

# 3<sup>rd</sup> International Conference on **Earth Science & Climate Change**

July 28-30, 2014 DoubleTree by Hilton Hotel San Francisco Airport, USA

## Physical restoration of corals powered by wave energy in Lakshadweep Islands

Shruthi Vatsyayani and Janani Venkatesh  
SRM University, India

The Lakshadweep coral reefs have been subjected to immense amounts of ground water pollution, coral mining and mechanical damages for a prolonged period of time. A study on the extent of coral bleaching in the Agatti island of Lakshadweep showed that around 73% of the corals were bleached. The current restoration technique employed to ameliorate the condition of the corals is biological. Live corals are transplanted manually in order to repopulate the bleached reefs. This method may not yield good results in the long run owing to the constantly changing ocean pH, temperatures, salinity and other parameters. An alternate would be to employ physical restoration by extrapolating the Biorock Project (the most extensive one being in Bali, Indonesia) to Lakshadweep. The biorock structures are not cost-prohibitive and the material used is such that the strength of the biorock betters with time. These structures have proven themselves to be able to withstand adverse weather conditions. In addition to an assured repopulation of 1600% to 5000% in the reefs, biorock structures also absorb CO<sub>2</sub> from the surroundings, thereby stabilizing the ocean pH in these areas. Furthermore, the use of wave energy in place of conventional power sources to provide small voltages of current to the biorock structure as per restoration requirements would make the process more self-sustainable and cost effective. The proposed method is a more infallible approach to coral restoration in Lakshadweep.

[shruthi.vatsyayani@gmail.com](mailto:shruthi.vatsyayani@gmail.com)