

SIDE EVENT

Fighting pollution caused by waste and plastics: a collective effort to protect freshwater and oceans!

23 May 2024 / 2:00-4:00 p.m.









Part 1 : International Perspectives



Barbara Pompili Special Envoy of the President of the French Republic for the One Water Summit



Nani Hendiarti Deputy Coordinating Ministry for Maritime and Investment, Indonesia



Julie Reynaud Senior officer - INBO



Dr. Pinida Leelapanang Chief Environmental Management Officer, Mekong River Commission





Louise Rousseau French Ministry of Foreign Affairs



Vinda Damayanti Director for Reduction Waste Ministry of Environment and Forestry Indonesia



Anne-sophie Leclère Deputy General Director, Eau de Paris



Sabrina Sebaihi French Member of Parliament, and Vice-president of the French Solid Waste Partnership

Moderated by:



Corinne Trommsdorff Executive Director French Solid Waste Partnership





Part 1 : International Perspectives



Barbara Pompili

Special Envoy of the President of the French Republic for the One Water Summit





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Deputy Coordinating Ministry for Maritime and Investment, Indonesia





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Julie Reynaud Senior officer – INBO

HANDBOOK:



"TRANSFER OF WASTE AND PLASTICS IN AQUATIC ENVIRONMENTS"

www.riob.org

WWF Bali - May 2024

OBJECTIVES, TARGET AND SCOPE OF THE MANUAL

Guidance manual for basin managers and decision makers



 Part 1 : How waste enters the aquatic environment and is transported and how to characterise it.

 Part 2 : plastics from their generation to their journey in the environment, with a deep dive on the impact of plastics of different sizes on biodiversity and health

✓ Part 3 : How to prevent waste from entering the environment follows the «avoid then manage» principle.



This handbook is a call to action, an invitation to work together for a future where aquatic environments are preserved and thrive for all.



CASE STUDIES



PART 1: TRANSMISSION SOURCES AND VECTORS



The transfer depends on :

- hydrological factors (such as water height, current speed and discharge)
- geomorphological factors (such as the shape of banks and vegetation, which can act as traps for macrowaste)
- physical factors (such as the type of waste and its shape)

Aggravation :

Extreme one-off events play a role in the diffusion of waste in aquatic environments.

Characterisation and Methods of quantification : Modelling, observation, collection



Characterisation of waste in stormwater discharge (Cedre)

PART 2 : A SPECIFIC WASTE : PLASTIC

Plastic : a polymer, fillers, plasticisers, other additives

- \Rightarrow More than 13,000 molecules are thought to be involved
- Once in the environmental compartment, plastic degrades :
 - Fragmentation by mechanical action,
 - Fragmentation by the action of water,
 - Photodegradation due to the action of UV rays, which break down the polymer's molecular chains
 - Degradation by micro-organisms







Focus plastics : Humans come into contact with micro-plastics and chemical molecules in a number of ways



PART 3 : TO PREVENT WASTE BEING TRANSFERRED TO WATERWAYS

- Reduce waste at source by examining practices to minimise waste from human activities
- ✓ Avoid storing waste in places where it can be transferred and leaked into aquatic environments
- ✓ Organise the collection and treatment of waste so that it is eliminated from the natural environment
 - <u>managing and treating waste</u>, in taking into account the level of maturity for the waste management system
 - respect the international regulations which propose a framework for waste management
 - <u>reduce the pollution of the natural environment by plastics and other harmful substances</u>
 - set up <u>long-term financing systems</u>
- ✓ Work with international donor support for public policies
 - support investment in specific waste management infrastructure
 - <u>help local stakeholders</u> implement the sustainable planning and governance structure
- ✓ Raise public awareness
- Coordinate levels of territorial commitment





THANKS

Thanks to all our partners for their contributions writing, case studies research and proofreading :



Corinne Trommsdorff & FSWP members



Aditi Ramola and Marc Tijhuis



Alexandra Monteiro, Mélanie Grignon and Fabien Mainguy





It has been the opportunity to reach out to decision makers on the importance of taking action to reduce and manage waste to prevent it from entering the environment.



