



Country Report (Fiji)

1.0 Introduction

The ever increasing and improper disposal of wastes is fast becoming global issue which Small Island Developing States (SIDS) of the Pacific increasingly find problematic due the environmental concerns associated. Waste management was identified as a strategic issue for the sustainable development of Small Island Developing States including Pacific island countries, at the UN General Assembly Special Session on the Sustainable Development of SIDS held in September 1999 in New York. 3 Workshops on Municipal Solid Waste Management for PIF Countries, Apia, Samoa, Feb-Mar 2007.

Waste management has also been identified as a priority issue within the region. This is recognized in the Action Plan for Managing the Pacific Environment, which was produced by the Secretariat of the Pacific Regional Environment Programme (SPREP, 2001) after extensive consultations with SPREP Member countries. The recently agreed to draft Action Plan for SPREP (2005-2009) also highlighted Waste Management as an issue that needed attention at the regional level.

2.0 Fiji

Fiji has an approximate land area of 18,270 km² and comprises 332 islands of which approximately 110 are inhabited. The coastline is approximately 1,129km and the terrain is mostly mountains of volcanic origin. The climate tropical marine, and there is only slight seasonal temperature variation. The capital is Suva (on the island of Viti Levu). It is located at: 18° 08' South, 178° 25' East (geographic coordinates) and UTC+12 (the Date Line passing through the country).

The total population is estimated at 918,675 (2007).

Fiji like all other Small Island Developing States in the Pacific region recognizes that waste management is the single most pressing issue that needs immediate action. It is recognized as a major concern with the potential to cause negative impacts on our national development activities including public health, the environment, food security, tourism and trade.

Solid Waste at the moment is either being thrown in the open dumpsites, illegally disposed of in the sea or on unused land, in the streets or being burnt in piles in the backyard. Burning of municipal waste is also quite common despite and towns and cities have been continuously exposed to destructive effects such as carcinogenic toxins from burning and impacts of poor waste management.

Poorly managed wastes can have negative effects on tourism, by detracting from the “Pacific Paradise” image that Fiji promotes, and by association with health warnings about infectious and vector-borne diseases.

There is the potential for contamination of food supplies, which can have impacts on local markets or revenue from export crops. And there are numerous health concerns associated with poor waste management.

In light of this, the Fiji Government, together with relevant stakeholders formulated a National Solid Waste Management Strategy AND Action Plan (NSWMS) which was endorsed by Cabinet in 2006, and launched in June 2008. The NSWMS sets out a medium to long-term program addressing waste management issues in Fiji, so as to avoid or minimize the adverse effects of improper waste disposal. The strategy details the current waste management practices and outlines the inadequacies that exist in the system at the moment. The proposed action plans details programs that are to be implemented at national, local and community levels. It is intended that the Strategy should provide a platform from which future waste management activities can be developed and the mechanism for coordinating them.

As much as possible, the Government of Fiji will look at resourcing the proposed activities and actions but in some cases, external resources will be required and our development partners will be invited to participate on these aspects of the strategy. The generation and disposal of wastes has direct and indirect linkages to economic development. Waste materials represent wasted money, in terms of the original cost of the materials, the costs disposal, and also the potential value of the material as a recyclable reusable resource.

3.0 Themes of the Fiji NSWMS

The strategy is based around the following seven major themes, which were also the basis for the working groups:

- Legislation, Regulation and Institution Information,
- Education, Awareness and Community Programmes
- Research and Development
- Waste Minimization and Recycling
- Improving Final Disposal, Monitoring and Litter Control
- Efficient pricing and Economic Instruments
- Infrastructure, Services and Collection Systems

4.0 Key Objectives of the Fiji NSWMS

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 and
- encourage/ provide waste management practices, which minimize the environmental risk and harm to human health
- Provide a guideline template for rural or community level solid waste management practices work.

5.0 Existing Scenario on Solid Waste Management

Litter

A litter survey was carried out along the Suva Edinburgh Drive for 1.8km and 1.5km along Suva Queen Elizabeth Drive. The predominant pollutants identified in both the Draft 12 surveys were snack packets followed by Polyethylene Terephthalate (PET) bottles and plastic bags.

In 2008, a Litter Promulgation Act was endorsed by Cabinet, where certain provisions are now being enforced mostly with the assistance of councils.

Plastic Bags

The growing number of plastic bags is one of the major environmental pollutants and of key concern in Fiji, as it takes longer time to degrade. Plastic pollution is quite common in public areas. In 1994 SPREP carried out a waste audit with 5 households in Suva for a week and found 7% of the waste was made up of plastics.

PET Bottles

In the year 2003 from January to December, the total influx of PET bottles in Fiji was recorded around 44 million which includes 1.7 million of imports and 42 million PET bottles being produced locally. (Note that the production 5 of PET bottles serves to mean the bottles that are blown up locally using imported pellets).

