

Oil Exploration in Mannar Basin and Sustainability of Gulf of Mannar

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ABSTRACT

Mannar Basin, 45, 000 kms² in area and located of the western coast of Sri Lanka, is a sub basin of the Cauvery Basin. Seismic data suggests that the Mannar Basin might have a viable petroleum system. It has been blocked out to 9 exploration blocks out of which the exploration block (SL 2007-01-001) has been offered to an international oil company following the first licensing round conducted by Sri Lanka in 2007.

The Gulf of Mannar has a higher biodiversity to sustain in excess of 3500 flora and fauna species out of which 11 species have been endangered and 250 have been threatened since 1980. In case of an accidental well blowout during offshore drilling in the Mannar Basin, there could be adverse socio-economic impacts on fishing, shrimping, tourism, wildlife, ocean and coastal environment and local population along the western coast of Sri Lanka. Stringent guidelines have to be enacted to ensure marine environment protection and safety of drilling, workplace and drilling crew. To minimize marine environment degradation only water based mud should be used and oil based mud should be averted. Certification requirement should be mandated for Blowout Preventers (BOPs). It is also imperative to use a back up control system such as acoustic switch to trigger the BOP in case of a primary trigger failure at an accidental well blowout due to formation kick. A tight offshore inspection and regulation program should be implemented during offshore drilling.

Indian Monsoon Currents encountered in the tropical regions of the northern Indian Ocean are varying seasonally and are directed westward from India and Sri Lanka towards Arabian Sea during January through March. Accordingly, the most suitable period for offshore drilling in the Mannar Basin is November through April. If offshore drilling could be done during this period, any toxic substance or fine particles emanated from a drill site would drift away from the Gulf of Mannar.