One of the most successful case studies involving all the problems the handbook talks about



Ms Pinida Leelapanang KAMPHAENGTHONG, Ph.D. Chief Environmental Management Officer Environmental Management Division | Mekong River Commission Secretariat | Vientiane



Part 1: International Perspectives



Espace France

Louise Rousseau

French Ministry of Foreign Affairs



Vinda Damayanti

Director for Reduction Waste Ministry of Environment and Forestry Indonesia





Part 1 : International Perspectives



Anne-sophie Leclère

Deputy General Director, Eau de Paris



Paris takes action against single-use plastic pollution: the example of water









Part 1 : International Perspectives



Sabrina Sebaihi

French Member of Parliament, and Vice-president of the French Solid Waste Partnership





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AMBASSADE DE FRANCE EN INDONÉSIE, AU TIMOR ORIENTAL ET AUPRÈS DE L'ASEAN PFD FSWP INBO

Fighting pollution caused by waste and plastics: a collective effort to protect freshwater and oceans!

Part 2: Zoom on Indonesia



Moderated by:



Didier Perez Expert



Rofi Alhanif Assistant Deputy for Waste and Wastewater management, Kemenko Marves



Karyanto Wibowo Director Sustainable Development Danone, Chair of PRAISE & Supervisory board of the Indonesia Packaging **Recovery Organisation**



Ir. I Gusti Putu Ekayana, M.Si

Head of the Environment Agency, Tabanan Regency



Dadang Cahya Rusdiana

Head Unit of Penanganan Sampah Badan Air, Dinas Lingkungan Hidup Provinsi **DKI** Jakarta



Pak Victor Nikijuluw Konservasi Indonesia's Senior Adviser



Lionel Goujon Head of the water and sanitation division AFD



Vinda Damayanti **Director for Reduction** Waste Ministry of **Environment and Forestry** Indonesia



Louise Rousseau French Ministry of **Foreign Affairs**





Part 2 : Zoom on Indonesia



Rofi Alhanif

Assistant Deputy for Waste and Wastewater management, Kemenko Marves



Coordinating Ministry of Maritime Affairs and Investment Republic of Indonesia

Plastic Waste in Indonesia: Situation, Strategy, and Policy

Nani Hendiarti Deputy Minister for Environment and Forestry Management, CMMAI

World Water Forum, 23rd May 2024

Indonesia is the Largest Archipelagic Country in the World with Great Potentials





Base 802900AI (C00429) 11-02

Co

More than 80% of land is due to improper handling (collection) of waste, especially in medium and rural cities/districts





- As much as 3/4 of marine plastic waste comes from medium and rural regencies/cities which have low capacity to handle the domestic waste produced.
- The national leakage rate reaches 9% of the total plastic waste generation each year.



Where Indonesia's plastic ends up per archetype, 2017





Chairman of the National Coordination Team for Marine Debris Handling The Coordinating Minister of Maritime and Investment Affairs



Daily Chairman of the National Coordination Team for Marine Debris Handling The Minister of Environment and Forestry

RAN PSL IMPLEMENTATION STRATEGY



A NATIONAL MOVEMENT TO RAISE AWARENESS AMONG STAKEHOLDERS

- National movement to socialize the negative impacts of marine debris
- Training on plastic waste sorting and utilization
- Indonesian Maritime School
- Awarding in innovation/ pioneering recycling management
- National movement for marine debris awareness



LAND-BASED WASTE MANAGEMENT

- District/city plastic waste management
- Provision of river waste collection infrastructure
- Preparation of GMP for degradable & recyclable plastic products
- Drafting plastic excise regulations
- Provision of plastic waste recycling equipment



COASTAL AND MARINE DEBRIS MANAGEMENT

- Building waste management facilities and infrastructure at PPS & PPN
- Preparation & implementation of SOPs for waste management in marine tourism destinations
- Implementation of ISO 14001 and 14000 certification
- Conducting beach and small island cleanup actions
- Managing waste originating from coastal and small island activities

FUNDING MECHANISMS, INSTITUTIONAL STRENGTHENING, SUPERVISION, AND LAW ENFORCEMENT

- Encourage waste management funding schemes through PPP, CSR, community funds, and other sources
- Strengthen institutionalization
- Improve the effectiveness of supervision and implementation of law enforcement
- Encourage central and regional commitments to prioritize budget allocations in the waste management sector



RESEARCH AND DEVELOPMENT

- Encouraging the discovery of plastic replacement materials
- Development of SNI for degradable and recyclable plastic products
- Building an integrated waste database system
- Research on pollution and the impact of marine debris
- Study of the impact of micro and macro plastics on the human body



Ideal waste management process to support more circular waste processing.



