



**COMBATting PLASTIC POLLUTION
FOR SUSTAINABLE DEVELOPMENT:**

A snapshot of UNDP's work in 12 countries

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ACRONYMS

CSR	Corporate Social Responsibility
EPR	Extended Producer Responsibility
EPPIC	Ending Plastic Pollution Innovation Challenge
ESG	Environmental, Social, and Governance
EU-GEPP	EU-funded Green Economy Programme in the Philippines
GEF	Global Environment Facility
GIZ	German International Development Agency (Gesellschaft für Internationale Zusammenarbeit)
GRADASI	Indonesia Waste Charity Movement
GSB	Government Savings Bank
MRF	Material Recovery Facility
NGO	Non-Governmental Organization
OECD	Organisation for Economic Co-operation and Development
PET	Polyethylene Terephthalate
SGP	Small Grants Programme
SRU	Surat Thani Rajabhat University
STEM	Science, Technology, Engineering, and Mathematics
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme

INTRODUCTION

Addressing plastic pollution is critical to achieving the SDGs, and to safeguarding the future of our planet.

Plastics play a crucial role in today's economy, helping meet essential human needs. However, plastic pollution has rapidly become one of the most urgent environmental challenges. The Organisation for Economic Co-operation and Development (OECD) estimates that the world generated 353 million tonnes of plastic waste in 2019 alone. Almost 50 percent of this waste ended up in landfills, 19 percent was incinerated, and 22 percent was disposed of in dumpsites, openly burned or leaked into the environment. Only 9 percent was recycled.¹

As plastic pollution grows, its harmful effects are felt worldwide, from clogged waterways to degraded marine ecosystems, impacting both the environment and human health. But this challenge also brings an opportunity to transform how we produce, use, and manage plastics to build a circular economy for a sustainable future. Addressing plastic pollution is critical to achieving the Sustainable Development Goals (SDGs) of the UN Agenda 2030, and to safeguarding the future of our planet.

The urgency to tackle plastic pollution has never been clearer. Governments are stepping up by advancing negotiations for a historic global instrument to end plastic pollution facilitated by an Intergovernmental Negotiating Committee (INC) with support from the UN Environment Programme (UNEP). This anticipated global instrument aims to address plastic pollution using a lifecycle approach to plastics, covering sustainable production and consumption, product design, reuse, recycling and sound management of chemicals and waste. As nations seek solutions addressing the root causes of plastic pollution, not just treating its symptoms, sharing hands-on experiences and lessons learned is critical to inform the discourse.

UNDP is assisting countries worldwide in developing targeted solutions to combat plastic pollution.

Across a portfolio of more than 200 projects and over 1,000 community initiatives related to plastics and waste management in 132 countries, UNDP supports governments in crafting and enforcing policies and regulation, piloting and scaling up innovative circular solutions and environmentally sound alternatives, including reuse, refill and eco-design and improving waste management systems, as well as integrating the informal sector and boosting capacities and behaviour change. Interventions are financed by more than 50 partners including the Global Environment Facility (GEF), bilateral government donors and private-sector entities.

This document provides a snapshot of UNDP's portfolio in 12 countries and outlines six overall key lessons learned on tackling plastic pollution. The following pages may offer useful insights for countries, communities, and stakeholders combatting plastic pollution while advancing the SDGs.



How plastic pollution undermines sustainable development

From jeopardizing human health and degrading vital ecosystems to exacerbating social injustices, plastic pollution undermines the foundations of a sustainable future. Understanding these impacts is essential for developing effective strategies to tackle plastic pollution and create a healthier, more equitable world.



Photo: Unsplash - Hermes Rivera

JEOPARDIZING HUMAN HEALTH

Plastic pollution poses significant risks to human health. Plastic is in the water we drink, the food we eat, and the air we breathe. The average person ingests microplastics equivalent to up to 50 plastic bags a year.² As a result, micro- and nano-plastics are commonly found in human bodies. Recent studies have found plastic particles in the placentas of pregnant women,³ in human breast milk⁴, and in human blood samples⁵, raising concerns about the potential long-term health effects on human well-being.

