

The Study for the Development of an Integrated Solution Related to Industrial Waste Management in the Industrial Pole of Manaus

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1. Introduction

Manaus Free Trade Zone (MFZ) is an economic development model implemented by Brazilian government aiming for making an economic basis feasible in a sustainable way in Occidental Amazon. Manaus Industrial Pole (MIP), main foundations of MFZ model, is one of the most modern industrial parks of Latin America. It gathers approximately 550 national and multinational industries working in sectors such as Electro-electronics, Two-Wheel, Thermoplastics, Chemical, among others. Today, MIP generates around 100 thousand direct jobs and other 500 thousand indirect ones.

The concern towards the environmental impact reduction generated by the wastes of the approximately 550 companies of PIM, motivated ABC, SUFRAMA and JICA to sign a technical cooperation agreement aiming for evaluating the current handling and management conditions of industrial waste in PIM.

The project, named "Study for the Development of an Integrated Solution related to the Industrial Waste Management in Manaus Industrial Pole", started in February this year and will last for 18 months and counts of the partnership of FIEAM, CIEAM and Commerce and Industry Brazilian Japanese Chamber. The Japanese government will provide the project with around US\$ 2 million for the execution of the project and SUFRAMA will provide the technicians with logistical support.

The results of the study will serve as basis for the formulation of the Master Plan, containing solutions proposals for the use and destination of wastes to

be implemented in Manaus industrial park from 2011 to 2015.

Currently, the treatment of a large part of the wastes generated by the industries of MIP is done in Manaus through outsourcing, by the generating factories, the collection, transportation and final disposal services to companies licensed by Amazonas state environmental organizations. In the case of wastes classified as hazardous, part of them are treated in other States, when there are not local companies specialized in the adequate destination of some sort of those wastes.

In order to let the society know about the performance of the actions pertaining to the study, this Newsletter will be published periodically with information about the issue.

2. Outline of the JICA Study

The outline of the JICA study is briefly introduced.

Objectives

The objectives of the study are:

To review the current conditions of industrial waste management in the MFZ PIM and the surrounding area and compile the results into a report.

To formulate a master plan for industrial waste management (five-year plan from 2011 to 2015) in PIM and guidelines for the improvement of industrial waste management in PIM.

Also, by achieving these study objectives, the following end goals are pursued.

To establish appropriate industrial waste disposal and the 3Rs (Reduce, Reuse, Recycle) based on the master plan for industrial waste management in the target study area.

With the establishment of appropriate industrial waste disposal and 3Rs, reduce illegal dumping of industrial wastes and minimize environmental impact.

Schedule of the Study

The study schedule is shown in the table below. Phase 1 to review the current condition of IWM will continue up to the end of September and Phase 2 to formulate a master plan for IWM will start from October 2009 and complete on August 2010.

Year	2009												2010									
Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8		
Phase	Phase 1												Phase 2									
Study in Brazil																						
Study in Japan																						
Workshop/Seminar																						
Report																						

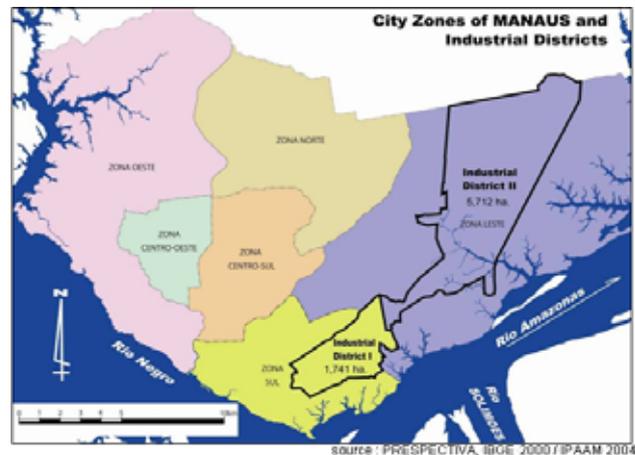
W/S: Workshop
 IC/R: Inception Report
 IT/R: Interim Report
 DF/R: Draft Final Report
 F/R: Final Report