Waste management begins with reduction in the upstream sector, sorting, transportation, and processing into various industrial support products and new energy sources.



Encouraging producers/brand owners to take responsibility for the products they generate.





Achievement of Marine Plastic Waste Reduction





Coordinating Ministry for Maritime Affairs and Investment Republic of Indonesia

Achievement of Marine Plastic Waste Reduction



MARINE POLLUTION

Plastic waste inputs from land into the ocean (2015)

Jenna R. Jambeck,^{1*} Roland Geyer,² Chris Wilcox,³ Theodore R. Siegler,⁴ Miriam Perryman,¹ Anthony Andrady,⁵ Ramani Narayan,⁶ Kara Lavender Law⁷

Rank	Country	Mismanaged plastic waste [MMT/year]	% of total mismanaged plastic waste	Plastic marine debris [MMT/year]
1	China	8.82	27.7	1.32-3.53
2	Indonesia	3.22	10.1	0.48-1.29
3	Philippines	1.88	5.9	0.28-0.75
4	Vietnam	1.83	5.8	0.28-0.73
5	Sri Lanka	1.59	5.0	0.24-0.64
6	Thailand	1.03	3.2	0.15-0.41
7	Egypt	0.97	3.0	0.15-0.39
8	Malaysia	0.94	2.9	0.14-0.37
9	Nigeria	0.85	2.7	0.13-0.34
10	Bangladesh	0.79	2.5	0.12-0.31
11	South Africa	0.63	2.0	0.09-0.25
12	India	0.60	1.9	0.09-0.24



Meijer, et al. 2021; The European House - Ambrosetti on World Population Review data, 2022.

Top 10 Countries in the World that release the most plastic into the oceans (tons), 2021



Terima Kasih

O Indonesia_Bersih





Part 2 : Zoom on Indonesia



Karyanto Wibowo

Director Sustainable Development Danone, Chair of PRAISE & Supervisory board of the Indonesia Packaging Recovery Organisation



2 million of AQUA Jugs are transported everyday into homes, office, cafes, etc.

- 82% less carbon | 250.000 tons plastics reduced





Indonesia Packaging Recovery Organization (IPRO)

is a voluntary, non-profit, independent, and professionally managed, focused on promoting circular economy thru **reusable**, the **collection** and **recycling** of *post consumer packaging* by verifying financial flows, complying to social and national and international environmental standards towards a circular economy in Indonesia.









Part 2 : Zoom on Indonesia



Ir. I Gusti Putu Ekayana, M.Si

Head of the Environment Agency, Tabanan Regency

Tabanan Regency Waste Management



Nusa Dua 23 May 2024

- Tabanan = 15% of the surface area of Bali
- Population = 469.000
- 133 Villages / 43 villages with a TPS3R*

(* sorting and recycling facility to divert waste from landfill)

Landfill established in 1996 > 110 t/d

Waste Generation

Waste Composition

Waste Generation	Tonnes/day	
House Hold	171	
Non House Hold	251	
Total	422	

19% 62% Plastic Organic 12% Other 7% Residue



52%

Waste Management Stream

48%

Leaks to the environment

15% Waste Facilities 85% Residential

The Challenges

- Increasing volumes of waste/ capita
- Insufficient availability of collection services and the final disposal for residual waste
- Low sorting at source, which aggravates the lack of availability
- Lack of operational standards for infrastructures
- Lack of integration with the private sector



Waste Management Vision



Tabanan Regency Development Vision 2005-2025

Tabanan Sejahtera Based on Agriculture

- Realizing healthy, intelligent, productive, and religious human resources (HR)
- 2. Realizing economic growth and equity while taking into account the sustainability of environmental functions and balance
- Creating responsible agriculture. Resilient agriculture is characterized by the products produced having comparative and competitive competitiveness
- 4. Making Tabanan Regency as the center of Bali Province Agrotourism
- Realizing excellent public services by forming a good government system
- 6. Preserving and developing regional culture

