

# INVESTIGATING EFFICIENCY OF GREENBELTS FOR THE PROTECTION OF SRI LANKA'S COASTS AGAINST OCEAN WAVE SURGES

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## Aim of the study

After the tsunami of 26 December 2004, we discovered that some villages close to the coast were less affected by the destructive wave than others (Dahdouh-Guebas *et al.*, 2005; Feagin *et al.*, 2010). This was explained by the presence of a 'greenbelt' between the village and the ocean which was wide or/and strong enough to decrease the catastrophic nature of this event.

## Study area

The objective of our ongoing research is to classify greenbelts (forests, sand dune with or without vegetation) all along the Sri Lanka coast using remote sensing and fieldwork in order to qualify the vulnerability of the Sri Lanka coast. The land field survey was done in the southern part of Sri Lanka between Matara and Tampaddai.

## Methodology

We selected areas where the impacts of tsunami were less than that in other places. To identify these areas we created an index based on percentage of deaths in each Grama Niladari (i.e. village officer) or GN division (smallest administrative unit in Sri Lanka). In addition we used the status of the area after the event. These two indicators are not perfect but together they give us complete information about the impact of the event.

## Ongoing research

The ongoing part of the research aims not only at identifying the vulnerable areas but also to provide recommendations and guidelines on the establishments of greenbelt barriers. Different greenbelts can be suggested when knowing the features of the coastal area such as topography, distance from the ocean, presence of sand dunes or coastal forests.

## References

- Dahdouh-Guebas F., L.P. Jayatissa, D. Di Nitto, J.O. Bosire, D. Lo Seen and N. Koedam. 2005. How effective were mangroves as a defence against the recent tsunami? *Current Biology* 15(12):R443-447.
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