



ADDRESSING ENVIRONMENTAL ISSUES THROUGH FORAMINIFERA – CASE STUDIES FROM THE ARABIAN SEA*

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ABSTRACT

The present global scenario poses multiple environmental problems such as the green house effect, ozone holes, global warming and consequential sea level rise, all being attributed to anthropogenic contributions. Obviously, there is an increased awareness about the past and the present environment, so as to be able to foresee the future variability in climate. However, climate prediction is a very delicate task and needs a thorough knowledge about the past. Past records have been maintained for not more than past 100-150 years, beyond which we would need proxies to give us information about the past climate.

During the past few decades, microfossils, especially foraminifers have become the prime source to address environmental issues. Extreme sensitivity of foraminifera to changing environmental conditions have led to development of techniques to understand the past sea-level fluctuations, monsoons, cyclones and storms, using their specific characteristics. The significant results thereby produced are also listed here. Besides being one of the most extensively used proxies for palaeoclimatic variations, foraminifers have also found applicability in marine -pollution and -archaeological studies.

There exists both need and scope for further development of foraminiferal techniques useful in environment impact assessment. So as to keep these techniques in sync with the changing modern trends, the traditional hard part studies of foraminifera need to be supplemented with a detailed foraminiferal-culture programme with a molecular biological approach.

Key words: Foraminifera, Environmental issues: Past environment (sea-level rise, palaeomonsoon, etc), Modern environment (pollution, sediment transport)