Tabanan Regency Development Vision 2021-2026

Nangun Sat Kerthi Loka Bali: Through the Universal Planning Development Pattern in Tabanan Regency towards Tabanan New Era: Safe, Superior, Madani (AUM)

- 1. Creating a safe and comfortable Tabanan Society in life (Aman)
- Building Tabanan Society that has the ability and high competitiveness in all areas of life (superior)
- Realizing Tabanan Society that has socio-economic independence in various fields with personality in culture (Madani)

Kabupaten Tabanan bebas sampah menuju SURGA BALI Surga: Sampah URusan warGA

Bali: Bersih, Aman, Lestari, Indah

Tabanan Waste Management

Vision 2023-2045

Tabanan Regency is waste-free towards BALI PARADISE Heaven: citizen participation in managing waste to create Bali: Clean, Safe, Sustainable, Beautiful



Waste Management Planning Strategy Framework



Container and collection

- Reduce leakage of waste into the environment by improving access to collection and disaggregated container practices at the correct source.
- b) Build a disaggregated waste management system that can be accessed throughout the region and enjoyed by all Tabanan people
- c) Change static collection system to mobile to control free rider system.

Processing and recycling

- a) Increase waste recycling and utilization of processed products from waste by potential offtakers from other sectors (agriculture, fisheries, animal husbandry, tourism and industry).
- b) Optimization of TPS3R for processing organic waste into standardized compost raw materials.
- c) Optimization of the Waste Bank as a sustainable collector of recycled materials and disaggregated organic materials at the village level.
- Producing standardized compost through the Compost House, and increasing the selling value of recycled materials through PDU (Recycling Center).

Final Processing

- a) The transportation and final processing of residues (waste processing residues) from all districts is the responsibility of the local government and the landfill is operationalized in a sanitary landfill.
- b) Gradual transition from landfill to SARBAGITA Regional TPST by maximizing the strength of Tabanan as part of the Sarbagita Urban Area National Strategic Area (KSM) which still has land.

Governance System



Physical

System

Waste Management Planning Strategy Framework



Waste Management Regulations

- Creating legal certainty through a clear and complete Policy Package with gradual and collaborative implementation
- Towards social order from all stakeholders through strengthening legal awareness, implementing incentives to encourage changes in understanding and involvement of customary/religious leaders for social behavior;
- Creation of legal order through strengthening customary, social, administrative, and criminal law enforcement systems, as well as community complaint mechanisms
- Creating certainty of investment in the waste management sector with the principle of sharing risk, cost, and income.

Waste Management Institution

- Distribution of waste management authority to OPDs related to waste sources proportionally
- Strengthening the performance of District Level services, through the implementation of BLUD and the establishment of 1 new UPT professionally and gradually.
- Strengthening the performance of Village Level services, Village Assistance to have independent waste services.
- 4. Strengthening service performance by the public and non-government:
- Development of Waste Banks in each Banjar Dinas and integrated with informal, village and district sector services
- Encourage the involvement of professional and responsible private management operators to be involved.
- Strengthening the joint responsibility of all stakeholders through the Working Group and the Multi-Party Forum on Waste Management as a forum for coordination
- 8. Strengthening Tabanan coordination as part of the Sarbagita Urban Strategic Area
- Increased human resource capacity as needed System development



- Budgeting commitment to finance the waste management system through the waste system financing planning package
- Encourage sustainable funding and financing through service improvements according to minimum service standards with professional operators and contribution collection systems
- Creation of a business climate, ease of doing business, and involvement of the regional banking system to create a pattern of cooperation with the informal sector
- Professional assistance in the financial and managerial fields for the establishment of a professional and transparent operational and management system in village/local government waste management facilities.



Matur Suksma





Part 2 : Zoom on Indonesia



Dadang Cahya Rusdiana

Head Unit of Penanganan Sampah Badan Air, Dinas Lingkungan Hidup Provinsi DKI Jakarta



BULKY WASTE INTO RDF (REFUSE DERIVED FUEL) CILIWUNG RIVER JAKARTA

OWNED BY :



UNIT PELAKSANA BADAN AIR DINAS LINGKUNGAN HIDUP PROVINSI DKI JAKARTA





Sumber : https://bpbd.jakarta.go.id/infografis/57/peta-banjir-bulan-januari-2023



RIVER IN THE CITY OF

• Lokasi...

