

# Biscayne Bay Florida - 1997

Mangrove habitat destroyed in 1992  
by Hurricane Andrew Cat 5 Storm



## REM Encasement Devices installed



## Wrack Line & Debris

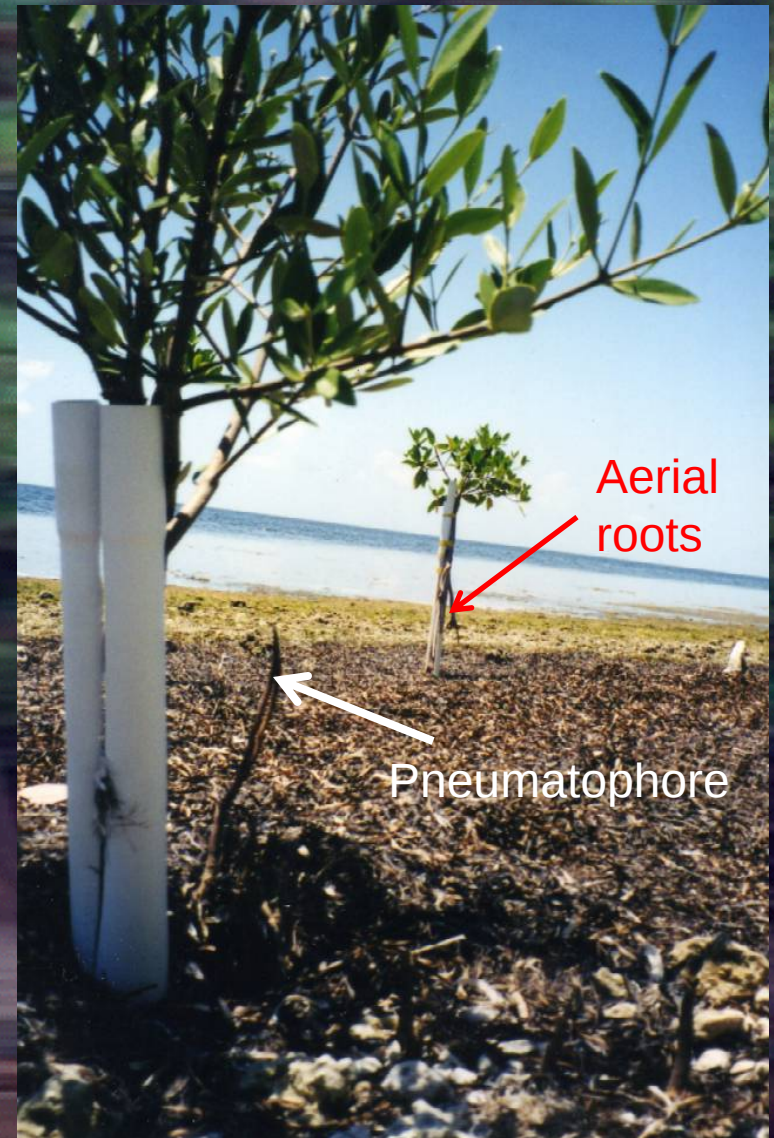


# Isolation protects developing seedlings



# Adaptation process

## Pneumatophores and Aerial Roots



# Reforestation, shoreline stabilization, habitat restoration



## Biscayne Bay, Florida -1997



# Biscayne Bay, Florida - 2007

## Ecological infrastructure



## Eroding shoreline with exotic vegetation



## Soil Conservation / Land Building



## Accretion - sediment binding by prop roots

Top of  
REM Device



# Cape Canaveral 1998



# Cape Canaveral 2006



# Social impact of REM reforestation

## Manzanar Project Eritrea



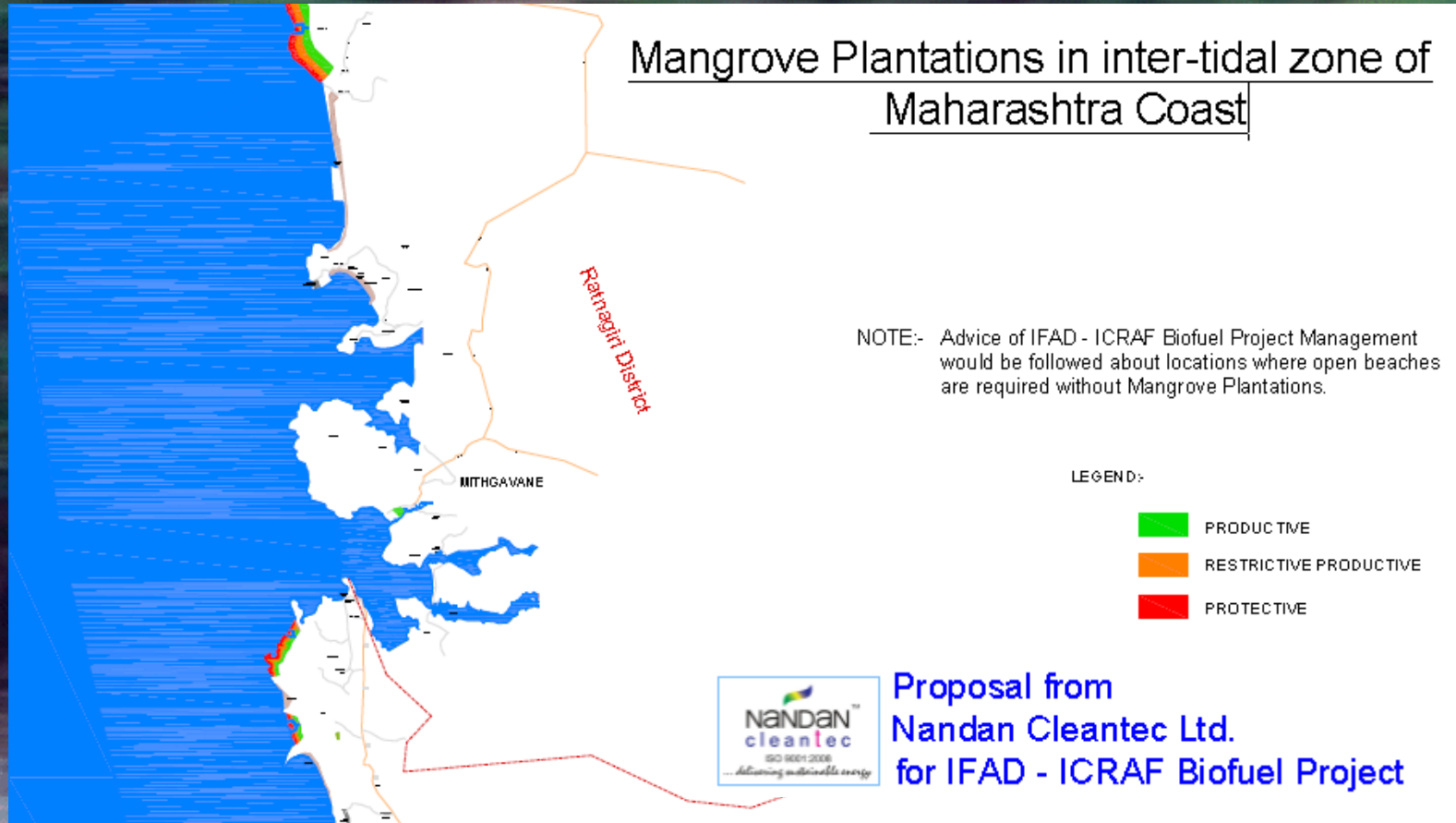
700,000 trees - intertidal flats  
providing livelihood and economic base



