

OPENING OF OCEAN SCIENCE AND TECHNOLOGY CELL (OSTC) FOR BEACH PLACER MINERALS IN THE DEPT. OF EARTH SCIENCE, TAMIL UNIVERSITY, THANJAVUR AND COLLOQUIUM ON BEACH PLACERS, 5-6 DECEMBER 1998

The Ocean Science and Technology Cell for beach placers, sanctioned by the Dept. of Ocean Development, Government of India, at Department of Earth Science, Tamil University, Thanjavur, was inaugurated on Dec. 5, 1998, by A.E. Muthunayagam, Secretary, Dept. of Ocean Development. In his opening address he referred to the year 1998 as the International Year of the Ocean which reflects the increasing awareness about the importance of ocean as a source of marine, mineral and energy resource. With the increase in world population there is an increasing demand for resources which has compelled the nations to look into oceans for resource requirement. Methane hydrate from ocean would be the future energy source. The colloquium that followed the inauguration was intended to help prepare a research agenda document for beach placers to plan state-of-the-art research and development for OSTC for next decade and a half.

The session on exploration brought out various proposals regarding the exploration for beach placers. Placer being a mechanically concentrated deposit has definite localisation along the coast. It involves natural gravity separation of heavy from light minerals by means of moving water or air. Speakers suggested the need for systematic approach by large scale mapping of the coastal area, geomorphological analysis on satellite imageries, grid pattern sampling and multi-mineral analysis.

The session on environmental aspects of exploitation received considerable attention. Any exploitation of placer deposit is bound to cause ecological damage and therefore, mining has to be so selective as to minimise this damage. Protection of geomorphological landforms, backfilling, identification of disposable sites, systematic mining, avoidance of damage and wastage due to anthropogenic activities and harmonious living with local population were some of the suggestions made.

In the session on evaluation and economic viability, speakers suggested the need for optimisation of the cut-off grade, need for precision and mathematical modelling, value addition products, ore-dressing, economic feasibility study, market forecast, environmental damage versus economic viability, need for data bank, study of project in totality, competitive mining economics and prioritisation of areas and development of flow sheets.

The session on human resource development (HRD) and research and development (R & D) was utilised for discussing problems about training and specialisation, upgradation of technology in mining, processing, grading and characterisation, awareness of legal and environmental problems. Speakers stressed on proper manpower assessment, data monitoring and involvement of earth science organisations in the country for formulation of training programme. Regarding R & D, the need for research in sea level changes, neotectonism, study of geomorphic characteristics of different stretches of the coastal areas was stressed.

There was a general agreement with regard to systematic approach to beach placer exploration and exploitation. As a first step it was suggested that a large scale coastal map with clear demarcation of all the Holocene sediments with specific identification of beach placers should be prepared along with grid pattern geochemical sampling. It was felt that mining should be cost specific and environmental friendly. The cell has an excellent agenda and a great opportunity to steer this new field of research for a purpose. G. Victor Rajamanickam, the head of the Earth Science Department, Tamil University, expressed his confidence that the cell would prove to be a centre of excellence in the study of beach placers.