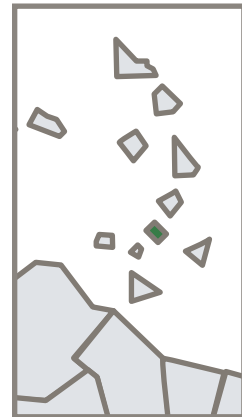


REGIONAL EVALUATION MUNICIPAL SOLID WASTE MANAGEMENT SERVICES



COUNTRY ANALITICAL REPORT ST. LUCIA / EVALUATION 2002

MARCH 2004

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1. EXECUTIVE SUMMARY

St. Lucia is an independent country within the British Commonwealth. The country is a member of the OECS and is located in the south central portion of the Caribbean between Martinique and St. Vincent. Control of all affairs, both internal and external, is vested in the Central Government located in Castries, the capitol city. The solid waste management system falls under the St. Lucia Solid Waste Management Authority, a semi-autonomous body under the Ministry of Planning.

St. Lucia has a population of 162,157 (2003) which places it in the upper medium range of the PAHO survey.

The economy of St. Lucia is dominated by the service sector with industrial production a distant second. Agriculture represents only 7% of the Gross Domestic Product (GDP) but has been badly affected by severe problems in the banana industry.

St. Lucia has a per capita waste generation rate of 1.18 kg/person per day. This rate is relatively low and the figure probably reflects both the low long term tourist population and the fairly low GDP.

The 1999 poverty assessment for St. Lucia indicates that 19% of total households fall below the poverty line and that 26% of these are considered to be in indigence. The GINI coefficient is 0.468, a relatively high value indicating a degree of maldistribution of income.

Health care is good with one main hospital and 39 health care clinics distributed throughout the island. Life expectancy at birth averages 73.1 years.

Illiteracy rates are very high with 27% of the population classed as illiterate and a further 19% rated as only "functionally literate".

Control of the solid waste management system is centralized under the St. Lucia Solid Waste Management Authority, a semi-autonomous body under the Ministry of Planning. The solid waste disposal system has been largely privatized with only the operation of the Vieux Fort disposal site currently under direct SLSWMA control.

Solid waste disposal is to the new Deglos secure landfill (75%) and the older Vieux Fort controlled landfill (25%). The Deglos site was financed under the WB/CDB solid waste initiatives as were improvements to the Vieux Fort site.

St. Lucia has a minimal legal framework for the solid waste management system. Despite the apparent dissatisfaction with the Solid waste Management Act (1996) and the failure to pass an equivalent ship generated waste act or to develop a regulatory framework, SLSWMA continues to function both smoothly and well.

The major strength of the system lies in the strong administrative staff of SLSWMA and the firm direction provided. This administrative strength has permitted the development of a fully equitable collection and disposal system of high quality. Equally impressive is the intimate knowledge of the detailed operation of the system that is displayed by senior management. The grasp of financial affairs is particularly good.

The major weaknesses of the system lie in the following areas:

- The heavy dependence on direct government funding which leaves SLSWMA vulnerable to Government priorities on disbursements from the Consolidated Fund;
- Fragmentation in responsibility for areas that SLSWMA would prefer to have under its own control;
- A lack of adequate funding to enable SLSWMA to build up reserves for unforeseen emergencies.

Limiting factors include the inability (or unwillingness) of contractors to invest in new (and hence more dependable) collection equipment. This could have a negative effect on collection effectiveness. The system also lacks effective economic instruments to drive generators towards source separation - a necessary factor in efficient disposal operations.

A further limitation caused by limited funding is the restriction on the ability of SLSWMA to promote education on solid waste at the primary and secondary school level.

SLSWMA has initiated a startlingly successful series of recycling schemes that are currently well beyond any of the other OECS countries.

2. INTRODUCTION

The process of collecting and developing the data required for the production of Evaluation 2002 for St. Lucia was carried out by a PAHO representative in conjunction with the General Manager and the Operations Manager of the St. Lucia Solid Waste Management Authority.

St. Lucia is an independent country within the British Commonwealth. The country consists of only of the island of St. Lucia. St. Lucia is a full member of the Organization of Eastern Caribbean States (OECS). The Central Government is located in the capital city, Castries.

