

Japan International Cooperation Agency (JICA)

Ayuntamiento del Distrito Nacional (ADN)

**THE STUDY ON INTEGRATED SOLID WASTE MANAGEMENT PLAN
IN SANTO DOMINGO DE GUZMAN
NATIONAL DISTRICT
DOMINICAN REPUBLIC**

*Final Report
Volume II
MAIN REPORT
(Municipal Solid Waste)*



PREFACE

In response to a request from the Government of Dominican Republic, the Government of Japan decided to conduct “The Study on Integrated Solid Waste Management in Santo Domingo de Guzman, National District” and entrusted to the study to the Japan International Cooperation Agency (JICA).

JICA selected and dispatched a study team headed by Mr. Ikuo Mori of KOKUSAI KOGYO Co., LTD. between July 2005 and October 2006. In addition, JICA set up an advisory committee headed by Dr. Hidetoshi Kitawaki, Professor, Toyo University, which examined the study from specialist and technical points of view.

The team held discussions with the officials concerned of the Government of Dominican Republic and conducted field surveys at the study area. Upon returning to Japan, the team conducted further studies and prepared this final report.

I hope that this report will contribute to the promotion of this project and to the enhancement of friendly relationship between our two countries.

Finally, I wish to express my sincere appreciation to the officials concerned of the Government of Dominican Republic for their close cooperation extended to the study.

March 2007

Ariyuki Matsumoto
Vice President
Japan International Cooperation Agency

March 2007

Mr. Ariyuki MATSUMOTO
Vice President
Japan International Cooperation Agency

Letter of Transmittal

Dear Sir,

We are pleased to submit the report of The Study on Integrated Solid Waste Management Plan in Santo Domingo de Guzman, National District, Dominican Republic.

This report consists of two fields, i.e., Municipal Solid Waste Management and Healthcare Waste Management. The former introduces the result of current status diagnosis, the result of Pilot Projects, Master Plan and Action Programs. The latter shows the result of current status diagnosis, the result of Pilot Project and Action Plan.

Santo Domingo Municipality's vision regarding Municipal Solid Waste Management (MSWM) is "Clean City." The Master Plan is to contribute its fulfillment, which advocates "the municipality, the citizens and the private sector shall collaborate with each other in order to establish high quality and sustainable solid waste service," and has the following goals: 1) 100% collection rate, 2) establishment of sanitary final disposal, 3) 15% waste minimization, and 4) 30 – 50 % dependency rate on the municipal general finances, by 2015. These challenging goals were set by the municipality itself.

Implementation of the Master Plan has begun. The Municipal Regulation on Non-hazardous Waste Management, which is a legal infrastructure for all individuals and organizations concerning MSWM, was promulgated and enforced during the period of the Study. The Pilot Project of Integrated Improvement of Collection Service has been expanding with participation of the private sector.

Meanwhile, in the field of Healthcare Waste Management, the Action Plan aims at "proper management of healthcare waste in order to reduce health risks of cleaning workers in healthcare centers, patients, waste collection workers and citizens." The goal is that healthcare waste is to be properly managed in all healthcare centers in Santo Domingo by 2015."

On the basis of the success of the Pilot Project carried out in Ciudad Sanitaria, Dr. Luis E. Aybar, the Secretary of State for Public Health and Social Assistance and the Secretary of State for Environment and Natural Resources, witnessed by the Mayor of Santo Domingo, declared the expansion of the proper Healthcare Waste Management to other hospitals. Some hospitals have already commenced the proper management.

We would like to take this opportunity to express our sincere gratitude to your Agency, the Advisory Committee for the Study, the Ministry of Foreign Affairs and the Ministry of Environment of Japan. We would also like to extend our deep appreciation to the Government of Dominican Republic, the Embassy of Japan and the JICA office in the Dominican Republic for their vital cooperation during the implementation of the Study.

Last but not least, we hope that the output of the Study presented here will contribute to the improvement of Solid Waste Management and citizens' welfare in Santo Domingo de Guzman, National District.

