

# World Wetland Day 2010



## “Care for Fiji’s Wetland and Biodiversity: an answer to Climate Change”

### INTRODUCTION

World Wetland Day (WWD) is celebrated every year on February 2nd. This marks the date of signing of the RAMSAR convention in the city of RAMSAR, Iran on the shores of the Caspian Sea in 1971. WWD was celebrated for the first time in 1997 and made an encouraging beginning. Each year, government agencies, non-governmental organizations, and groups of citizens at all levels of the community have taken advantage of the opportunity to undertake actions aimed at raising public awareness of wetland values and benefits in general and the RAMSAR Convention in particular.

The International theme for wetlands this year is "Caring for Wetlands: an answer to Climate Change". Our theme to suit Fiji's environment is: "Care for Fiji's Wetland and Biodiversity: an answer to Climate Change". The theme this year was designed around two key areas: Biodiversity loss and climate change. This was because at the end of 2009 a critical climate change meeting of the world's leaders took place in Copenhagen, and the Convention on Biological Diversity had launched a campaign in 2002 to significantly reduce the current rate of loss by biodiversity at the global, regional and the national level by 2010. Therefore 2010 has been declared by the United Nations as the International Year of Biodiversity.

Our theme is timely, and there is much to say at global and national levels about wetland species and ecosystems under continuing threat from unsustainable human practices. This also includes the likely impact of climate change on wetlands ecosystems and the important role of wetlands in combating Climate Change.

### Types of Wetlands in Fiji

#### 1. Mangrove forest



According to researchers, Fiji has 41,000 ha of mangrove forest in Fiji, 38,543 ha remain intact. The majority of the Fiji's mangrove forests are located on the mouths of the larger rivers:

- \* the Ba, Rewa and Nadi Rivers on Viti Levu
- \* the Labasa River on Vanua Levu

However the Rewa Delta hosts the largest and most diverse area of mangroves in Fiji. In addition, it is the largest river in Fiji with a total catchments of more than a quarter of the total area of Viti Levu, approximately 2980km<sup>2</sup> and discharges of the order of 7,897 million m<sup>3</sup> of water a year.

#### 2. Peat Bogs



*Inland swamp at Nadrau near Mt Tomaniivi*

Peat swamps are freshwater wetland areas and they occupy 0.3% of Fiji's land use, some examples of peat swamp areas in Fiji are: Melimeli Swamp, Bonatoa Swamp, Upper Dreketi River Swamp and Tonuve Swamp.

#### 5. Reservoirs

There are two major dams in Fiji, both on Viti Levu. The smaller Vaturu dam (160ha) provides water to the dry-western division of Viti Levu, and the larger Monasavu dam (670ha) provides hydro-electricity. A smaller dam (80ha) has been built at the Wainikavika creek near Navua to provide water for rice irrigation.

### Importance of Wetlands

Wetlands are important for the following reasons:

#### Filtration

These special areas also serve as filters for water, removing pollutants and reducing sediment which otherwise flows into rivers and streams.

#### Soil Erosion

Wetlands act to stop soil erosion. The quality of our water is much better when wetlands are left in place to do their work.

#### Regulate Water Level

They regulate the levels of our rivers, lakes, and streams by storing and slowly releasing excess rain

#### 3. Rivers



*Rewa River*

Fiji has four major river systems: the Rewa, Navua and Sigatoka on Viti Levu and Dreketi River on Vanua Levu. The Rewa catchment drains nearly 1/3 of Viti Levu; the two most economically important rivers: Ba and Nadi drains 15% of Viti Levu.

#### 4. Lakes



*Lake Tagimocia*

There are few freshwater lakes in Fiji and those that do exist are small and generally limited to mountainous regions. The largest lake, Tagimocia in Taveuni, is only 213 ha in area. The only significant brackish and saline lakes are Galogalo Lake, Gasauva salt lagoon and Lake Drano in Vanua Levu and a small marine lake on Vuaqava Island in Lau group.

