

Implementing Bioremediation Technologies to Degrade Chemical Warfare Agents and Explosives from War Affected Regions in Sri Lanka

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Abstract : Chemical agents used during the Sri Lankan civil war continue to threaten human and environmental health as affected areas are re-settled. Bioremediation is a cost-effective and eco-friendly approach to degrading chemical agents, and has greater public acceptance than chemical degradation. Baseline data on contaminant distribution, environmental parameters, and indigenous microbes are required before bioremediation can commence. The culture and isolate of suitable microbes and enzymes should be followed by laboratory trials, before field application and long-term monitoring of contaminant concentration, soil parameters, microbial ecology, and public health to monitor environmental and public health. As local people are not aware of the persistence of warfare chemicals and do not understand the potential impacts on human health, community awareness programs are required. Active community participation, and collaboration with international and local agencies, would contribute to the success of bioremediation and the effective removal of chemical agents in war affected areas of Sri Lanka.

Keywords : bioremediation, environmental protection, human health, war affected regions in Sri Lanka

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