Respectfully,

Ikuo MORI
Team Leader
The Study on Integrated Solid Waste Management
Plan in Santo Domingo de Guzman, National
District, Dominican Republic

The Study on Integrated Solid Waste Management Plan in Santo Domingo de Guzman, National District Dominican Republic

List of Volumes

Volume I Summary (English, Spanish, Japanese)

This Volume is consisted of two parts, Municipal Solid Waste Management and Healthcare Waste Management. The former part is a summary of the Volume II, Main Report, Municipal Solid Waste. The later part is a summary of the Volume IV, Main Report, Healthcare Waste.

Volume II Main Report; Municipal Solid Waste (English, Spanish)

This Volume contains the whole items conducted and planed during the Study on the aspect of the Municipal Solid Waste Management.

Volume III Annex; Municipal Solid Waste (English, Spanish)

This Volume contains detailed results of site surveys conducted and products such as manuals prepared during the Study.

Volume IV Main Report; Healthcare Waste (English, Spanish)

This Volume is consisted of two parts, Main Report and Annex. The former contains the whole items conducted and planed during the Study. The later contains tools such as manuals and posters used for the Pilot Project.

This is the Volume II, Main Report; Municipal Solid Waste (English)

In this report, the project cost is estimated by using the August 2006 price and an exchange rate of US\$1.00=RD\$33.00=JP¥116.00

The Study on Integrated Solid Waste Management Plan
in Santo Domingo de Guzman, National District, Dominican Republic
Location Map



STUDY AREA



Consistorial Palace (Municipal Palace) in Colonial City



Plaza Colón in Colonial City



View of Study Area



Other view of Study Area



Houses settled at the shores of Ozama River



Street of PP area (trees pruning and branches in streets)

Analysis of Waste Amount



Collection of samples from houses



Collection of samples from houses

Analysis of Waste Composition



After mixing them adequately, the waste was divided in four segments of approximately the same size.



The reduced sample was placed in plastic containers calibrated to register its volume and weight.



The reduced sample was divided into components



The components were dried to analyze its content of humidity.

Time and Motion Survey



Survey of collection works



Survey of collection works



Survey of collection works



Interview with waste collection truck driver

Public Opinion Survey (POS)



Household interview



Household interview

Survey of Recycling Market



Scavengers recovering metals around Duquesa landfill to sell them to recycling companies.



Metal melting at local smelting companies .



Packaging of paper for recycling



Plastic recycling companies.

Survey on Social Considerations



Interview with focal groups



Interviews with street sweeping workers

ENVIRONMENTAL EDUCATION “MINIMIZING WASTE FOR A CLEAN CITY”



Workshop on environmental education for the C/P personnel



Personnel of C/P (ADN, SEE, SEMARN)

1st. Workshop for Teachers of PPP Area (Public Schools)



Participating teachers of public schools



Activity of making recycled paper

2nd. Workshop for Teachers of PPP Area (Private Schools)



Participating teachers of private schools.



Explanation during workshop by personnel of C/P

Experimental Workshops in Schools

Victor Garrido School



Participating students of experimental workshop
San José School

Hogar Rosa Duarte School



Participating students of experimental workshop
Hogar Domingo Savio School



Student group participating in the workshop
F.X. Bellini School



Experimental workshop opening speech by teacher
Técnico Movearte School



Experimental workshop opening speech by school principal



Participating students of experimental workshop

Preparation for the Implementation of PPP (Pre-Pilot Project)



Preparation of flyers



Opinion survey from the Customer Office (Triple A)



Instructions to ADN workers before commencement of PPP



Meeting and explanation of PPP to residents and requesting cooperation for cleansing operation



Young volunteers from Youth Department for flyers distribution



High school students cooperating in the distribution of flyers

Cleansing Operation in PPP Area



Neighbors' Committee president calling to cooperate in the cleansing operation (San Jose)



Students distributing waste bags to residents



Residents cleaning streets



Resident sweeping sidewalks



Students cooperating in the cleansing operation



Neighbors' Committee president showing the results of the cleansing operative