CMFRI

Winter School on
Impact of Climate Change on Indian Marine Fisheries

Lecture Notes

Part 1

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PREFACE

The man-made problem of climate change is emerging as the biggest test for humankind. The greenhouse gas emission is increasing rapidly, and if unchecked, is likely to reach unprecedented and irreversible levels in another three to four decades. Every individual will have to experience the hardship of climate change in the near future. This challenge calls for preparedness and action at every level.

The problem for the fisheries sector is also high, if not more compared to other sectors. In addition to the existing issues such as depleting fish stocks, competition among stakeholders for sharing the limited resources, and excess fleet capacity, the sector has to face the imminent threat from climate change. The major problem that restraints gaining an insight into the threat of climate change is that other factors such as natural climatic variations, fishing and advancements in fishing technology mask the impact. The estimates on fish stocks and ecosystems may soon become obsolete in the changed climatic scenarios and preparedness by interest groups is important. Emergence of well-informed institutions and societies is the first step towards evolving adaptation and mitigation measures for the fisheries sector. For this, climate literacy is required among fishing communities and stakeholders.

As a knowledge initiative among researchers, scientists and teaching faculty, the Indian Council of Agricultural Research (ICAR), New Delhi sponsored a Winter School "Impact of Climate Change on Marine Fisheries", and identified Central Marine Fisheries Research Institute (CMFRI, Kochi) for conducting the same for 21 days from January 18 to February 7, 2008. The strength of CMFRI is its experience from the ICAR Network Project "Impact, Adaptation and Vulnerability of Indian Marine Fisheries to Climate Change" in the last four years. The participants of the Winter School were from research institutions, colleges and universities. The faculty of the Winter School was from Central Marine Fisheries Research Institute, Central Institute of Fisheries Technology, Kerala Agricultural University, Tamil Nadu Agricultural University, National Institute of Oceanography and other institutions.

This publication is a compilation of the lectures that were presented by the faculty by gathering information from different sources. The topics and information presented here are in no way a comprehensive coverage of the title of the Winter School, but provides a basic understanding on the Science of Climate Change. For the benefit of participants, several lectures were devoted on the status of marine fisheries resources, and statistical and analytical tools that have wider applications including studies on climate change. At the end, the endeavor of the Winter School is to impress the participants that we know too little, and we have to do too many things to know about the impact of climate change on marine fisheries, and to adapt and mitigate the challenge.

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