The overall management of solid waste is controlled by the St. Lucia Solid Waste Management Authority (SLSWMA), a fully staffed semi-autonomous entity within the local Government structure. The formation of the SLSWMA is the direct result of the response to Component 3 of the World Bank/Caribbean Development Bank projects related to Ship-Generated Waste Management and Solid Waste Management which were instituted in 1995. SLSWMA was established in 1996 under the St. Lucia Solid Waste Management Act.

The overall solid waste management picture in the OECS countries changed radically after the beginning of the WB/CDB initiatives. In St. Lucia, the changes included substantial improvement in the collection process to close to 100% coverage. The collection operation has now been fully privatized.

There have also been substantial improvements in disposal practices with the closure and capping of the Ciceron disposal site and the opening of both the new Deglos sanitary landfill site and improvements to the managed disposal site at Vieux Fort. Open burning and pest infestation has been eliminated.

A substantial improvement has also been made in the treatment and disposal of biomedical waste with the installation of a state of the art autoclave located at the Deglos site. This facility will go into full operation when SLSWMA is satisfied that training and preparation at the generator level is complete.

The cost recovery system on St. Lucia remains highly dependent on direct Government funding. This is a potential weakness which could be improved. The imposition of direct charges payable to SLSWMA is, however, currently politically unacceptable.

The St. Lucia share of the WB/CDB project loans totaled US\$9.16 million with St. Lucia contributing the equivalent of US\$0.26 million in land, taxes, duties and other costs. This represents the only major investment in the solid waste system over the last five years.

The solid waste management system in St. Lucia is highly rated by the World Bank Implementation Completion Report (ICR). The only area which is less than highly rated is the absence of an effective cost recovery system and the heavy reliance on direct Government funding in the form of subventions. Despite this potential weakness, the level of funding for solid waste management appears to be adequate. The SLSWMA annual budget, as a percentage of the total national budget, is higher than in any other OECS country.

3. BACKGROUND

Physical Characteristics

St. Lucia is located in the south central part of the Caribbean, lying between the islands of Martinique and St. Vincent. The total land area is approximately 241 sq. mi.

(616 sq. km.). The general terrain is a mixture of mountainous and fairly level land in the form of broad fertile valleys.

Arable land is estimated at 4.9% of the total area with permanent crops (largely bananas) on 22.9% of the total land area.

The climate is tropical with a dry season from January to April and a wet season from May to August. St. Lucia lies well within the southern boundary of the hurricane belt and is subject to those storms following a southerly track from the Cape Verde Islands.

The road system is relatively good, consisting of both central roads and less traveled coastal roads.

Socio-Economic

The population of St. Lucia was estimated as 162,157 in 2003. Approximately 40% of this number lives in and around the capitol city of Castries in the northern part of the island.

The rate of population growth is fairly high for the region at 1.37%. This reflects a fairly high birth rate of 20.93 per thousand and a relatively low death rate of 5.24 per thousand. The emigration rate is fairly low for the area at 3.15 per thousand. The low emigration rate probably reflects a reasonably good national economy.

Health

Life expectancy at birth is 69.52 years for males and 76.90 years for females. The average for the population is 73.08 years. While the average life expectancy is not abnormal, the rather wide discrepancy between males and females is unusual.

Human Development Indicators

The average per capita Gross Domestic Product (GDP), at US\$4,400, ranks fourth among the OECS group of countries. Despite the moderately low per capita GDP, household poverty levels in St. Lucia are relatively low at 19%. Of these households, 26% are classified as in indigence. The GINI coefficient is moderately high at 0.468, ranking fourth among the OECS countries indicating a probable high level of maldistribution of income.

Current illiteracy data indicates that 27% of the population is fully illiterate and 19% is only "functionally literate". These very high levels appear to be the long term result of several factors including the use of young people in the agricultural sector and language problems caused by a lack of integration of the native language which is Creole.

Evolution of the Solid Waste Management System

The St. Lucia Solid Waste Management Authority was established in late 1996 as a direct result of the WB/CDB programs. It is a fully staffed semi-autonomous body within the government framework. The Board of Directors is rated by World Bank as particularly strong.

SLSWMA has succeeded in raising collection coverage to virtually 100% of the island. Waste collection has been completely privatized with sixteen waste collection contracts and nine separate collection firms participating. Collection frequency is daily in Castries urban areas and twice weekly in other areas. Improved collection has resulted in a generally cleaner environment, particularly in the Castries area.

