

## EDITORIAL

# Exploring and harnessing the hydrocarbon resources in the ocean around Sri Lanka

Oil and gas exploration in Sri Lanka has a history that goes back to almost four decades. The government of Sri Lanka with the USSR started oil exploration activities in the early part of 1970s in the offshore area of the Mannar basin. Even though there were reports with regard to some indication of availability of oil, the project was not successful and abandoned. Later, interpretation of satellite gravity anomalies over the sea area around Sri Lanka provided some positive evidence with regard to the availability of possible structures favourable for hydrocarbon accumulation. Reflection seismic work carried out over the Mannar and Cauvery basins provided some direct evidence with regard to this possibility. In a licensing round in 2008, Cairn Lanka (Pvt) Ltd., a subsidiary of Cairn Energy India was granted rights to carry out the hydrocarbon exploration and production work. Subsequently a comprehensive geophysical investigation of 1750 square kilometers of 3D reflection seismic work was undertaken.

The good news that Cairn Lanka (Pvt) Ltd. has struck gas in the very first well it drilled in the Mannar Basin came to us on the 2<sup>nd</sup> of October 2011. It has been reported that a 25 m thick sandstone layer bearing gas has been discovered in the CLPL-Dorado-91H/1z well drilled at a depth of 1354 m. Within a short period of little over one month a second gas field was discovered by the same exploration team about 38 km west of the first well. They have come across a sandstone layer of similar thickness in the CLPL-Barracuda-1G/1 well at a water depth of almost 1500 m.

The Cauvery basin situated in the north is also considered to be a frontier petroleum province yet to be explored and exploited. It should be noted that the oil and gas potential of Sri Lanka is not confined to the Mannar and Cauvery basins. As indicated by detailed interpretation of satellite gravity anomalies and some seismic work carried out, the deep ocean around Sri Lanka contains marine sediments with high potential of having oil and gas. It is true that at the moment exploration

work is carried out only upto a depth of about 2000 m throughout the world. However, judging from the pace at which relevant technologies is advancing, water depth may not be a problem for exploration and production of gas and oil in the future.

Any type of resources are certainly a blessing to a country. Nevertheless in making good use of those resources requires careful planning and preparation. Training of human resources with relevant expertise and building relevant infrastructure are two major aspects of planning to make use of any resource. It is well known that expertise in Geology and Geophysics is of paramount importance in exploration of oil and gas. At present there is only one university in the country with a Department of Geology. Some aspects of Geology is taught in a few other universities but Geophysics is a subject that has been almost completely neglected in Sri Lanka. Marginal interest in teaching of Geophysics has been shown by one or two universities where some aspects of Geophysics have been incorporated into their Geology or Physics curricula. To effectively implement plans to harness the non-living resources in the sea in our vicinity, it is necessary to consider seriously the development of the relevant expertise at various levels. Introduction of teaching of relevant academic disciplines in our universities without any further delay is therefore a dire necessity.

In Sri Lanka very little research has been carried out in the area of Marine Geophysics or even in Geophysics *per se*. Research in this area is confined only to some isolated work by a few individuals based on their personal interest in the subject, mainly on interpretation of gravity and magnetic anomalies and computation of the geoid over Sri Lanka. Other than the above mentioned studies and some geophysical surveys and regular monitoring of earthquake information carried by the Geological Survey and Mines Bureau, there is no systematic research carried out in Geophysics and allied areas.

Our reluctance to develop areas of study relevant to earth resources exploration may stem from the belief that Sri Lanka is a country without a rich share of earth resources apart from some minerals such as graphite, mica, precious and semi-precious stones and mineral sands. In view of the developments taking place in the offshore areas of Mannar, the offering of courses of study in Geophysics, Petroleum Geology and Engineering and allied fields is essential. The establishment of a dedicated institution similar to the National Geophysical Research Institute

of India (NGRI) to coordinate and conduct research and development work in these areas should be considered seriously. It is hoped that, our universities will recognize these emerging trends and respond positively by fulfilling their main obligation of producing educated manpower required for the development of the country. At the same time, it is expected that the relevant authorities will recognize the lacuna in infrastructure to conduct research and development work in the fields mentioned earlier and take remedial measures without any further delay.

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