

# Understanding the Beach and Mangrove Environments

Monday, 19 January 2009

Last Updated Thursday, 07 May 2009

## Know your Planting Zones

Ecosystems are never isolated. The following chart illustrates how the 5 zones described in the previous pages (Coastal Beach forest, Inland Beach forest, Foreshore Mangroves, Inland Mangroves, Mangrove Associate /Fringe Forests) are not strict delineations in terms of planting areas, but rather make for inter-related, often overlapping zones.

Each zone is in itself a sub-ecosystem with different substrates (soil types) and conditions (flooding, wind and sun), but, should be considered in the larger picture as directly connected and related to its surrounding sub-ecosystems.

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When a mangrove greenbelt in a foreshore area of *Sonneratia*, for example, is cleared for whatever purpose, the beach forest areas adjacent to it become more directly exposed to the winds and the sea. Species that are not as tolerant of salt or wind burn will die off. Consequently, this will make it easier for invasive, dominant species like the *aroma* to take over the area and prevent other trees from regenerating. With its ferociously thorny bushes, the *aroma* will choke-off any wildlings from coming up.

Eventually, if the beach forest landscape is altered, the fringes of the nearby inland mangroves, will also deteriorate. *Nipa*, for example, easily suffers from wind and salt burn in areas where it is not buffered from these conditions.

*Nipa* suffering from windburn where other species which acted as windbreakers have been denuded.

The cycle of deterioration is known to pass on to the even larger ecosystems around the beach forest and mangroves. River basins where mangroves have been cleared have killed adjacent coral and sea grass areas through siltation. The precious filtration process that the mangroves play a major part in as the soil catchers and sediment holders is altered and the balance is remarkably damaged.

When planting, therefore, consider to start by building on your buffer zones. These will make it possible for other species to flourish. Strengthen or build these with the most adaptable and sturdy species, like the Talisay and Madre Cacao, before planting other species.

The lowly Madre de Cacao - its twigs and branches which are often used for fencing, eventually take root, bear leaves and make for good wind breakers in beach areas.

Rhizophora growing at the foreshore zone, Calatagan, Batanagas.

Pagatap growing at a foreshore section in Bohol.

Various beach trees growing several meters from the shoreline (coastal beach forest) Culion, Palawan.

A young Malubago tree growing in a sandy beach portion away from the shoreline (inland beach forest) Sagnay, Camarines sur.

Nigi wilding at drier portions of a riverbank (mangrove fringe forest).