Schedule of the study

Study Area

The study area corresponds to an area comprising those plants approved by the Governing Council of SUFRAMA (CAS) within a perimeter of 10,000 km²

as defined by Decree Law 288/67 and its regulation (Decree 61.244/67), in PIM, shown in the figure below:



Target Waste

The target waste of the study will be the industrial waste generated in the Industrial Pole of Manaus (PIM), but this will also include waste such as health waste generated from medical institutions linked to PIM factories and construction waste discharged from PIM construction sites. Improvement recommendations will not be included in the master plan for radioactive waste, but a fact finding study of current conditions will be conducted.

3. Issues of the Study

The study will be implemented through the basic policies given above with the aim to establish an appropriate industrial waste management system. However, the following three requirements must be satisfied in order to do so.

1. Establishment of appropriate management, treatment and disposal of industrial waste from generation sources (factories, etc).

2. Establishment of an appropriate disposal system for the industrial waste discharged from generation sources.
3. Establishment of an administrative organizational framework to foster, guide, monitor and regulate items 1 and 2 above.

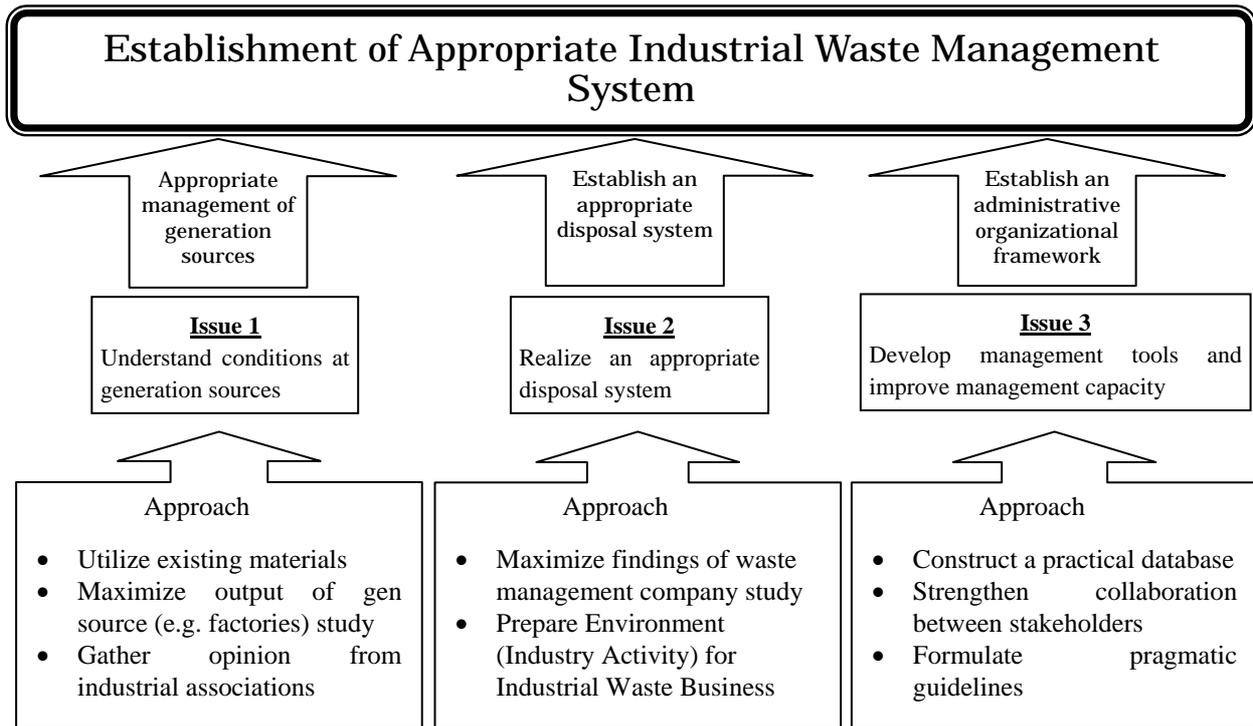
Furthermore, it is necessary to address the following issues in order to achieve these items during this study.

