

FISHERIES THEMATIC MEETING AT CMFRI, KOCHI

The Fisheries thematic meeting under the NICRA project was held at CMFRI, Kochi on 6th May 2011. Scientists associated with the NICRA project in CMFRI, CIBA and CIFRI participated in the meeting. Dr. G. Syda Rao, Director, CMFRI welcomed the participants and briefed about the importance of the project. Dr. B. Venkateswarulu, Director, CRIDA outlined the project concept and objectives of the thematic meeting. Dr. A.G. Ponniah, Director, CIBA opined that the impact of climate change should not be overblown. He stressed the need for studying long term and short term impacts and adaptations of climate change on fisheries and aquaculture. Dr. A.P. Sharma, Director, CIFRI told that aquatic systems are more vulnerable and are difficult to understand compared to terrestrial systems. He stressed the importance of identification of key deliverables of the project.

The Principal Investigators of CMFRI, CIBA and CIFRI made presentations on the progress of NICRA project in the last three months. Dr. E. Vivekanandan, Principal Investigator, CMFRI presented the progress made in capture fisheries, mariculture and technology demonstration. In capture fisheries, indications are found on the relationship between changing sea surface temperature and oil sardine and Indian mackerel catches. Evidences are also found on shifting in spawning activity of few fishes in relation to sea water temperature. In mariculture, incubation period and larval survival reduced in higher temperature in lobsters and shrimps, respectively. Low cost technology on sea cage construction and mooring of cages were demonstrated to stakeholders at Karwar.

Dr. M. Jayanthi, CIBA, presented the progress of work on brackishwater aquaculture. She outlined the impact of extreme climatic events on brackishwater aquaculture. She informed about the work initiated on collection of data on energy consumption in brackishwater aquaculture activities and vulnerability of systems as a consequence of sea level rise and cyclones. She also outlined the work to be taken up for the coming year.

Dr. M. K. Das, Principal Investigator, CIFRI presented the progress of work on Inland Fisheries. After outlining the impact of climate change on inland fisheries, he outlined the technical programmes of NICRA project. He also briefed that surveys to collect time series data on climate, breeding and spawning of inland fishes have been initiated in ten states.

Dr. R. K. Trivedi, Professor, West Bengal University of Animal and Fisheries Sciences, Calcutta presented on the project which he is going to initiate in Sunderbans. After his presentation, it was suggested that Dr. Trivedi may concentrate his work on the impact of salinity on Indian Major Carps and a few more locally cultivated species. It was also suggested that he may consult the Director, CIFRI on the work programme.

The proposed activities, milestone and outcome of the project were also presented by the Principal Investigators. Dr. Ponniah outlined the need for evolving common

methodology to find out the impact of climate change on maturation process in aquatic organisms. He cautioned that since maturation is affected by multiple factors, there is need for delineating of impacts of climate change to find out possible adaptation options. He also emphasized the need for analysis of time series seasonal data to find out the trends. Dr. Sharma opined that the project is ambitious and exhaustive and proper time allocation has to be made on the activities allotted to each Scientist.

Dr. Venkateswaralu suggested that adaptation in capture fisheries is possible only through policy interventions and disseminating information on potential fishing zones. However, several interventions may be possible in mariculture such as suggesting suitable species amenable to climate change and suggesting suitable seasons and technologies. He also told that scenarios have to be constructed with the help of digital GIS maps on seawater temperature, chlorophyll concentration and fish catch.

The interactions were followed by discussion on the themes common to the three fisheries institutes. At the end of the discussions the following three themes emerged.

1. Common methodology may be evolved to assess the impact of climate change on maturation process of different aquatic organisms.
2. Assessment of carbon dioxide emission by fisheries and aquaculture sectors by following Life Cycle Assessment (LCA) from pre-production to consumption. Mitigation options at each level in the life cycle of the product also need to be recommended.
3. Assessment of hazards of climate change events like cyclones and sea level rise in each subsector namely marine, brackishwater and inland fisheries and aquaculture and suggest adaptation options.

It was suggested that the above mentioned themes may be taken up as Action Plans by the three Institutes.

The meeting concluded with vote of thanks by Dr. V. Kripa, Head, FEMD, CMFRI, Kochi.