Response:

It is encouraging to see that people are really involved in constructive interaction to protect our environment. My suggestion was not to evacuate the entire population from the 7000 km long coastline. Any measures for the protection of men and material near the coastline should be sustainable and utmost care should be taken to minimize environmental degradation.

I am not against sea-wall as such. What concerns me is the way it is being constructed all along the Kerala coast, without even considering its effectiveness to protect the coastline and its durability. These days the governments are promoting it as the only means to protect the coastline. It is true that some of the coastal areas are facing severe erosional problems. There should be a scientific approach to understand individual beach conditions and promote specific solutions rather than a generalizing attitude. I am sure all along the Kerala coast, seawall construction is political. Wherever alternatives are possible, they should be adopted so that we can do justice to the next generation. Otherwise sadly, they will have to see beaches in photographs only.

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NEWS

MEETING REPORT

Port Blair Declaration pledged to establish and develop Andaman and Nicobar Ocean Biogeographic Information System*

The Andaman and Nicobar (A&N) Islands are located in the Indian Ocean, in the southern reaches of the Bay of Bengal. The Andaman Sea is believed to harbour a rich and diverse life. However, what we know of the components of biodiversity of the Andaman Sea and changes that were brought about over time are highly scattered and often are not readily accessible to all. Although many studies have been carried out, most initiatives are unrelated, data are difficult to trace and even more difficult to integrate. What is available is often in non-interoperable formats, compounded by uncertain taxonomic identities or absence of a host of secondary information. This has constrained our ability to understand the true biodiversity of the Andaman Sea. At present, we do not have a full-fledged operational mechanism for collecting, collating and transmitting the biodiversity and related information to user-groups. In order to address these issues and identify workable solutions, a workshop on Andaman and Nicobar Biogeographic Information System was jointly organized by National Institute of Ocean Technology (NIOT), Chennai, National Institute of Oceanography (NIO), Goa and National Chemical Laboratory (NCL), Pune under the aegis of IndOBIS (Indian Ocean Node of Ocean Biogeographic Information System; http://www.indobis.org).

Thirty-five delegates attended the workshop from ten R&D and academic institutions working on various aspects of biotic diversity of the Andaman Sea. In his keynote address S. S. Garbyal (Chief Conservator of Forests, A&N Administration) stated that the Andaman Sea has potential to be listed as a biodiversity hotspot. However, lack of adequate, appropriate, authentic and validated data on the biodiversity of the Andaman Sea is major hurdle in assessing this region as a potential hotspot. C. T. Achuthankutty (Regional Centre, NIO, Kochi) gave an elaborate account of the Census of Marine Life (CoML), a multi-national decadal programme supported by Alfred Sloan Foundation. CoML (http://www.coml.org) is a growing global network of researchers in more than 70 nations, engaged in a ten-year initiative to assess and explain the diversity, distribution and abundance of marine life in the oceans – the past, present, and future. While reviewing the progress of CoML, Achuthankutty informed that Census has 14 field projects, viz. ArcOD, CAML, CeDAMar, CenSeam, ChEss, CmarZ, COMARGE, Creefs, GoMA, ICoMM, MAR-ECO, NaGISA, POST and TOPP. Two other projects, namely HMAP and FMAP address questions like 'What lived in the oceans?', and 'What would continue to survive in the Oceans?', respectively. OBIS, the Ocean Biogeographic Information System (http://www.iobis.org), is the data and information component of Census and the Indian Ocean activities of the Census are implemented through the IO-CoML, the regional committee of Census for Indian Ocean. IO-CoML has its secretariat at NIO, Goa.

Vishwas Chavan (Principal Investigator, IndOBIS) presented a detailed account of OBIS and IndOBIS. OBIS is the web-based federated information system that crawls data from distributed and heterogeneous databases for which it uses web-services architecture and XML schema (OBIS Schema) to interoperably interconnect these data resources. OBIS provides nearly 12.9 million occurrence records of 77,000 species from 200 databases. OBIS has also established 11 regional nodes and IndOBIS is one among them. IndOBIS has so far collated together 83,825 occurrence records of 34,970 species that have been reported from the Indian Ocean. Chavan emphasized that it is essential to regionalize and nationalize IndOBIS acti-

*A report on the Workshop on 'Andaman and Nicobar Biogeographic Information System', jointly organized by the National Institute of Ocean Technology, Chennai; National Institute of Oceanography, Goa, and National Chemical Laboratory, Pune at the Hotel Megapode Nest, Port Blair during 15–16 February 2007.

vities, so that distributed and scanty data available with various institutions and individuals and other Indian Ocean rim countries form a true picture of Indian Ocean biodiversity. Thus, it is a matter of urgency that 'sub-nodes' affiliated to IndOBIS be established.

