

REPORT

Workshop on Mud Banks

A two day Brain Storming Workshop on “Mud Banks of Kerala: The Known and the Unknown” was organized by CSIR-National Institute of Oceanography, Regional Centre, Kochi, Kerala, India during January 20-21, 2014 at Kochi, Kerala.

Mud bank is a region of calm and highly turbid waters with copious fish catch. This unique phenomenon occurs during south-west monsoon season in the littoral waters off Kerala, remains unique and enigmatic in its formation and functions. Mud banks of Kerala have socio-economic relevance as they support livelihoods of subsistence fishermen besides protecting the beaches from erosion. The recorded history of the mud banks of Kerala dates back to 1678. There are more than a dozen PhD thesis and over a hundred research papers were written encompassing various aspects of mud banks in Kerala. Despite the voluminous information gathered from these studies, both by individual researchers and by institutions, it is still not yet clear what triggers the formation of mud bank, precise locations along the coast will they form, its sustenance and its dissipation. The only thing that is known clearly is the physical characteristics of the mud bank. It is against this background, the Brain Storming Workshop was organised. Altogether, about 75 researchers attended the two- day workshop.

The objective of the workshop was to provide a forum for deliberation among scientists and researchers from various organizations and universities by bringing them together on a common platform to address the issues (1) identify the knowledge gap for unravelling the processes that initiate and sustain the mud banks along the coast of Kerala, (2) to draw up an action plan to gather necessary information to bridge the knowledge gap, and (3) to identify and adopt modern tools such as remote sensing, autonomous instruments and vehicles and numerical models that are capable of acquiring the required information.

The Brain Storming Workshop was inaugurated by Dr. S.W.A. Naqvi, Director, CSIR-NIO on January 20, 2014 and the keynote address delivered by Dr. E.G. Silas, former Director CMFRI. In the Technical Sessions, six lead speakers gave thematic presentations on physical, chemical, geological, biological and fisheries aspects of mud banks of Kerala. This was followed by the formation of three thematic groups which was tasked to discuss and bring out outstanding issues of the known and unknowns of mud banks.

From the group discussions, the following questions were considered and answers sought:

- What are the general perspectives of the past and present mud banks?



Figure 1—Inaugural session of Brain Storming Workshop on: Mud Banks of Kerala: The Known and the Unknown . Kochi, January 20-21, 2014.



Figure 2—Participants of the Mud Banks Brain Storming Workshop.

- Is there a decline in the occurrence (number, location and intensity) of mud banks after mid eighties? If so, what are the reasons?
- Is there any general consensus on the mechanism of generation of mud banks?
- What are the oceanographic processes responsible for the formation, sustenance and dissipation of mud banks?
- Are there any precursors for the mud banks?
- Is there any oceanographic pre-conditioning to set the stage for its formation?
- What is the role of groundwater and aquifer system?
- Does humus have any role to play in the sediment supply to mud bank?
- How do the mud banks influence the near shore dynamics?
- Is mud bank activity responding to climate change?
- What will be the societal implications due to the non-existence of mud banks?
- What should be the observational and modelling strategies to unravel the phenomenon?

Following were the final conclusions:

Even after several studies, the generation, sustenance, dissipation and localization of mud bank is yet to be explained satisfactorily. In the deliberations, it was felt that the reported decline in the occurrence of mud banks will have several leads to environmental and societal implications which invites the need for resurrecting the scientific investigations. In order to address the issues related to the (1) formation, (2) characterization, (3) sustenance and (4) biology and fisheries of the mud bank, it is better to identify one mud bank and target it for a detailed process oriented study. In this regard, a consensus was evolved on studying the Alleppey-Thottappally mud bank. The participants also felt the need for the formulation of an inter-disciplinary, inter-organizational mission project to unravel the mysteries of the mud banks of Kerala.

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