1. How to gain an understanding of actual

conditions at industrial waste generation sources (factories, etc)?

2. How to realize the establishment of an appropriate disposal system concerning industrial waste management?
3. How to assemble tools to manage industrial waste and increase management capacity?

The issues given above have been constructed in a comprehensive chart, below. How to resolve these issues will be presented in News Letter No.2



4. Holding Weekly Meetings

The JICA Study Team explained about the policy of the Study, in which the industrial waste management master plan (M/P) is formulated by information from the Brazilian counterpart (C/P). Then, the Team requested the C/P personnel to participate in the

study elaboration work as much as possible for a good implementation of the results.

The Brazilian side agreed the request and proposed to hold the meetings periodically on Mondays afternoon from 3 PM on.



Weekly meeting



Kick-off meeting

5. Organization Structure of the Study

JICA Study Team

The Team consists of 10 people with different assignments as shown below. In addition, Brazilian assistants are working for the Study at present.

Assignment	Name
Leader / Institutional Development	Mr. Susumu Shimura
Waste Generation Source Management (1)	Mr. Tamotsu Suzuki
Waste Generation Source Management (2)	Mr. Ichiro Kono
Industrial Waste Disposal Planning	Mr. Jose Felicio Haddad
Economic and Financial Analysis	Mr. Satoshi Sugimoto
Environmental / Social Consideration	Mr. Masaharu Kina
Promotion of Waste Management Industry	Mr. Shoji Nakamura
Data Base Management	Mr. Kunito Ishibashi
Administration Coordinator (1)	Mr. Norikazu Yamazaki
Administration Coordinator (2)	Mr. Steven Sundstrom

Steering Committee (St/C) and Technical Consultative Subcommittee (TCSC)

The St/C consists of the representatives of each organization shown in the table below. Its role is to coordinate between parties concerned, and act as the decision making-body of the study.

The members of the Technical Consultative Subcommittee (TCSC), primarily made up of environmental management government organizations, provide support and information upon request from SUFRAMA.

Organizations of St/C and TCSC Members

Members of Steering Committee (St/C)	SUFRAMA
	FIEAM
	CIEAM
	CCINB-AM
	ABC/MRE
	ERENOR/MRE
	JICA Brazilian Office
Members of Technical Consultative Subcommittee (TCSC)	Member of Counterpart
	SUFRAMA
	IPAAM
	SEMMA
	SEMULSP
	UGPI/PROSAMIM

Abbreviations

SUFRAMA:	Superintendency of the Manaus Free Trade Zone
FIEAM:	Industries Federation of Amazonas State
CIEAM:	Industries Center of Amazonas State
CCINB-AM:	Japanese-Brazilian Chamber of Commerce and Industry of Amazonas
ABC/MRE:	Brazilian Cooperation Agency/Ministry of Foreign Affairs
ERENOR/MRE:	North Region Representative Office of MRE
IPAAM:	Institute of Amazonas Environmental Protection
SEMMA:	Municipal Secretariat of the Environment
SEMULSP:	Municipal Secretariat of Urban Cleaning and Public Services
UGPI/PROSAMIM:	Unit of Management of the Igarapes Program/ Socio- Environmental Program of Manaus Igarapes River Bank

6. How to contact us

Our office is located in the building of the Superintendency of Manaus Free Trade Zone – SUFRAMA in Manaus City, Amazonas State, Brazil. You can contact by phone and fax number shown below.

In addition, we have a plan to open a web site in SUFRAMA's web site where you can contact us by the internet. We will also inform the progress of the Study on the web site, as well as in the news letter. The news letter and some of the documents will be able to be downloaded from the web site. We also have a plan to distribute the news letter by e-mail. We will inform how to subscribe to the news letter by e-mail soon after we decide the details.

On the other hand, it is very important for us to know the opinions and ideas all the citizens and organizations about the current industrial waste management systems the MFZ. Your opinions and comments on the Study are always welcome. We hope that we could actively exchange opinions and comments with you through the news letter and web site.

JICA Study Team

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