Environmental Impacts of tsunami Disaster in the south-western coastal zone of Sri Lanka

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Summary of the project

The South western coastal zone of Sri Lanka is stretching from weligama to Bentara, consisting important landforms and ecosystems such as, beaches, sandbars, bays, headlands, lagoons, estuaries, corals and mangroves. They contribute to preserve the existing coastal environment and also they influence to establish specific economic activities such as Fisheries industry, tourism and coir industry. But most of these resources and coastal features were completely or partially damaged or changed giving rise to additional environmental problems by the tsunami disaster on 26th December 2004.

This study was under taken to examine how the tsunami waves have impacted on coastal landforms and ecosystems and also to suggest interventions needed for conservation and rehabilitation of the affected resources. Therefore, this study can be useful to minimize the destructive influences of tsunamis in future.

The magnitude of affected landforms and ecosystems were identified through the interpretation of aerial photographs and analysis of satellite images before and after tsunami. Using Geographical Information system (GIS), the tentative geomorphological maps were constructed to demarcate the damages and changes of coastal features.

This was verified through the field work. In addition, questionnaire surrey was useful to identify the many more environmental problems.

Results showed that 75% of landforms and 90% of ecosystems were seriously damaged by the tsunami waves. This has damaged 68% of mangroves, 70% of sand barriers and sand spits, 83% of lagoons and river outfalls, 42% of beach rocks, 73% of corals, 25% of bays and 80% of revetments. In addition, several water bodies and wells were polluted and sedimented with debris and garbage. Almost 300 inland coral mining pits were converted to ponds and resulted in creating man made wetlands. 25% of estuaries were blocked by depositions and 12% of outfalls were narrowed. 7.5 Meters of river banks in width were also eroded broadened and damaged.

The result of this study, and recommendations could be useful for future policy planning and implementation.