### Impacts of Climate Change on Wetlands

According to most politicians and scientists the concentration of carbon dioxide in the atmosphere are increasing at a faster rate that has been seen in the past million years. Temperatures are rising, and weather patterns are changing- collectively putting our ecosystem and their species, and ourselves, at risk

The impact of climate change on our wetland ecosystems includes our coral reefs and mangroves since they are vulnerable to climate change because they have a limited capacity to adapt to change and damage to these ecosystems are irreversible. The increase in the sea surface temperature of 1- 3 °C would result in more coral bleaching and widespread mortality of coral. Coastal wetlands such as salt marshes and mangroves which are the physical barriers of our coastal areas will be negatively affected by sea level rise. An increase in damage along coast through flooding, storms and tidal surges will happen in many places.

In addition it also affects the water quality and intensifies many forms of water pollution such as high nutrient levels, pathogens, pesticides, salt, etc. Changes in the timing of fresh water run-off from inland wetlands will affect the salinity, nutrient availability and moisture regime of the coastal

ecosystems which will eventually have an impact on the coastal ecosystem functions.



Species that inhabit wetlands have to deal with all these changes. These include the change in temperature, water conditions and abundance of other species. Therefore they have 3 likely options, to move or remain in the same place, adapt to the new conditions or die!

### How does Wetlands Solve Climate Change Issues

Greenhouse gas emission is the major cause of climate change and the key culprit globally is carbon dioxide emission by the use of fossil fuels.

Wetland ecosystems and their biodiversity play a key role in the mitigation of climate change. Wetlands such as peat swamps, mangroves,

salt marshes and other wetlands are recognized as important carbon sink (mechanism or process that removes a green house gas from the atmosphere). Therefore there is an urgent need to restore and secure the management of these wetlands. As our WWD slogan suggests, caring for wetlands is part of the solution to climate change.

### Biodiversity Conservation as an Important Approach to Climate Change Mitigation and Adaptation

Climate Change is emerging as a significant cause of biodiversity loss in conjunction with habitat loss and invasive species. Biodiversity plays an important role in mitigation and adaptation to climate change. Therefore climate change, biodiversity and ecosystem services are closely linked. This includes ecosystems playing an essential role in regulating the climate system, coral reefs and mangroves provide natural shoreline protection from storm and flooding. Marine and terrestrial ecosystems currently absorb half of anthropogenic carbon dioxide emissions. However, the capacity of ecosystems to provide this vital climate-regulating service is

weakening due to a loss of biodiversity and the degradation of ecosystems. Healthy and resilient ecosystems have a greater potential to mitigate and adapt to a changing climate.

Ecosystem-based approaches for adaptation and mitigation are often cheaper than technical solutions and provide other benefits, as they also contribute to reducing poverty and conserving biodiversity. Therefore, addressing climate change and biodiversity loss in an integrated manner leads to co-benefits, whereas ignoring this relationship compromises our efforts in both areas that may accelerate global warming.

### Government Priorities on Wetlands In Fiji

Fiji joined the RAMSAR convention in 2006 to address the conservation and wise use of Fiji's wetlands and in addition contribute towards achieving sustainable development throughout the world.

In joining the convention Fiji has to abide by various obligations and one of them is the designation and promotion of the conservation and wise use of at least one Wetland of International Importance (Ramsar Site). Fiji's site is the upper Navua Gorge in the Province of Serua and Namosi on the South Central side of Viti Levu.

The Department of Environment is the National focal point of the Ramsar convention and is tasked with ensuring Fiji's compliance to the requirements of the convention. A National Steering committee was established in 2006 and meets regularly to assist government in the management of the National Ramsar site and the implementation of related activities.

*Furthermore joining the convention gives Fiji the following advantages:*

- Opportunities of getting financial assistance on wetland work and projects in which our government and local donors are unable to fund.
- Have a say in the International agenda of wetland issues.
- Enable us to access expertise and training opportunities from our global partners and their network.
- It will also assist us in achieving the 1st and 7th Millennium Development Goals.

Goal 1-Eradicate extreme poverty and hunger  
Goal 7- Ensure Environmental Sustainability

We are facing loss in our wetlands biodiversity therefore we the public and other sectors can make enormous contribution to take care of our wetlands.

Our theme depicts a sobering statement on taking responsibility and perhaps reminding ourselves of individual and national responsibilities. Furthermore a holistic 'reef to ridge' and cross sectoral approach is really needed in Fiji to conserve our wetlands.

For more information on the Ramsar Convention, contact the:

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