NOTES

COASTAL EROSION - A MANMADE 'NATURAL' HAZARD*

JOHN JACOB PUTHUR

Jacob's Ladder, 95 Airforce Golden Jubilee Enclave, Defence Layout, Bangalore, 560 097 Email: jjputhui@yahoo.com

EXTENDED ABSTRACT

Sections of our coastline are eroding. This erosion is taking place, apparently, without any human intervention, hence it is believed that the phenomenon is natural, wrought only by forces of nature, precisely by wave-action Naturalness of coastal erosion is almost dogmatically professed by a large section of the marine scientific community and the government alike As such, no one questions this rather flawed premise - coastal erosion is a natural phenomenon Huge sums are spent, year after year, wastefully to mitigate coastal erosion, yet the coast continues to erode Actually, in each case of coastal erosion, we can connect the disruption of the natural equilibrium of sediment dynamics in the region to one or more specific actions by humans The coastal erosion however, proves one fact, and that is, sediment transport, either along or across the coast The coast will erode only if this natural sediment transport is impeded, usually by poorly designed or wrongly located coastal infrastructure This talk will deal mainly with establishing the human element in the process of coastal erosion

The coast is perhaps most fragile and dynamic environment, therefore hardening the coast with seawalls or revetments will not really solve the problem of coastal erosion, in the long-term. The solution to prevalent coastal erosion must essentially be soft and equally dynamic too, and may warrant periodic renewal, more so because most human actions along the coast are not easily reversible. In addition, such solutions must be tailored to local conditions and should involve the use of only locally available material and skills. In addition, the solutions must essentially be low coast and eco-friendly. Further, any new infrastructure at the coast, including road and rail embankments along the coast must be very carefully executed, after due consideration of the local sediment dynamics.

*Lecture delivered at the monthly meeting of the Geological Society of India, Bangalore on 28 July 2004

BOOK REVIEW

SEDIMENT-HOSTED LEAD-ZINC SULPHIDE DEPOSITS – Attributes and Models of Some Major Deposits in India, Australia and Canada M Deb and WD. Goodfellow (Eds.), Narosa Publishing House, New Delhi, 2004, 367p, Price Rs 2500/-

This welcome addition to the already-voluminous literature on sediment-hosted Pb-Zn sulphide deposits is the outcome of an international workshop organized under the 'Deposit Modelling Programme' (DMP) first conceptualized at a UNESCO-IUGS meeting in Paris in 1984 Sedimenthosted basemetal sulphide deposits, as a central theme, has made a niche foi itself in ore-geology literature since the publication of KH Wolf-edited series "Handbook of Stratabound and Stratiform Ore Deposits" way back in 1976 The jargon 'deposit modelling' is of much later coinage though And not all ore geologists are happy with either the coinage or its definition The bewildering variety of this class of deposits poses numerous vexing problems, semantic to genetic, as much today as in the past. The variations are caused by (a) diverse metal-sources (Endogenous — reservoir fluid, basinfill, poie fluids in basinfill or detrital particulates, or Exogenous magma-derived, substrate-derived or external basinderived), (b) diverse fluid sources (reservoir-fluid, diagenetically released pore-fluid, exhalation, juvenile/ mixed fluids etc, driven by gravity/density/ hydraulic pressure/tectonism/seismic pumping) and (c) diverse timerelationship between sedimentation and deposit formation (sedimentary, synsedimentary, early- and late- diagenetic,