

Preview: Waste Management in Indonesia Survey, 2023

Wyles, Kayleigh (2025). *Waste Management in Indonesia Survey, 2023*. [Data Collection]. Colchester, Essex: UK Data Service.

Context - Leakage of plastic waste into the environment in Indonesia is amongst the highest in the world. Only 39% of all waste is collected and 6 million tons of waste per annum is either burnt or dumped into the environment where it contaminates the air, soil, ground water, rivers and oceans damaging ecosystems and their services. In 2017, the Indonesian government introduced an ambitious target to reduce marine plastic debris by 70% by 2025. Yet social, behavioral, economic, political and infrastructural challenges hamper progress across the country's 17,000 islands. Production and consumption of plastic and plastic leakage are driven by multiple linked human decisions and practices that are not easily disentangled into specific, manageable problems. We need a better understanding of the nature of these individual aspects and that of the relationships that link them together.

Aims - To address this challenge, we will conduct a scientific research programme that brings political, environmental, economic, technical and social disciplines together to understand and address the causes of failures, rather than treating the symptoms.

Objectives -

- 1) We will research sources, pathways and fate of plastic waste in the environment, using state of the art modelling of plastic use, waste generation and littering to estimate the volumes of plastic flows reaching the land, rivers and seas around Indonesia. We will do this at national scale and in more detail at two case study sites in Pasuran, East Java and Jembrana, Bali. We will use this data to identify hotspots to prioritize sites for calibration and validation of the model and to inform government intervention programmes
- 2) We will calibrate and validate the models by doing litter surveys at a range of hotspot locations to count and categorize different items of waste and litter from the point of release into the environment and at increasing distances from the source to the sea.
- 3) We will examine impacts of plastic waste leakage on ecosystem services, ecosystem functions and social and economic structures.
- 4) We will use focus groups and surveys to increase our understanding of human behavioural and cultural factors associated with the consumption, use and disposal of plastic products
- 5) We will harmonise the collection of various mass and monetary data types under an analytical framework that seeks to assess the complex value of plastic flows positive (profit, benefit) or negative (cost, impact). Considering all environmental, economic, social, technical and political domains the framework allows for a whole-system assessment to support informed decision-making. Optimisation of the system not only facilitates the recovery of plastic resources but also ensures that impacts on society and the environment are fully considered. Using advanced modelling approaches within this framework, we will identify the most effective points to intervene, in order to create value from plastic waste and maximise the efficiency of identified solutions.
- 6) We will involve users and multiple stakeholders in "living laboratory experiments" co-creating, testing and observing new solutions and organizational structures. We will examine integrated sets of design interventions (at product, business model, behavior change, waste management levels), providing guidance as to where successful interventions can be made, and indicating how changes in the political and legal framework can be instrumental in the better management of resources at different levels of the economy.

Benefits - Our multi-stakeholder team includes action delivery partners who are designing and implementing change programmes on the ground and local and national governments. Our research is designed to inform and add value to these programmes, driving inter-connectivity between academia and government, established public-private partnerships, implementation programmes.

DATA DESCRIPTION (ABSTRACT)

Indonesia faces one of the highest rates of plastic waste leakage globally, with only 39% of waste collected and over 6 million tons annually contaminating ecosystems. Despite national targets to reduce marine plastic debris by 70% by 2025, progress is hindered by complex social, behavioral, economic, and infrastructural challenges across the archipelago's 17,000 islands. To address these systemic issues, a multi-disciplinary research initiative was launched to investigate the root causes of plastic pollution and inform sustainable interventions.

As part of this effort, a comprehensive dataset was collected from 506 residents across four communities in East Java (Rogojampi and Blimbingsari) and Bali (Jembrana and Mendoyo). The survey captured 96 variables using structured Likert-scale questionnaires. Participants were asked a range of questions covering 7 sections: 1) how and why they manage waste items in certain ways; 2) perceptions on how their local community manages their waste; 3) their self-reported connections with their local community, and 4) nature; 5) perceived impacts of plastic pollution; 6) where they gather their information / main communication channels; and 7)) sociodemographic details.

This dataset provides critical insights into the behavioral and cultural dimensions of plastic use and disposal, offering a foundation for modeling plastic flows and identifying intervention points.

Data creators:	Creator Name	Affiliation	ORCID (as URL)
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Sponsors:	NERC		
Grant reference:	NE/V006428/1		
Topic classification:	Natural environment Media, communication and language Society and culture Psychology		
Keywords:	SOCIAL SCIENCES, MARINE POLLUTION, POLLUTION, WASTE DISPOSAL AND HANDLING, PERCEPTION		
Project title:	A Systems Analysis Approach to Reduce Plastic Waste in Indonesian Societies (PISCES)		
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Project dates:	From	To	
	4 January 2021	30 March 2025	
Last modified:	29 Aug 2025 17:35		

— Coverage and Methodology

Collection period:	Date from:	Date to:
	18 January 2023	29 January 2023
Geographical area:	Indonesia: East Java (Rogojampi & Blimbingsari) and Bali (Jembrana & Mendoyo)	
Country:	Indonesia	
Data collection method:	To accommodate varying literacy levels, data collectors administered the questionnaire using paper surveys. The procedure, including providing study information and obtaining informed consent, took about 40 min for each participant. The study received ethical approval from the University of Plymouth and was permitted by the National Research and Innovation Agency of Indonesia (80/SIP/IV/FR/7/2022).	
Observation unit:	Individual	
Kind of data:	Numeric, Text	

Type of data: Cross-national survey data

Resource language: English

Access and Administration

Rights owners:	Name	Affiliation	ORCID (as URL)	
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Notes on access:	The Data Collection is available for download to users registered with the UK Data Service.			
Publisher:	UK Data Service			
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