality, coastal mangroves and fisheries. Marine ecosystems will become more vulnerable to other environmental impacts due to changes in climate variability. Vector Auto Regression (VAR) model has been used to forecast impacts of climate variability (temperature, precipitation and freshwater availability) on coastal fisheries. The fish production forecast is dependent on variables temperature and rainfall. The VAR model forecast fisheries production for possible climate change scenarios. The VAR model anticipates that if temperature decreases by 2oC and rainfall increases by 10% it would have a positive impact on the fish production (661.19 m tons) an increase of 35.2% of the existing fish production. However, if temperature alone increase by 50C, a decline of 34% fishery has been predicted by the model. Climate variability threatens to disrupt the marine eco-region by disrupting the physical features and ecosystem functions that support biota. The economic wealth of Pakistan's coastal zone is derived from living and nonliving resources and products of direct market value (e.g., fish and fishery products, coastal dependent activities, maritime trade, port and shipping activities, beach recreation and tourism etc.), which earn millions of US dollars in foreign exchange. Fishery resources are renewable and even increase with sustainable management and conservation practices. The increased fragility and sensitivity of the coastal marine ecosystem needs to be taken into consideration holistically during the development of climate change policies.

Biography

Shahid Amjad has a PhD from School of Ocean Sciences, University of Wales, UK. His MS is from the University of Oslo Norway in Benthic Ecology. He has completed courses in Management of R&D Institutes from University of New South Wales, Australia. He has been associated with the National Institute of Oceanography as Director General and with various top universities of Pakistan as Acting Vice Chancellor and Professor. He has also been associated as a visiting faculty with NED and the University of Karachi since 2005.

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