Industrial or Trade Wastes

Considerable amounts of solid wastes are produced by industries and disposed of at municipal dumps.

Sugar Mills

Huge amounts of bagasse, mill mud and ash is produced in one cane crushing season. Some bagasse is used as a source of fuel for the mill boilers, however stockpiles still develop Proper disposal of such wastes are still being explored.

Saw Mills

There are 61 sawmills around the country, and with the permit system, these facilities would again need to provide waste management plans on how best they would dispose waste generated in an environmentally friendly manner.

Gold Mine

A major source of solid waste from the mine is tailings, which are retained in tailings dams at the mine site. For all mines, facilities would need to apply for a waste disposal permit, and with this, an important criteria for obtaining a permit is submitting a waste management plan which should state how waste would be properly disposed, and pre-treatments that is required, and so forth.

Tourism

The tourism industry is a major generator of waste. The composition of tourism generated waste would be significantly different from other waste sources with a higher proportion of plastics, packaging and cans.

Difficult Solid Waste

Other major contributors of solid waste include motor vehicles and parts (such as batteries, tyres, vehicle scraps and derelict vehicles), and white goods (The Department of Environment had a study done on Scrap Metals, Derelict Vehicles, Batteries and Tyres).

A permit system has been set-up to cater for battery, tyres and scrap metal recycling, which should greatly assist in this.

The Department is currently awaiting word on a research by Japan Automotive Recyclers Association on the recycling of car bodies (vehicle scraps/derelict vehicles), that would soon take place in collaboration with other pacific island countries.

Hazardous Wastes

Increasing urbanization and importation of numerous consumer products ranging from cosmetics to laboratory chemicals used in the education sector and chemicals imported mainly under the agriculture, manufacturing and mining sectors contribute to accumulation of hazardous waste materials in Fiji.

The Agriculture sector for example has stockpiles of waste/obsolete agrochemicals. Given the absence of appropriate disposal facilities and management mechanism, a lot of these hazardous chemicals have found their way into our ecosystems via leachate from rubbish dumps like the Lami dump, or through intentional dumping by some people.

6.0 Existing Disposal and Collection Inefficiencies

Disposal Site

Solid waste disposal facilities are currently very poor in Fiji with about 7 out of the 11 sites being located in mangroves, which are polluting the water bodies. Not a single rubbish dump around the country is environmentally safe and socially acceptable. These dumps are managed poorly. Most of these open dumpsites are infested with flies, rodents, pests, and scavengers. Besides it emits a foul smell and there are no mechanisms in place to ensure that the leachates do not leak into adjacent land and waterways.

Collection Problems

For the major cities waste collection is contracted to private companies. In most part of Suva, household rubbish is collected three times per week in 7 tonne compactor or covered trucks. Even though the council believes it has a high level of domestic service to the ratepayers, the community at large believes they still need to improve the system.

7.0 Existing Capacity to Manage Waste

Policies

There is a lack of comprehensive policy frameworks for solid waste management while the existing legislations lack enforcement. Some of the laws that can be forced for improper disposal, accumulation of refuse or littering are:

- Public Health Act
- Litter Promulgation
- Municipal authorities waste management by-laws
- Fijian Affairs Act

Financial Constraints

Due to lack of cost recovery by municipalities on waste collection, there are high costs for services and inadequate revenues, waste collection is economically inefficient. On the other hand, local municipalities do not have the financial capacity to administer waste management effectively.

8.0 Progress on Waste Management

Environment Management Act

With the preparation and final promulgation of an Environment Management Act (EMA) in March 2005, Fiji has established a comprehensive legal and institutional framework for improving the conditions for waste management in the country. The purpose of the EMA is to apply the principles of sustainable use and development of natural resources and to identify matters of national importance for Fiji with regards to the environment.

In December, 2007, Environment Management (Waste Disposal and Recycling) Regulations was endorsed by cabinet which has come into effect on 1st January, 2008 (grace period). The purpose of the regulation 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 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 Management and Pollution Control Administrator power to issue permits. The WPC Administrator can also monitor discharges and issue orders to prevent illegal or excessive discharges.

Landfills

Fiji now has a proper Sanitary Landfill, the Naboro Landfill, which has been in operation since October, 2005. This landfill is located in Suva and caters for 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 and monitored 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 leachates.

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.

9.0 Current Work in the Area of Waste Management

A considerable amount of work is going on in the area of waste management in Fiji. Below are examples of some Government Departments, Non Government Organizations and other companies who are contributing to waste management in Fiji. There are other departments, organizations and companies who also do significant work regarding waste management.

Department of Environment

The Government through the Department of Environment had always recognized the importance of having information on waste matters to make informed decisions. In this regard, the Department in collaboration with relevant stakeholders formulated strategies and policies regarding waste management. Much of the work

of 2008 would be focusing on the implementation of the National Solid Waste Management Strategy, and the implementation of the permit system.