Subsequent to these two lectures, delegates representing institutions made brief presentations addressing questions such as 'What biodiversity data are being generated by their institution?', 'How are these data being currently maintained and used?', and 'How is an institution providing access to such datasets to outside user community?'. This helped in assessing the universe (quantum and quality) of biodiversity data already generated and those being generated from the Andaman Sea. This was followed by a brainstorming session, which emphasized the need for establishing ANOBIS (Andaman and Nicobar Ocean Biogeographic Information System) as sub-node of IndOBIS. In order to define the counters, scope and characteristics of ANOBIS, delegates brainstormed into three working groups.

The working group on 'Data mobilization' discussed the quantum and quality of data regarding biodiversity of the Andaman Sea available with various institutions and individuals. The group opined that field surveys, fisheries landing surveys, ecological studies and people's traditional knowledge have generated huge amount of data. These need to be documented by survey reports, master's and doctoral degree theses, project reports, published literature, grey literature and through documentation of people's traditional knowledge. The group felt that a dedicated study is essential to determine the quantum of data available. However, it estimated that the Andaman Sea would be harbouring over 5000 species.

The working group on 'Information infrastructure' debated the informatics infrastructure of ANOBIS. It opined that ANOBIS should be developed as a 'sub-node' of IndOBIS, thus exchanging data with IndOBIS, OBIS and other international initiatives such as Global Biodiversity Information Facility (GBIF). ANOBIS would be a consortium of distributed and federated databases. It would use web-services architecture to collate or crawl data from heterogeneous data maintained and developed by various custodians. It would feed data to IndOBIS, and would also download data from IndOBIS relevant to the Andaman Sea. During the initial phase, emphasis would be to collate data that deal with species occurrences, specimens and taxonomic checklists. Though the ensuring quality of data would be the responsibility of the individual developer, ANOBIS will promote data quality control and assurance standards and protocols.

The working group on 'Consortium modalities and implementation' recommended constituting two committees to ensure hassle-free establishment of ANOBIS and accelerate the mobilization of data into it. A high-powered advisory committee would comprise the various Heads of the agencies and institutions that would be part of the ANOBIS consortium. It would advice the task force on how to implement such an information system, and monitor the progress of ANOBIS. The task force would comprise of technical and data-management representatives from participating institutions, and would ensure seamless establishment and development of ANOBIS. These committees would formalize the action plan and timeline for establishment of ANOBIS.

In order to announce its intention of establishing ANOBIS and seek support towards its development, the workshop participants felt it necessary to come up with the Port Blair Declaration of ANOBIS. Thus, a small working group headed by P. A. Mohan finalised the text of the declaration. The Port Blair declaration pledged to develop and nurture the ANOBIS in order to bring the ocean biodiversity resources to the limelight, which helps to develop ocean-related activities. The ANOBIS would facilitate (a) development of web services architecture-based interoperable information infrastructure under the aegis of IndOBIS, as its regional node, (b) collection, collation, analysis, modelling and dissemination of information on known, unknown and unknowable ocean biodiversity of A&N Islands in an interoperable informatics framework based on web-services architecture, (c) to encourage development of user-friendly, usable, multi-purpose marine biodiversity databases through a consortium of distributed data providers without losing identity of the data source, (d) integration of ANOBIS data with national and global information systems such as IndOBIS, OBIS, CoML and GBIF, and (e) to ensure wider dissemination of integrated biodiversity data, leading to awareness about the role of biotic resources, and their sustainable use for the conservation and management of ocean biodiversity around A&N Islands. The Declaration further appealed all R&D, academic, non-governmental and State governmental organizations holding data on A&N marine biodiversity to participate in this endeavour. The agencies present during this workshop further pledged to be members of the ANOBIS consortium. The workshop also appealed to the local, national and international funding agencies to support the development of ANOBIS for sustainable resource management and conservation of A&N ocean biodiversity resources.

In order to maintain the momentum generated by the workshop and as a follow-up of the action plan, the ANOBIS web portal has been launched as part of the IndOBIS website. Accessible at http://www.indobis.org/anobis/, the portal would communicate the agenda and progress made in fulfiling the dreams of ANOBIS. It is hoped that in the next 3–5 years, ANOBIS would be able to digitize and disseminate data and information about the biodiversity of the Andaman Sea. Thus, ANOBIS promises to contribute to the understanding of status, pattern and dynamics of the biodiversity of the Andaman Sea and would fill up the gap to evolve a true picture of the Indian Ocean biodiversity.

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