

#### **B. Human Impacts**

Human impacts on mangroves have been severe in some places, and include dredging, filling, diking, oil spills, and runoff of human waste and herbicides. Also, many coastal developments results in total loss of mangrove habitats.

## OCCD'S & AF'S INTERVENTION TO REHABILITATE & PLANT MANGROVES

Office of Climate Change and Development (OCCD), through its Adaptation & Projects Division, with support from United Nations Development Program and Adaptation Fund (AF) program,, initiated *Mangrove Rehabilitation and Planting* projects in target provinces of East Sepik, New Ireland, Madang, and Northern Provinces.

The Project aims to reverse the rapid loss of mangrove forests working towards achieving sustainable development that enhances the benefits provided by mangroves. One major benefit is building resilience to impacts of climate change induced coastal flooding and sea level rise.

# Mangrove rehabilitation and planting project has two priority areas:

### **1. CAPACITY BUILDING**

Capacity building is in terms of help in logistics and Training of Trainers during organised workshops in project sites. The trainers then train the implementing communities' representatives, the appropriate mangrove planting strategies and approaches.

#### 2. MANGROVE PLANTING AND REHABILITATION

This involves planting and rehabilitation of mangroves in the identified priority areas using the acquired knowledge and skills of appropriate strategies from the training.







**Top - Left:** Maureen Ewai (UNDP – AF Project Manager) and Jacob Ekinye—Director Adaptations & Projects Division, OCCD, and provincial workshop's participants in Madang.

**Top - Right:** *Project team: Maureen Ewai; Luanne Losi and Manau Renagi, visiting a nursery constructed by Bila Villagers with WWF's support in Madang.* 

**Bottom -** Minister for Environment & Climate Change Hon. John Pundari with OCCD Staff, local community representatives and students planting mangrove at Idubada Village, NCD, on 2014 World Environment Day. (OCCD & AF Program File Photos)

#### For more information:

Adaptation & Projects Division Office of Climate Change & Development

Contact: Website: Email: Visit us on Face book: 325 7528 / 775 40895 www.occd.gov.pg kmakano@gmail.com Office of Climate Change and Development







Empowered lives Resilient nations





## MANGROVES

Mangroves are marine flowering plants adapted to survive in saline (salty) soils, with more than 50 species worldwide. It is found along the coasts in tropical and subtropical locations and are among the most productive ecosystems.

According to UN - FAO's Forestry Department, estimated mangrove area for PNG in 2005 to be 380 000 hectares. There are 43 different species of mangroves in PNG, and makes up 75% of the total mangrove area in the Pacific Region.

# **BENEFITS FOR BIODIVERSITY**

Mangroves are important habitat, rich in food, which provide nutrients and nourish plankton, algae, fish, shellfish, birds, and other varieties of plant and animal species.

It provides their nursery area and shelter in terms of protection against extreme weather events, such as storm winds, coastal floods and storm surges. It is a haven for threatened and endangered species. Examples of such species are: crocodiles, sea turtles, snakes, and eagles.

# **BENEFITS FOR HUMANS**

## - Source of Food and Resource

Mangrove forests are extremely productive ecosystems that provide numerous goods and





services both to marine environment and people.

#### According to World Wildlife Fund :

- Mangrove forests are home to large variety of fish, crab, shrimp, and mollusk species. Fisheries form an essential source of food for thousands of coastal communities around the world;

- Mangrove wood is highly resistant to rot as well as to insects, making it extremely valuable. Many coastal and indigenous communities rely on it for construction materials and for fuel; and

- The dense root system of mangrove forests help stabilises the coastline. It prevents erosion from waves and storm surges caused by climate change induced sea level rise and coastal flooding.

# **MITIGATION OF CLIMATE CHANGE**

## - Carbon Sink

Mangroves mitigate climate change by reducing build up of carbon dioxide gas in the atmosphere through intake/absorption of the gas through its photosynthesis process.

Storage of carbon in mangroves takes place through accumulation in living biomass and burial in sediment deposits. Thus, mangroves rival sequestration potential of rainforests.

# **THREATS TO MANGROVES**

## A. Natural Threats

Causes of natural threats to mangroves include hurricanes, root clogging from increased water turbidity, and, damage from boring organisms and parasites.