



PROJECT SUMMARY

Ref No.: MRIC-SBR-P11	Title: A local, innovative, indigenous, environmentally friendly, low-cost technology for remediation of oil spill in coastal aquatic systems
Local Company: RIDC Co Ltd	
Collaborating Institution: University of Mauritius	
Project Leader	
Prof (Dr) Bhanooduth Lalljee	RIDC Co Ltd
Research Collaborator	
Name	Organisation
Prof (Dr) Sunita Facknath	University of Mauritius
TECHNICAL ABSTRACT	
<p>The project will investigate and develop an innovative, indigenous, low cost technology to remediate oil spills in coastal aquatic systems, using locally available materials, such as by-products of the sugar industry, textile industry, and from agriculture. All of these organic materials will be subjected to different levels of oxidation and acetylation, which would significantly increase their hydrophobic and lipophilic properties. Such transformed oil sorption-active materials can be used to substitute non-biodegradable materials in oil spill clean-up. Once the lipophilic properties of individual materials are maximised/ optimised by generating their isotherms, the materials will be formulated in different proportions and evaluated in simulated conditions for their absorption and adsorption properties, oil retention capacity, floatability, stability, disintegration thresholds, etc.</p> <p>The kinetics of adsorption and absorption, and the effect of pH, water temperature and salinity will also be investigated and modelled. The optimum formulation will be fashioned into small sized booms, using various organic envelopes, and tested under simulated waves of seawater under laboratory and field conditions. The output would be the development of a technology for developing effective booms for remediation of oil spills through the processes of absorption and adsorption, and also as a mechanical barrier, for the floating oil.</p>	
Key Words: Remediation, oil spill, indigenous products, absorption and adsorption isotherms	