

## **6.0 WASTE MANAGEMENT**

### **6.1 Summary – Waste Management**

Environmentalism promotes just and equitable access to resources. The natural environment is an integral part of Fiji's products and services and the quality of nature plays a significant role in the success of any socio-economic development. As such, the generation and disposal of wastes does have direct and indirect impact on the socioeconomic development of our nation. The Government has taken steps to support sustainable resource management and encourage environment conservation through the Environment Management Act (EMA) 2005. The Act sets guidelines and policies for environmental impact assessments, waste management, pollution control and penalties.

Waste material present wasted money in-terms of original cost of materials, cost of materials, cost of disposal and also potential value of the material as a recyclable and reusable resource. Poorly managed wastes can have negative effects on tourist destination image and by association with health warnings about infectious and vector-borne diseases

### **6.2 Programs/Projects**

Waste cannot be reduced without a system that manages waste from the point of generation through to disposal. Below are various programs/projects currently being implemented by the Department of Environment in the effort to minimize waste at a National level:

#### ***EU Funded 'Lami Rehabilitation Project'***

Following the opening of the Naboro Landfill in October 2005, the Lami Dump, which constituted the main site of rubbish disposal for the greater Suva area, has been closed. However, serious environmental risks remain at the dump including emission of leachates, gas and the risk of fire or tidal wave.

To assist the Department, the European Union granted EU 550 000 for the rehabilitation of the Lami dump. The overall objective of the project is to assist the Government of Fiji in its capacity to work towards an improvement of the environmental situation in Fiji, in particular as regards to solid waste management and rehabilitation of Lami Dump and other institutional support services.

Hydea an Italian company was contracted to carryout Phase I (preparation of tender documents) of the project. The contract duration of Phase I is two (2) years which begun on 27<sup>th</sup> April 2009 to 27<sup>th</sup> April 2011. The consultants have prepared an Inception Report (draft released 23<sup>rd</sup> May 2009) which covered their activities undertaken such as a review of the EIA of the Rokobili extension, which has extensive data on a variety of environmental parameters, undertaking of field visits to the dump site where they collected leachate and gas samples and also drilled boreholes for water samples. Some estimation on gas production based on decaying exponential models were also done.

#### ***Waste Minimization and Recycling Promotion Project***

The request for assistance for a “Waste Minimization and Recycling Promotion Project” was proposed to the Government of Japan and the project was considered by JICA to be initiated in the western division (Lautoka City and Nadi Town. JICA have selected the consultants Kokusai Kogyo Co., Ltd and Ex Corporation to jointly implement the project. First team arrived on 17<sup>th</sup> October 2008.

The overall goal of the project is to develop and promote the idea of 3R (in this case, Reduce, Reuse, Return) mainly in the western division of Fiji.

The outputs of the project are:

- 1) Solid Waste Management Plans focusing on 3R are developed respectively in Lautoka City and Nadi Town.
- 2) Lautoka City and Nadi Town obtain the capacity for proper Solid Waste Management (SWM) through the implementation of Pilot projects.
- 3) Lautoka City and Nadi Town obtain the capacity for 3R promotion activities at whole is implemented at whole area of Lautoka city and Nadi Town Council.
- 4) Awareness of residents in Lautoka City and Nadi Town is raised through implementation of environmental education activities on 3R promotion.
- 5) 3R model for Fiji is developed and recommended.

#### ***Progress of the Project - First Year***

To date the team have conducted eight (8) different baseline surveys including a Waste Amount and Composition Survey, Final Disposal Amount Survey, Time and Motion Survey, Public Opinion Survey, Compost Demand and Market Survey, Recycling Activity Survey, Community Survey and Topographic Survey in Lautoka Landfill. A survey was also conducted at the Lautoka Vunato Landfill site

The Community survey collects basic materials necessary for selecting 3R pilot project site and also information for studying about how the 3R activity would be promoted in the whole area of Lautoka and Nadi and how it is disseminated to other areas in Fiji.

#### ***Container Deposit Legislation and Sustainable Solid Waste Management in Suva, Fiji – Project by the United Nations Development Programme (UNDP)***

Phase I of the project started in April 2009 with a Feasibility study on Managing Solid Waste in Fiji using the CDL System and a Litter Survey in the Suva area. The surveys were conducted respectively by two independent consultants. Phase I ended on March 4<sup>th</sup> 2009.

Phase II of the project will also develop and execute a public campaign to inform the public of the new system, and attack the widespread behavior of indiscriminate littering, using the leverage in public attention to this issue provided by the introduction of the deposit & refund recycling system.