# Mangrove reforestation for sustainable ranching and aquaculture

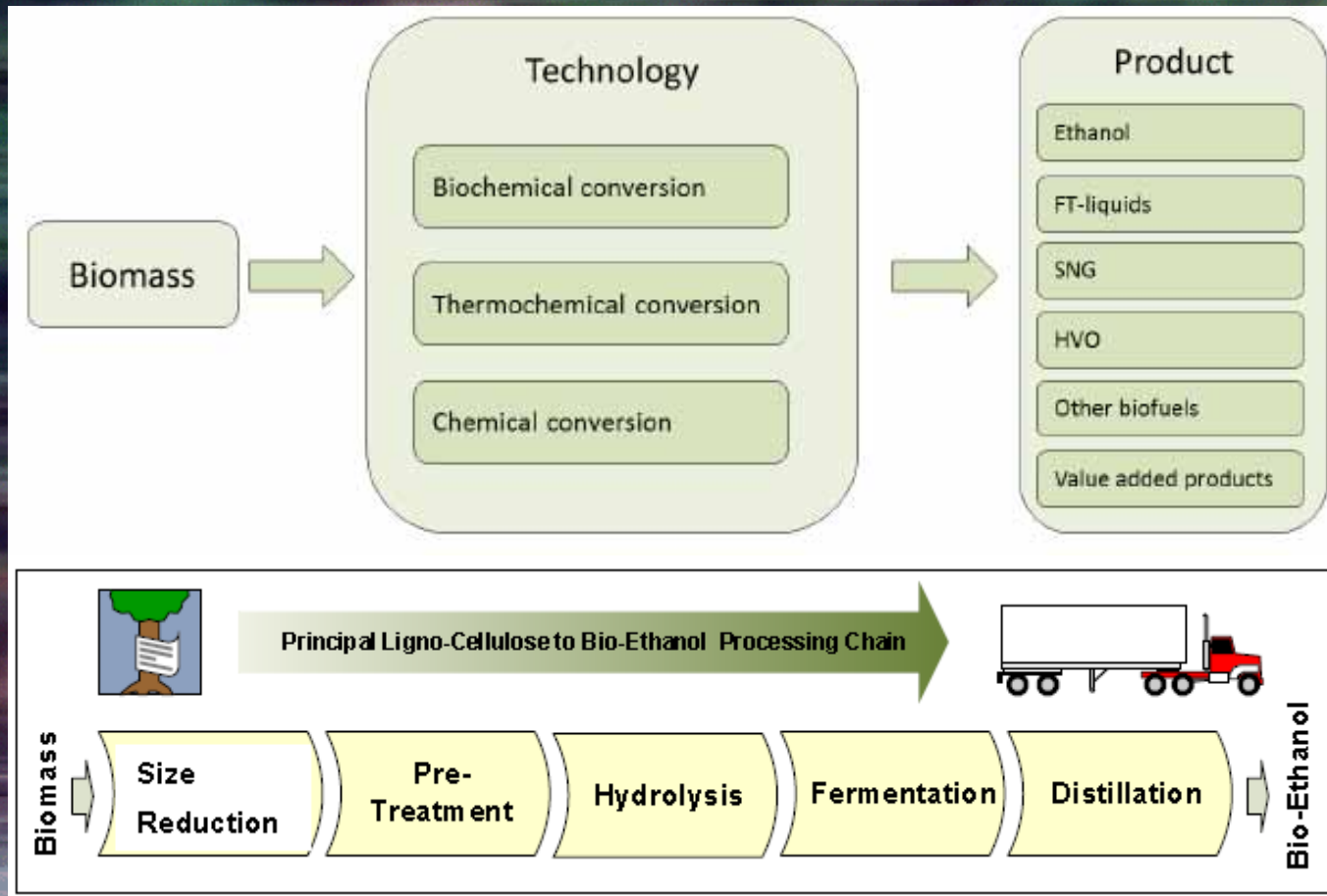


# Maharashtra Application REM Coastal Reforestation Technology



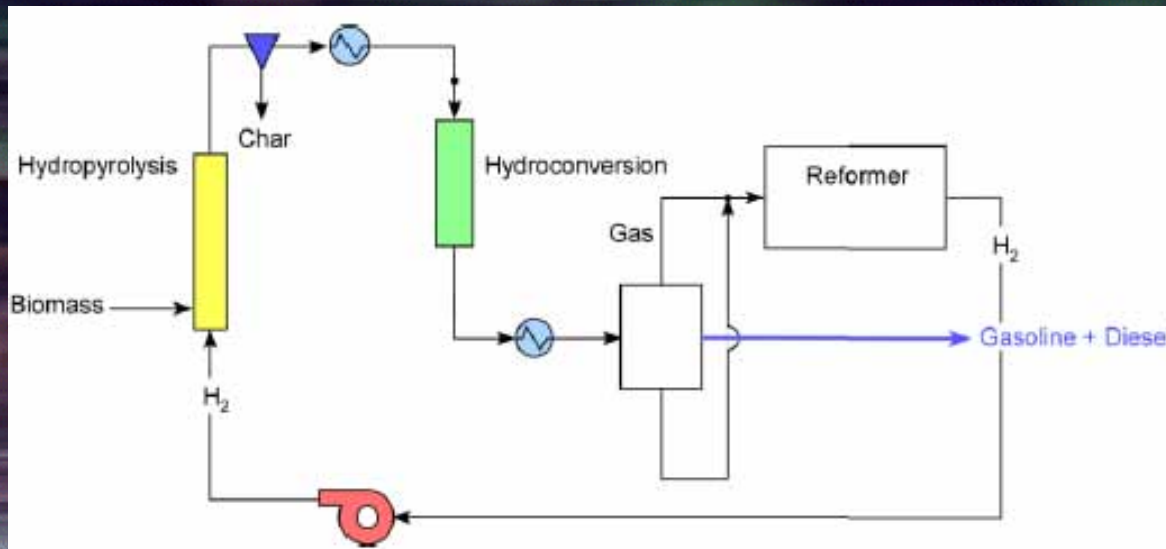
# Advanced biofuel technologies

## Biochemical Conversion of Lignocellulosic Biomass



# IH<sup>2</sup> Technology

- Converts mangrove biomass directly into high quality, drop in, gasoline and diesel.
- The process is able to produce gasoline and diesel at a market competitive price on a commercial scale.



## REM Reforestation in Agroforestry

- Soil conservation, shoreline stabilization, erosion control
- Reduces pollutants reaching coastal waters
- Creates ecological infrastructure, promotes biodiversity
- Improves water quality, quality of the atmosphere, sequesters carbon
- Supports commercial & recreational fisheries, protects coral reefs
- Strengthens coastal resilience
- Renewable natural resource for sustainable economic growth

# A Novel Model for Mangrove Agroforestry to Provide Livelihoods and Biofuel Feedstock

Riley Encased Methodology®