Disposal practices have also improved markedly. The Ciceron managed disposal site has been closed and the new sanitary landfill at Deglos and the managed disposal site at Vieux Fort now handle all incoming waste. These changes have resulted in the elimination of open burning of waste and pest infestations. Operations at the Deglos site have been privatized.

Level of Investment

The total level of investment in the WB/CDB projects amounted to US\$9.42 million with St. Lucia providing the equivalent of US\$0.26 million in land, tax exemptions and duty exemptions. The remainder of the funding (US\$9.16 million) was obtained from the lending organizations.

This level of investment, equivalent to EC\$24.46 million (US\$1 = EC\$2.67), represents essentially all investment in the solid waste management systems since 1995. Other than maintenance costs on landfill related equipment, there should be no major further investments on the part of SLSWMA in the near future. This is, of course, a major advantage gained by the high level of contracted services, particularly in the collection area and at the Deglos site.

4. FUNCTIONAL OPERATIONAL STRUCTURE

Institutional Structure

The solid waste management structure in St. Lucia represents a progressive development dating back to the inception of the WB/CDB initiatives in 1995. The system in St. Lucia may have an inherent weakness in that the proceeds from the white goods levy are paid directly into the Government's consolidated fund. This arrangement leaves SLSWMA heavily dependent (to the extent of 73%) on the Central Government for operational funding. In the absence of other revenue sources, this exposes SLSWMA to a high level of risk of a shortfall in Government subventions in the case of a downturn in the national economy. The World Bank ICR suggests that an alternate source of funding should be developed and that the level of direct Government funding be reduced. At present, however, this is not politically acceptable.

Policies, Legal and Regulatory Framework

While the SLSWMA was established in 1996 under the Solid Waste Management Act, this Act remains to be formally passed by the legislature. In the absence of formal passage, it has been impossible to develop the necessary regulations for solid waste disposal.

Both the Solid Waste Management Act and the Ship-generated Waste Management Act (also not passed) are now being reconsidered with a view towards withdrawing them for substantial revision. Except for the absence of appropriate regulations, this would seem to have had little effect on SLSWMA operations.

An Integrated Solid Waste Management Plan was completed in June of 2003.

Centralization of Service

Solid waste management services are fully centralized under SLSWMA. The contracting out of collection services to the private sector does not alter that fact. SLSWMA exercises a level of operational control and financial planning second to none in the OECS.

Private Participation

The solid waste management system is the most highly privatized of any of the OECS countries. The only portion of the system that remains in SLSWMA direct control is the operation of the Vieux Fort landfill. The Authority is considering returning this part of the operation to private control.

Street Sweeping, Drain Cleaning

Street sweeping in the urban areas is the responsibility of the local city or town councils with drain cleaning and verge clearing in rural areas being carried out by the Ministry of Communications and Works.

At present street cleaning, particularly in the suburban areas is either poorly carried out or non-existent. There is a large amount of litter along the sides of all roads. This litter is mostly plastic - which ironically indicates the efficiency of the deposit return system on glass bottles. SLSWMA is currently developing an equivalent system for plastic bottles. If this program is indeed put into operation there is every chance that the litter question will be largely solved.

Sweeping coverage is probably 70 - 75% in strictly urban areas but is much less in other areas as indicated above. SLSWMA considers this to be inadequate and favours the centralization of these services under their control. They firmly believe that a system under central control - even if privatized - would be more effective.

Given the currently fragmented approach and the fact that SLSWMA is realistically not even peripherally involved, the costs of the two services cannot be included as a part of solid waste management costs.

Planning

Planning is the primary responsibility of SLSWMA with additional input being received from the Ministry of Social Transformation. There is substantial evidence that SLSWMA has achieved cost reductions through the privatization of landfill operations. These reductions probably amount to approximately US\$2.00 per ton of waste or about 3% of total unit cost.

St. Lucia leads the OECS countries in recycling and shows a highly practical and technically sound approach in this rather sensitive field.

5. DELIVERY OF SOLID WASTE MANAGEMENT SERVICES

Quality and Coverage of Services

Collection and disposal services both cover essentially 100% of the population. The quality of service appears to be high and there is good acceptance by the public of SLSWMA's position and function.