JAKARTA

Jln. TB.Simatupang Rt003 Rw005 Kel. Tanjung Barat, Kec. Jagakarsa, Kota Administrasi Jakarta Selatan

Kapasitas...

Dapat menampung sampah dengan kapasitas hingga 222 m3/hari atau hamper mencapai 50 ton/hari • Ponton...

Memiliki 2 unit ponton pengarah sampah yang mengalir menuju aliran kali gendong menuju saringan tahap #1

• Saringan Sampah Otomatis...

Terdiri atas 2 tahapan saringan otomatis

✤ Saringan Tahap #1

<u>Menahan sampah-sampah berukuran</u> <u>besar</u>

✤ Saringan Tahap #2

Menahan sampah-sampah berukuran kecil • Proses Treatment...

Sampah diolah melalui 2 kali tahapan penyaringan dan 2 kali tahapan pencacahan untuk dimanfaatkan menjadi bahan composting dan RDF (refused derived fuel)



MANGGARAI FLOOD GATE CONTROL

BEFORE...











MANGGARAI FLOOD GATE CONTROL

BEFORE...



AFTER...





MANGGARAI FLOOD GATE CONTROL

BEFORE...

















BULKY WASTE to RDF JOB SITE VIEW OF THE PROJECT











BULKY WASTE to RDF JOB SITE VIEW OF THE PROJECT





LAYOUT 2D



Bangunlah Indonesiaku

53

DRONE VIEW







MSW & BULKY WASTE PRIMARY SHREDDER



Sampah yang telah di hancurkan menjadi ukuran 1cm-30cm dan memisahkan logam-logam secara otomatis



Exavator Spider

Sampah yang di ambil dari kali gendong

















MANUAL SORTIR OF FOR PLASTIC, GLASS, STONE, ETC

56



Bangunlah Indonesiaku

DRUM SCREEN RUNNING

Incline Conveyor untuk sampah berukuran <3cm

Incline Conveyor untuk sampah berukuran >3cm untuk masuk ke mesin pencacah tahap 2 (secondary shredder)



Drum Screen untuk menyaring/,memisahkan sampah yang berukuran <3cm turun ke bawah dan >3cm lanjut ke tahap pencacah 2 (secondary shredder)







aslana Bangunlah Indonesiaku





Foto mesin penyaring sampah berukuran kasar dan halus

SECONDARY SHREDDER RUNNING

pencacah sampah RDF ke 2 oleh mesin secondary shredder menjadi ukuran 0cm-5cm



Network: 16 Nov 2023 09:32:39 WIB Local: 16 Nov 2023 09:32:39 WIB



Sampah RDF ukuran 0cm-5cm siap yag sudah di cacah dan siap dikirim ke

OFF TAKER





Foto mesin tahap pencacahan 2 (secondary shredder) menjadi sampah RDF, siap dikirim ke OFF TAKER









OFFTAKER PT. INDOCEMEN

1



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Aspala UPST - Dinas Lingkangan Hidup Provinsi Diti Jakweta Jako Manedala U No. 63 CIBItan, Katamatan Kramat Jaki DM Jakata - 19649

Sehabungan dengan adariya nentana pergambangan sengalahar sempah kata yang menah lingkungan oloh Perner Intih Provindi Dal Jakarta berupa Intayak Statem Dengatangan tera hangpitaken sentada Sungai Climung di Jakan Simet, pang Jakarta Selarah, Adariya Itu, Itanaku, Karri Jaungsitan perakananan PT Indok anah, Tunggai Prinseta Tak, utugi menjaki digih jakar Bakan Askan Askan Asimuti,

papet kam sampaikan bahwa PF indocement Tungga Prozina Tak kisen/Tifa potend memerakanan Bahwa Bakwa Alisanati mencepiti 2500 tanjilari yang disalakan secara berahap, sehingga sanggap menerim sekuruh hadi produksi Bahwa Bakwa Alamatot rekrobut wang pentiri dari kampasi Jutana dar taka dar alakuk. Alabatu specifikasi yang ditarbakan adalah lishasi Bakwa Alementi dengan Ukuran Subdul mit dan memiliki kadar an 20-50.