International Waters Project (IWP)

The IWP had worked with 2 pilot communities; the concept community has a range of meanings and interpretations across a number of disciplines.

The project rounded in February 2007 with a Sustainability Strategy formulated which should greatly assist the Department regarding Rural Waste Management.

Lessons Learnt from this project is currently being promoted during community awareness works.

Training and Productivity Authority of Fiji (TPAF)

TPAF provides training and undertakes projects on various issues. Environmental issues like waste management is one of them. A more recent one is the “Waste Recycling Competition” for schools in Fiji.

10.0 Priorities for the coming years.

(National Solid Waste Management Strategy?; landfill improvements?; better collection service?; medical waste disposal? Waste minimization? Recycling? Paying for waste? – A holistic approach towards waste management.

Waste Minimization (Recycling, Reusing, Composting Promotions)

As stated earlier, an important aspect of waste management that the Department has taken on board, are the activities that lead towards waste minimization – such as reusing, recycling, composting, and refusing. These would be the highlights of the Western Region Waste Management Project funded by JICA which began in October 2008, with this being the third year of implementation. The focus on this project is not so much on Landfills but waste minimization activities in which the people need to take on board and learn about. All components of baseline survey have been completed with engagements of consultants, and together with involvement of the Lautoka and Nadi Town councils. These include waste characterization survey, capacity assessment, community survey, final disposal amount survey, time and motion survey, public opinion survey, compost demand and market survey. The Department is now focusing on this process which is quite important, with the last resort being landfills.

Here are some activities that were undertaken during the preparation and implementation phase (2009):

- Field survey of Vunato landfill.
- Waste characterization survey at pilot areas / trial
- Community capacity Assessment Survey
- Final disposal amount survey
- Time and motion survey
- Public opinion survey

- Compost demand and market survey / trial
- Launching of 3R Project in Nadi and Lautoka
- Installation of weighbridge at Vunato Landfill

Upcoming activities:

- A workshop for teachers in Nadi town area is scheduled for the 19th of February. The purpose of this workshop is to create awareness to teachers on the “Clean School Competition” whereby 11 primary schools and 4 secondary schools around Nadi Town council are targeted to participate. DoE would be required to formulate a *guideline* on “waste management” for schools based on the lesson learnt through this “Clean school competition” which is scheduled from the 19th Feb and ending on July, 2010.
- Seminar on the Master Plan is scheduled for the 23rd and 24th of February at Nadi Town council and Lautoka City Council respectively.
- The 5th JCC meeting is scheduled for the 9th of March at DoE conference room and on the 10th of March at JICA office. Members are Central Board of Health, Local Government and Environment, Municipal Reps (Lautoka and Nadi), JICA Fiji office, and chaired by the Permanent Secretary of Local Government and Environment.
- Ongoing awareness, and 3R practices at pilot sites, and replication with Nadi and Lautoka.

Rehabilitation of the Lami Dump

Following the closure of the Lami Dump in year 2005, serious environmental risks remain at the site, including the emission of leachate and gas and the risk of fire or tidal wave. The Department of Environment together with the European Union is working on the rehabilitation works at the Lami Dump site in order to minimize these environmental hazards.

Commencement began in April 2009, with the recruitment of consultants to make assessment, recommend and supervise rehabilitation works to be undertaken. Part of the consultancy also involve institutional strengthening of the Department, feasibility on future operations of Naboro Landfill, assisting with Environment Impact Assessments of proposed sites, finalization of tender documents & recruitment (February – June 2010), and oversee works to be undertaken (June 2010 – June 2011).

Proposed Container Deposit Legislation

The UNDP had funded a feasibility study to look at the possibility of introducing Container Deposit Legislation (CDL) into Fiji, building on the experience gained

from their successful projects in Kiribati and the Federated States of Micronesia. The study identified that the value of recyclable materials currently being landfilled in Fiji is high which contributes to the high cost in collection and landfill space.

This project is divided into two phases with the following:

The three (3) expected outputs for Phase I included the setting up of the Project Management Unit (PMU), formulation of a legal framework for the deposit and refund beverage container recycling system and the setting up of the Managing Agency.

With the model proposed the Department of Environment, with the assistance of UNDP, will establish a Project Management Unit (PMU) for overall management and coordination of Phase I. The Department of Environment will advise and guide the PMU and provide employment contracts and operating procedures, both financial and personnel. The PMU would be based at the Department of Environment and the unit would consist of a Project Coordinator, Project Assistant, Project Administrative Officer and Financial Officer.