The privatization of essentially all operations except the Vieux Fort landfill gives a large degree of leverage over service delivery and quality.

Cost Analysis

The average unit cost for disposing of a ton of waste is US\$50.94. This is well within the range expected for landfill disposal. Considering the fact that a high degree of privatization is often consistent with higher than average costs, the relatively low St. Lucia cost is indicative of good financial control.

The absence of street sweeping and road maintenance costs tends to distort the cost picture to some degree. This, however, is only the case when the cost data is compared to other jurisdictions where the inclusion of these costs is possible. Even an increase in unit costs of 20% would still leave the St. Lucia cost fully within the expected range.

Municipal Development

Municipal development does not appear to play a major role in the solid waste management operations

Administration

SLSWMA is fully staffed and the administrative staff is backed by a strong Board of Directors. The extensive privatization of operations allows for operation with a relatively low level of administrative staff. The situation is very similar to Anguilla where almost complete privatization has also led to minimal administrative staffing.

Shared or Participatory Management

There is no shared or participatory management involved in the solid waste management system.

Small Business Involvement

The main small business involvement is in the collection contractors and the private operator of the Deglos landfill site.

In Addition the recycling effort for plastics, lead acid batteries and waste oil is carried out by private firms.

Micro Enterprises

There are no micro enterprises involved in solid waste disposal operations.

Sector Projects

The WB/CDB projects are complete and operational. No other sector projects are currently active.

Funding

St. Lucia levies a tax on white goods which is at least partially intended to contribute to the cost of solid waste disposal. Unfortunately, the levy is paid into the Government consolidated fund and SLSWMA does not receive direct funding from this source.

There is also a US\$1.50 environmental levy on all visitors. This levy is essentially intended for SLSWMA funding but again is paid into the Consolidated Fund. Again this precludes direct funding and the actual amount that reaches SLSWMA is questionable.

SLSWMA depends on direct government funding for 73% of its operating expenses. When compared to Grenada and St. Vincent, this level of direct funding is extremely high. The potential problems associated with high levels of direct Government funding are seen in Antigua and St. Kitts where shortfalls in Central Government subventions have led to difficulties.

6. STRENGTHS AND WEAKNESSES OF THE SYSTEM

Strengths

The major strength of SLSWMA lies in its highly competent administrative staff. This staff, backed by a strong Board of Directors, has been responsible for the development of a collection and disposal system that fully covers the island with service of high quality.

The staff demonstrates a high degree of technical competence and financial control.

Weaknesses

The main weakness of the system lies in the heavy reliance in direct Government financing of operational costs. The lack of a greater amount of direct financing leaves SLSWMA vulnerable to the exercise of Government priorities in the disbursement of funds from the Consolidated Fund.

The system also suffers from some degree of fragmentation of responsibility in functions such as street sweeping and verge clearing. SLSWMA favours centralization of these functions under their control.

Despite the success of the privatization of collection operations, there is some feeling that the collection operators tend to utilize equipment that is fairly old and possibly subject to failure. Some financial incentive to upgrade the relevant equipment would be advisable.

Limiting Factors

Unless better source separation can be achieved, landfill operations cannot be improved to any great degree. SLSWMA considers that this can only be achieved in a practical sense if there are financial incentives in place to avoid excessive delivery of waste that is unnecessarily mixed.

The potential difficulties with collection equipment could lead to limitations on collection efficiency.

The continued reliance on direct Government funding will probably restrict the funds available for increased levels of solid waste education at the primary and secondary school levels. In the long term this will result in a situation where it becomes impossible to further develop a reasonable public attitude towards solid waste.

7. HEALTH, ENVIRONMENT, AND SOCIAL DEVELOPMENT

Health and Environment

There are no obvious direct linkages between solid waste disposal methods on St. Lucia and the health of either the workers or the public. SLSWMA takes the view that it would welcome formal confirmation of the absence of health risk which might be thought to be inherent in their operation.

SLSWMA has gone to considerable effort to ensure that the operation of both landfills is environmentally sound. Monitoring of the landfills appears to be more stringent than in any other jurisdiction visited by the writer.

Epidemiological Studies

In the absence of direct linkages between solid waste disposal practices and disease no epidemiological studies have been considered to be necessary. None have been carried out.

