

ERIA Collaborative  
RESEARCH REPORT

# Regional Waste Management – Inter-municipal Cooperation and Public and Private Partnership

Edited By

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IDE-JETRO



**Regional Waste Management –  
Inter-municipal Cooperation and Public and Private Partnership**

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ERIA Research Project Report FY2020 No. 12

Published in October 2020

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## Preface

This report is the outcome of a Collaborative Research Project between the Economic Research Institute for ASEAN and East Asia (ERIA) and the Institute of Developing Economies, Japan External Trade Organization (IDE–JETRO), titled ‘Regional Waste Management – Inter-municipal Cooperation and Public and Private Partnership’.

Most of the Association of Southeast Asian Nations (ASEAN) countries are facing challenges to improve waste management. Traditionally, urban areas had been the main target of waste management, to prevent the spread of infectious waste. The COVID-19 pandemic has demonstrated the importance of collection and proper treatment of not only clinical waste, but also municipal solid waste, which may contain infectious waste. ASEAN countries have also experienced air and water pollution from open dumping sites and incineration plants without pollution control. Such pollution has resulted in residents opposing the construction and operation of waste treatment and disposal facilities.

Recently, the marine plastic debris issue has moved to the top of the agenda in the negotiations on global environmental problems. Southeast Asian countries are regarded as major sources of marine plastic debris. To prevent leakage of plastic waste into the ocean, governments should provide waste collection services not only in urban area, but also in rural areas. In addition, collected waste should be treated and disposed properly. Even if waste is collected, without pollution control plastic waste and microplastics may leak from dumping sites.

Some waste treatment and disposal technologies, including sanitary landfills and waste-to-energy plants, exhibit economies of scale. To achieve economies of scale in waste management, each country should consider introducing regional waste management schemes, in which municipalities jointly use waste treatment and disposal facilities.

This report reviews efforts on regional waste management in Asian countries, especially Japan, the Philippines, Indonesia, and Thailand.

In the course of this project, we conducted interviews and site visits in several countries. In addition, we organised two seminars in Indonesia and Thailand, and had discussions with various stakeholders from central and local governments and private companies, and experts, researchers, and others. We would like to express our special thanks to the stakeholders, especially the co-organisers of the seminars – the Ministry of Environment and Forestry of Indonesia, the Department of Local Administration of the Ministry of Interior in Thailand, the National Municipal League of Thailand, the Solid Waste Management Association of Thailand, and the Faculty of Environment Management of Prince of Songkhla University. We would also like to thank the Ministry of Environment, Japan for the financial contribution to ERIA's research projects on recycling and waste management, including this project.

We hope this report will contribute to some initiatives on regional waste management in the region.

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## List of Abbreviations

3Rs	reduce, reuse, recycle
AIC	Akaike Information Criterion
APBD	regional revenue and expenditure budget
APBN	central government budget and expenditure
ASEAN	Association of Southeast Asian Nations
BOO	build–own–operate
BOT	build–operate–transfer
BPSR	Agency for Regional Waste Management
BTO	build–transfer–operate
DBO	design–build–operate
DENR	Department of Environment and Natural Resources
EFAS	External Factors Analysis
EMB	Environmental Management Bureau
EWSM	Ecological Solid Waste Management Board
IFAS	Internal Factors Analysis
IFLS	Indonesian Family Life Survey
IMC	inter-municipal cooperation
KDN	negative impact compensation fee
KJP	service compensation fee
LAL	Local Autonomy Law
LAO	local administrative organisation
LGU	local government unit
MIC	Ministry of Internal Affairs and Communications
MOA	memorandum of agreement
MOE	Ministry of the Environment
MRF	materials recovery facility
MSW	municipal solid waste
NIMBY	Not in My Back Yard
NSWMC	National Solid Waste Management Commission
OECD	Organisation for Economic Co-operation and Development
OLS	ordinary least squares
PAA	partial affairs association
PERHUTANI	Indonesia State Forest Enterprise
PFI	private finance initiatives
PPP	public–private partnership
RA	Republic Act
RDF	refuse-derived fuel

RWM	regional waste management
SLF	sanitary landfill
SWOT	strengths, weaknesses, opportunities, threats
TAO	<i>Tambon</i> administrative organisation
TIEZA	Tourism Infrastructure and Enterprise Zone Authority
TPA	final disposal site
TPPAS	waste treatment and final processing site
US	United States
WTE	waste-to-energy
WU	wider-area union