The system as proposed would require a revision to the current law, which would best be achieved through amending Part 7 Environment Management (Waste Disposal and Recycling) Regulations 2007 to provide for similar conditions to be applied to all beverage containers. The amendment would require anyone importing or producing a beverage container in Fiji to have a permit to do so, and issuance of a permit would be from the Department of the Environment. A Container Deposit Recycling Specialist would be employed in Phase I to provide expert advice and assistance to the creation of the system.

An Implementation Plan has been produced which provides considerable detail concerning the activities required, and the coordination of those activities.

In addition a comprehensive Communication Strategy has been developed for a strong public education campaign, using all types of mass media, against littering and the dumping of uncontained wastes in streets, waterways, bush and beaches.

In the Preparatory Assistance Phase, the following were undertaken:

- a) Feasibility Study of CDL in Fiji,
- b) Development of a Communications Strategy
- c) Legal Endorsement in relation to Legal framework linking to the current legislation (Environment Management Act 2007)
- b) Securing commitments from beverage and recycling industries through four sets of Roundtable Consultations Fiji wide

This would then be followed by the signing of agreement with UNDP for commencement of phase 1 works.

Transfer Station

Transfer Station has been an area currently being explored by the Department and Municipal Councils (specifically for the Suva Region) under the EU Lami Rehabilitation Project, and a feasibility study on this is completed.

Landfill Improvements

As stated earlier, there is only one sanitary landfill in Fiji which has been in operation for the past two years, with a life-time of approximately 10 years.

There have been on-going discussions regarding the need to install proper landfills in the Western Region and the Northern Division. An important outcome to note is the JICA funded Western Region Waste Management Project that began in August 2008.

Trainings have also been held in 2009 with councils and local authorities on low-cost solid waste dump improvements with a lot of focus on the proper operations, and the requirements under the Waste Disposal and Recycling Regulations 2007.

Improved implementation of the EMA 2005

The Department will be focusing on improving the monitoring of the permit system, and monitor the set-up of Environment Management Units/Committees in facilities and government Department for better implementation of the EMA 2005. Another need are testing equipments for analysis, and capturing samples for better monitoring purposes

Other progress works

a. Litter

A second review for the purpose of effective implementation was held in August 2009, with relevant stakeholders, and this is currently awaiting cabinet decision (2nd cabinet sitting in 2010).

b. Plastic Bags

At the moment, the department are working closely with municipal councils on how best this issue could be tackled, where the focus would be more on awareness and setting up incentives, rather than focusing too much on alternatives such as bio-degradable plastics, which also has adverse effects.

In line with the action plan under the NSWMS, a “ plastic free Christmas campaign ” was organized by DOE and Westpac with the support of leading supermarkets. This was a 6 weeks campaign which was launched at MHCC (busy centre) and involved radio advertisements, TV commercials, newspaper

advertisements, and distribution of shopping banks at Westpac Centre ' s Fiji wide.
The Department

A Feasibility study on the economic incentive of plastic bag will also be undertaken shortly (March – Mid April 2010) and a cabinet paper will be formulated out of this study, together with outcomes of campaigns such as this.

c. Industrial/Trade Waste

A permit system is enforced where all industries are to obtain a permit for disposal of any waste generated within facilities, and this should greatly assist with minimizing of adverse effects, as conditions for proper disposal would be laid out by the department. So far, about 600 facilities have applied for a permit Fiji wide, where some have more than one location.

The Department is also currently being consulted by the Water and Sewerage Department of Fiji on a Trade Waste Policy for Fiji.

d. Hazardous Waste

A Hazardous Waste endorsement has been incorporated in the regulations for the handling & transportation of such wastes in Fiji, where a few major companies have obtained endorsement as part of their permit.

This is in addition to the Assessments/Notification as per the Waigani Convention for the transboundary movement of Hazardous Waste.

Human Resources

The Department of Environment currently has 3 full-time staff looking after waste management and pollution control in Fiji, with an additional 3 staff to be recruited in early March, 2010 - mainly to look after Naboro Landfill operations, Northern and Western Region Environmental works (includes Waste Management and Pollution Control).

11.0 Conclusion

Fiji being a small island country in comparison to other developed countries, cannot place enough emphasis on its solid waste management. With the limited space, it is important that strategies such as the National Solid Waste Management Strategy and Action Plan are implemented at the earliest for the alleviation of adverse effects which easily affect the population.

Better waste management will not only lead to more economical use of land but in it there are ways to earn income for the public as well, through recycling and save money in reusing some of the material which people disregard as waste.

The National Solid Waste Management Strategy is an effort by the Government through the Department of Environment to produce a well structured plan to manage our solid waste better. It fits in very well with the Regional Solid Waste Management Strategy finalized by the Secretariat of the Regional Environment Programme (SPREP) in 2005.

Furthermore, with the enforced waste disposal and recycling regulations, this should be a stepping stone for the country for improvement and move towards “the once, pristine and resourceful” Fiji.