An Implementation Plan has been produced which provides considerable detail concerning the individual activities required, and the coordination of those activities. In addition, a comprehensive Communications Strategy has been developed which also contains considerable detail concerning media outlets and costs in Fiji, as well as an analysis of the potential means of broadcasting the public awareness message to be promoted in Phase II. Detailed legal analysis has been conducted on the current legislative framework, and two separate legal opinions sought to ensure that the legal strategy outlined below is based on sound and valid principles of law. In addition, the detailed Economic Analysis, referred to above, provides the foundation of determining the number of beverage containers affected by the proposed system, the financial flows expected through the revolving fund holding deposits and paying out refunds. This analysis also looked at the economic benefits through reduced waste collection and landfilling costs, and some analysis of the employment impacts of introducing the system. That analysis also determined the sensitivity of the results produced to initial assumptions.

***Environmental Management Act 2005 and Environment Management (Waste Disposal and Recycling) Regulations 2007***

The purpose of these Regulations is to prevent the pollution of the environment by controlling the discharge of solid waste from facilities, the discharge of liquid wastes, the emission of polluting gases, smoke, steam and dust, and the handling, storage and disposal of wastes and hazardous substances generally.

Part 5 of the Environment Management Act 2005 sets out the framework for waste management and pollution control in the Fiji Islands. It prohibits any commercial or industrial facility from discharging any waste or pollutant into the environment or handling or storing hazardous materials without a permit and gives the Waste and Pollution Control Administrator power to issue permits. The Act came into force on 1<sup>st</sup> January 2009 and the Department of Environment has been to date encouraging commercial and industrial facilities to submit in their application for a permit. Throughout 2008 and 2009, the Department had been conducting awareness workshops and trainings at a national level, press releases on newspapers, television and radio were also conducted. The Department is grateful to a few Councils, Rural Local Authorities, Provincial Offices and business houses who have been assisting the Department in the effective implementation of this law, keeping in mind the lack of manpower within the Department to carryout this task.

***National Solid Waste Management Strategy for Fiji (NSWMS) 2006***

The NSWMS details the current waste management practices and outlines the inadequacies that exist in the institutions, it provides a platform from which future waste management activities can be developed and the mechanisms for coordinating the programs. It provides implementation at national, municipality, local and community level.

The key objectives of the national solid waste management strategy are to:

- reduce the amount of waste that each community generates;
- make best use of the waste that is generated;
- develop and implement economic and social incentive mechanisms to change wasteful behavior, improve and upgrade existing waste management and disposal systems;
- encourage/provide waste management practices, which minimize the environmental risk and harm to human health; and
- Provide a guideline template for rural or community level solid waste management practices work.

The department is implementing this strategy through requests made from the general public and the community in specific. Number of waste management workshops and training have been conducted to the industrial business community and the rural communities on waste minimization through the emphasizing the use of the 3Rs. For effective implementation, the NSWMS Action Plan requires the development of an Integrated Communication Plan. A plan was compiled with the assistance of SPREP through a roundtable consultation with relevant stakeholders in May 2009 and a draft plan is now available for review.

The Department of Environment (DOE) has been charged with addressing Objective 6 of the (NSWMS&AP) which states, "Upgrade current dump sites in urban centers by 2009." Objective 6 stipulates that a Minimum Operating Guideline for all dump sites be established as well as upgrade at least 3 current dump sites to meet the Operating Guidelines. In order to achieve this Objective, workshops were scheduled for both Vanua Levu and Viti Levu to train the Municipalities on how and why to upgrade from the current practice of open dumping to what is referred to as a controlled dump system. Both workshops had been conducted, Vanua Levu on 27<sup>th</sup> May 2009 and western division of Viti Levu on 25<sup>th</sup> June 2009.

### ***Other Waste Management Strategies***

Other strategies implemented by the Department is the National Liquid Waste Management Strategy, National Air Pollution Strategy, National Plan for the Implementation of the Stockholm Convention on POP's in Fiji, Rural Waste Policy, Chemical Management Plan.

The National Liquid Waste Management Strategy has not been launched, however, work has already started in a few areas, and with the recent enforcement of the Waste Disposal and Recycling Regulations, part of the action plans have been accommodated for.

Regarding capacity of the Department of Environment (DOE), although now endowed with a modern applicable environmental legislation and regulations, there is minimal human, technical and financial resources to implement/monitor the Act or the strategies.

#### **1. Naboro Sanitary Landfill**

The greater Suva area is now fortunate to have a sanitary engineered landfill (Naboro Landfill) opened in October 2005 which services Suva City Area, Nasinu Town Council, Nausori Town Council, Navua Rural Local Authority and Korovou Rural Local

Authority. It is an Anaerobic Landfill System that was funded by the European Union. It is maintained by a Private Contractor, H.G.Leach, and administered by the Department of Environment.

This landfill has alleviated some major solid waste problems associated with open dumps, such as health concerns from flies, rodents, and environmental health concerns from leachate.

However, a lot is still needed in terms of consistency of waste received from the councils as factors such as fuels costs associated with distance and gate fees have been problematic. There have also been serious concerns raised in terms of odour and infestation of rodents, flies (health concerns) as a result of such operations. For such, Government have tried to facilitate in terms of purchase of aerators, and audits such as this, in order to ascertain how best such issues can be addressed.