

## **PREAMBLE**

The Saurashtra region of Gujarat (Western India), has a number of interesting geological facets. Amongst these are the Islands of Piram, Diu and Bet Dwarka or Bet Shankhodhar. The Island of Piram located in the Gulf of Cambay is subjected to very high tidal energy conditions, while the Island of Diu on the southern fringe of Saurashtra has an open coastal environment of the Arabian Sea. The Island of Bet Shankhodhar (Bet Dwarka - well known for its marine archaeological finds), on the other hand, has to withstand the embayment dynamic processes in the Gulf of Kutch.

Workers with varied interest have referred to the above Islands in different ways depending on the focus of their specific studies. To the present author, however, these are examples of a broad shallow near shore coastal zones exposed to the domination of waves, winds and tides, regions of active beach and dune formation, saltmarshes or extensive tidal flats. The individual Island zones, thus, have a wide variety of shoreline

types but two distinct coastal environmental types can be predominantly distinguished.

- 1) The sheltered, tide dominated coast of Piram (upper Miocene to Pliocene and Recent), and Bet Shankhodhar (Upper Pliocene to Pleistocene and Recent).
- 2) The exposed, high wave energy coast of Diu (Pleistocene to Recent).

Within each of these two major coastal environments, there are great variations in the physical parameters (geology and geomorphology) and in the dynamic processes (oceanography). A thorough understanding of all these factors can best be obtained by combining the analysis of the modern and ancient depositional processes and their interpretations. To achieve such a goal, it is thought important to lay emphasis upon the fundamentally preserved characteristics of the various sedimentary facies; physical and biogenic sedimentary structures. These features are almost invariably formed insitu contemporaneously or pene-contemporaneously with sedimentation. They are directly related to specific facies because of environmental conditions existing at the time of their formation were in direct response to physical energy and other parameters of the original environments (Reineck and Singh, 1975; Howard, 1975; Seilacher, 1980). Such an approach permits identification of morphologic, sedimentologic and process elements of the coastal and near shore zones, and the Islands of Saurashtra offer an excellent opportunity for the studies.

The geological investigations by the author are therefore formulated on these fundamental approaches discussed above and are presented in parts II to V.

FIG.1 LOCATION FOR PIRAM, DIU AND BET SHANKHODHAR ISLANDS