Occupational Health

There are no obvious occupational health hazards associated with the solid waste disposal system as far as the personnel that are directly or indirectly under SLSWMA control.

The activities of scavengers at the Vieux Fort site are frowned on by SLSWMA. Continuation of the activity is contingent on tight control of the people involved in this activity. The practice will not be permitted at the Deglos site.

Equity of Service

The collection and disposal services are both fully equitable.

Economic Value

While St. Lucia's tourist industry is not of primary importance in the local economy, there is no question that the good solid waste management practices inherent in the system make a positive contribution in this area.

8. PARTICIPATORY MANAGEMENT

Community Participation

There is very little direct community participation in the solid waste management system.

Non-government Organizations (NGO's)

No NGO's are involved in the solid waste management system

Hygiene and Occupational Safety Programs

There are no programs currently active in these areas.

Scavenging of Waste

This practice is accepted with reservations at the Vieux Fort site. It will not be permitted at the Deglos site.

9. FUTURE PROSPECTIVES

Investment and Reorganization

The completion of the WB/CDB projects eliminated the need for any immediate additional investment in the solid waste system. In addition, the high level of privatization limits or eliminates the need for direct investment in equipment.

These factors do not, however, eliminate the need to ensure that contractor owned equipment is maintained in a condition that assures continued service at the current levels.

SLSWMA is fully organized and no reorganization is required or contemplated.

Reform and Modernization

Neither is required nor is any contemplated.

Alternative Management Systems

The current management system is fully functional and no changes are required.

Regulation

As is usual in the OECS countries, there is a degree of friction between the Public Health Department and the Solid Waste Management Entity (SWME). In general this results from the severance of solid waste responsibility from Public Health and the establishment of an adequately funded SWME. St. Lucia is no exception to the rule.

The result in St. Lucia has been that SLSWMA acts essentially as a self regulating body. Given the competence of SLSWMA, this is a wholly viable position. While it does isolate SLSWMA, the self regulating function eliminates the frustrating situation where the regulatory body has no authority over the body being regulated.

There is no question that the overall solid waste system would benefit from the development of regulations supporting the solid waste legislation. If, however, the basic legislation is open to question and is likely to be changed, it would seem to be counter productive to waste time developing regulations - at least at this point in time.

Financial Requirements

To date SLSWMA's financial requirements have been met adequately. In terms of their budget as a percentage of the national budget, SLSWMA receives more than any other OECS country. The quality, equity of service and the generally smooth operation of the system reflect the availability of required funding.

Despite the current adequacy of funding, the fact remains that all the funding comes either from the Consolidated Fund or from direct Government subventions. This represents an inherently unstable situation which is subject to the vagaries of Government priorities.

There is a distinct need for a source of funding which is more direct and less dependent of the Government. However, at this point in time, all the available options for such funding are apparently politically unacceptable.

Recycling

St. Lucia leads all the other OECS countries (plus BVI and Anguilla) in the level of recycling that has been achieved. As well as the usual glass recycling for reuse purposes (driven by a deposit/return system) they have started the following initiatives:

- Waste oil recycling for use as a fuel in steam generators. SLSWMA estimates that 10 - 15% of the total stream is captured in this manner. Three private firms are involved. It is hoped that the scheme can be expanded.
- Composting is being carried out at the Vieux Fort landfill site. It is estimated that 90% of the green waste arriving at the site are handled in this manner.
- Lead acid batteries are collected and recycled to Venezuela via Trinidad. SLSWMA ensured that this recycling destination was environmentally acceptable prior to the commencement of the program.
- Plastic bottles represent the single largest component of roadside litter. A program for collection separation and recycle for reuse currently exists. SLSWMA is considering the application of a deposit/return system in this area to increase recovery levels.

In addition there is a small composting program operated by a local organic farming group.

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11. ACRONYMS

CDB	Caribbean Development Bank
EC	Eastern Caribbean (currency)
GDP	Gross Domestic Product
GINI	Coefficient measuring income distribution
ICR	Implementation Completion Report
NGO	Non-government Organization
OECS	Organization of Eastern Caribbean States
PAHO	Pan American Health Organization
SLSWMA	St. Lucia Solid Waste Management Authority
SWME	Solid Waste Management Entity
US	United States (currency)
WB	World Bank

12. WORKING TEAM

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