50m segment of a plot. The districts did not vary significantly in the biodiversity. However, the species abundance showed a significant variation especially between the districts of the western coast (Kalutara, Galle, Matara) with that of south and eastern coasts (Hambantota and Ampara). While Mudu bim thamburu (*Ipomea pescaprae*) was the most prominent ground cover in the western districts, Maha ravana ravul (*Spinifex* spp.) was more prominent in both south and eastern districts. With regard to the abundance of trees/shrubs, Wetakeiyya (*Pandanus sp*), Coconuts (*Cocos nucifera*), Gam suriya (*Thespesia spp.*), Mudilla (*Barringtonia spp.*), Domba were most abundant. In the South and Eastern districts, Maliththan (*Woodfordia fruitocosa*), Andara (*Prosopis juliflora*), Palmyrah palm, Cashw nut (*Anacardium occidentale*) and Neem (*Azadirachta indica*), Indi, (*Phoenix spp*) Korakaha/ Kayan (*Memecylon angustifolium*) were prominent. In the South and South-eastern districts, Aththana (*Datura metel*), Wal kochchi had spread into invasive levels while the regeneration of Ranawara (*Cassia auriculata*) also had increased.

With regard to the physical parameters, soil carbon content showed a decrease with the increase in distance from the beach. The Electrical Conductivity (EC) also showed a decreasing trend with the increasing distance from the beach in all the districts studied. In general, all the nutrients (Total N, Available P, Available K, Ca, Mg and Na) showed an increase upto about 50m compared to that of non tsunami levels and then decreased. The pH of the water samples taken in all the districts were between 7-8 indicating a neutral level while the EC values were higher than the standard of 4 mil semens.

With regard to the establishment of Green Belt, the coastal area could be broadly categorised into natural, rural and urban landscapes. For the natural landscapes like mangroves, sand dunes and coastal forests, facilitation/restoration of the natural vegetation is recommended. Selection of species should be in line with the naturally occurring ones in the ecosystem. In total locations, planting a strip of natural littoral woodland and strand plants seaward of agricultural crops is suitable. For urban locations, patches of natural vegetation could be integrated as far as possible with the most suitable concept for the area. There could be open grassed/sandy/paved parks or playgrounds or sports grounds of various sizes, provided there is a substantial belt of trees on the seaward side, and in cyclone prone areas, wind shelter belts on all sides. In cyclone prone areas, wind shelter belts should be planted around crops and settlements: the trees and shrubs used could be introduced species as well as indigenous/ native (found naturally in Sri Lanka) and endemic (found naturally only in Sri Lanka) species.

The design of the Green belt should include both ground vegetation, shrubs and then trees. Based on the study results, composition of the vegetation for both ground vegetation, shrub layer and the tree layer has been proposed for all the 5 districts. In the tree layer, there were two distinctions, one for the bioshield which is located at close proximity to the sea and then the trees outside the bioshield comprising of more multipurpose ones serving both protection and production purposes. Further, general designs were recommended for the west coast and southeast and eastern coasts. Guidelines were also proposed for rehabilitation of the mangrove areas and sand dunes.

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Hydrogeological condition and groundwater quality distribution in the tsunami affected Southern coastal area of Sri Lanka

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Groundwater monitoring in the tsunami affected southern coastal Weligama bay area was conducted during May 2005 to July 2006 to determine the hydrogeological conditions and groundwater quality by selecting 90 dug wells where water level, electrical conductivity (EC), total dissolved solids (TDS) and pH was measured in monthly interval. The Weligama bay area is located in latitudes and longitudes of 80°22', 5°97'. The dug wells are sunk into the permeable quaternary sand deposits in the coastal margin at Weligama Bay area is very permeable and-hydro-geological conditions are very favorable for saltwater intrusion.

The study helped to prepare groundwater isograph map and the distribution of EC, TDS and pH maps using the GIS package MAPINFO. Groundwater isograph map help to identify groundwater distribution of the coastal area of Weligama. There exist a closed relationship between topographical map & groundwater contour map.

The results of the study revealed that the Electrical conductivity of well water in all wells situated in the Tsunami affected Zone are turned to be saline (EC in average increases from 1500 μ Siemens per cm to around 4000 μ siemens /cm.). According to the hydrographs prepared during the study period, unconfined quaternary aquifer ground water level intimately related to atmospheric precipitation. The characteristic of the hydrograph provides a conclusion, that the recharge of unconfined ground water in quaternary aquifer takes place during the period of monsoon rain and quality of ground water due to tsunami has not changed specially.

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Organizational response to disaster -the case of tsunami, December 2004

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The Tsunami struck Sri Lanka on 26th December 2004, causing an enormous devastation of human lives and property. State and non-state sectors being unprepared and poor coordination of international and local assistance left people internally displaced even after one year of the disaster. Using primary and secondary data, the study assessed the responsiveness of the organizations to the Tsunami disaster in the Galle district and developed a model of action for effective disaster management.

The study identified the response levels of the organizations at relief, recovery, reconstruction, rehabilitation and development stages. There was no pre-preparation for a major disaster in Galle district. The disaster relief was provided by unplanned emergent structures. The prevailing administrative structures, political institutions, Center for National Operations, Non-governmental organizations, volunteers and community-based groups provided relief for two months. The government established the emergency operation structures for national level coordination.

At the recovery stage community and the private sector organizations have been marginalized in the response system. Governmental and NGOs have focused on providing transitional shelters and dry rations. The reconstruction and rehabilitation stages have focused on housing, livelihoods, social rehabilitation and infrastructure, which were in progress through September 2006. The Galle district emergency operation center completed the Disaster management plan for the district in July 2005. The parliament of Sri Lanka approved the Sri Lanka Disaster Management Act, No 13 of 2005, under which the National Disaster Management center has been established.

The model identifies organizational structure to coordinate donor assistance and link to community needs, through national and local level coordinating institutions with the contribution of different sectors and with proper monitoring. Getting the vulnerable community to actively participate in disaster management activities leading towards development will minimize the damage. Suggestions are made for specific capacity building measures for the different levels of the institutional model.