Sebagi bagian disi penawanian ini, FT teopokinan Yanggal Prolanza HAL, pertu bersama anang dangan phak tertari tahuk diperkenenkan matatakan dakudi mengenai mpek lega, bekan dan kenomia dari makana pengentengan pengenalan pengel tersebut baha langut, PT teopokinen Tanggal Prokana Boku, baradar pengin tengenan dengan Pengenten Princip DB lakarte perken penjertahakan Behan Saka. Atamatif dari tertifan beha katal kaka tersebut.

Denskiar sutat iri kami sampaiken, terima kasin atas perhetika cankerjasamanya.

Chevreus, 15 November 2023

PI NDOCEMENT PRIME PIANATA THE

Speak C. Ka miawan Ganeral Manager Energy and Alternative Factl& Alternative Motorial Division PT Addocument Tunggal Pratama Tak

Tembusare

- Kopula Dimas Linghangers Hild as Provinci US, Michilla
- Kepara Badan Air Dinas Linghangan Lindup Provinal DRUJakanta
- Direktor Utarra, PT Indexement Forgael Prevena Tbk.
- + Direktus Business and Revelegment, PT Indocement: Turggel Frakaria Tak ,



ORGANIC PRODUCTS INDO FERTILIZER



untuk media bercocok tanam oleh petugas UPS Badan Air Lingkungan Hidup

No.	Description	Volume	Amount (IDR)
1	Work Preparation	1,00 set	3.500.000.000,00
П	Civil Contruction Work	1.00 set	120.000.000.000,00
Ш	RDF Processing Technologies		160.000.000.000,00
		Total	283.500.000.000,00

THANK YOU

WWW.ASIANATECHNOLOGIES.CO.ID

Part 2 : Zoom on Indonesia

Pak Victor Nikijuluw

Konservasi Indonesia's Senior Adviser

KAJIAN AKADEMIS

UNIT PELAYANAN TEKNIS DAERAH (UPTI PENGELOLA PERSAMPAHAN **KABUPATEN KAIMANA** BUNK-R.

KAIMANA

VS PLASTIK

BERITA ACARA KERJASAMA PELAKSANAAN DAN MONITORING SAMPAH DI SUNGAI UD GADING MELALIS PROTOTIPE MANOROVE-BIN

Dolam tangko merindak lanjati kagiatan Milenium Insuston Labootstum yang diselenggarakan oleh Conservation International dengan juntui "Rencene Rengentiangan dan UB Cobe Pilot Protetige Alat Pengungui Sampel untuk Kasehatan Mangrese Indonesia", Hada kari Kamis, 2004 2017 (Tanggan Dua Huah Bilan April Tahur Dua Ribu Tayah Belan, di Inter Penetitan dan Osonvali Luar. - Alametratan Asikaan dan Perlaman, Jaka Bian Personan Anoro 5 publi Kabupaten Jentrama, Inter diakukan kesepakatan kerjasama berbagai pihak untuk pelaksanaan dan mentoring sampah di Sungai (o Gading melalui prototipe Mangrove-bin yang ditandai dengan acara peringatan Hari Buni, dengan tugas dan tanggung jawab adalah sebagai berikut

Kesepakaton ni bertaku untuk empet tulan pelakuanaan, yattu dimutai dari tanggal 20 April tingga 19 Agustus 2017. Atapun tinya dan pentuaharuan kesesama pelakuanaan dan munturing ini akan dituhas secara dalah pada dokunen penunjang ten yong teleh distopkan bersama.

Jerbons, 20-54-2017 Yang Bertanggung Jawab, Balai Peneltian dan

Observasi Laut (BPOL)

Katompok Wasyerakat Peduli Bumbertaya Air Sungaiku Indah dan Lestari lijo Gading VELUD GADE

Induniala (CII)

Comparisation International

SALINAN

Part 2 : Zoom on Indonesia

Lionel Goujon Head of the water and sanitation division AFD

Thanks to all our partners for their contributions writing, case studies research and proofreading :

Download it and share it !