Plastics and plastic manufacturing are associated with more than 13,000 identified chemicals to lend materials specific properties including flexibility, colour, or water repellence.⁶ These include substances such as phthalates,

bisphenols, per- and polyfluoroalkyls and many others. Only a fraction of the chemicals associated with plastics are regulated by existing international multilateral environmental agreements. Many are considered harmful to human health and are thought to potentially disrupt hormonal systems, contribute to respiratory issues, and lead to long-term health problems such as cancer and developmental disorders in children. In addition, unsound practices such as the open burning of plastics contribute to air pollution and release harmful chemicals such as dioxins and furans into the atmosphere.⁷ Breathing in these toxic chemicals exacerbates respiratory illnesses among other health impacts.



Photo: Unsplash - Woodhouse

DEGRADING VITAL ECOSYSTEMS

Plastic pollution harms biodiversity by contaminating natural habitats, posing a variety of threats to many species. From elephants to sea turtles, wildlife often ingests plastic debris, mistaking it for food, which can lead to internal injuries, starvation and even death. Additionally, the presence of plastics in ecosystems disrupts food chains and alters behaviours, impacting species reproduction and survival.

Every year, millions of tonnes of plastic leak into nature harming wildlife and disrupting critical ecosystem services. With more than 14 million metric tonnes of plastics entering aquatic ecosystems annually,⁸ the world's

oceans are deeply affected. Plastic pollution also has a profound impact on land ecosystems with terrestrial microplastic pollution estimated at four to 23 times higher than marine microplastic pollution, depending on the environment.⁹ Research estimates that the annual cost of reduced marine natural capital due to plastic pollution ranges from \$3,300 to \$33,000 per tonne of plastic¹⁰. While these figures offer some insight, they only scratch the surface of the extensive costs incurred, as they largely overlook the broader implications of lost biodiversity and ecosystem functionality.



FUELLING THE CLIMATE CRISIS

The relationship between plastic pollution and climate change is equally troubling. Almost all plastics we use today are derived from fossil fuels. In 2019, plastics generated 3.4 percent of global greenhouse gas emissions, with 90 percent of those emissions stemming from plastic production and the conversion of fossil fuels.¹¹ Projections suggest that by 2040, greenhouse-gas emissions associated with the lifecycle of plastics, including production, use and disposal, could account for up to 19 percent of the world's carbon allowance, under the target of restricting global warming to a maximum of 1.5°C.¹²

Plastic pollution not only hampers climate action but also hinders climate change adaptation as it damages critical ecosystems such as coral reefs and mangroves that serve as buffers from storm surges and rising sea levels. Plastic waste may also clog drainage systems and obstruct runoff, resulting in increased risk of flooding.¹³ In addition, the burning of plastic waste releases toxic gases into the atmosphere, driving climate change and air pollution.



HARMING LOCAL ECONOMIES

While plastic-related activities can contribute to economic development, the degradation of nature due to plastic pollution can lead to substantial revenue losses in key sectors, including tourism, fishing and transport. In the Asia-Pacific region, marine debris directly costs the tourism industry approximately

\$622 million, the fishing industry \$364 million and the transportation/shipping sector \$279 million each year.¹⁴ These figures underscore the significant economic consequences tied to the unsightly and harmful presence of plastics in natural environments.



Photo: Unsplash - Gregoire Dubois

EXACERBATING SOCIAL AND ENVIRONMENTAL INJUSTICE

Plastic pollution represents not only an environmental crisis but also a pressing social-justice issue. Marginalized communities bear the brunt of the burdens linked to plastic production, consumption, and disposal.¹⁵ Informal waste pickers and local populations are often at the forefront of plastic pollution, enduring long-term health risks without adequate protection. Wealthier, more industrialized nations frequently export their waste to developing countries, often compounding the challenges faced by these communities. Women and young people are disproportionately affected, experiencing

heightened exposure and health disparities due to their proximity to plastic production and disposal sites.

Achieving a just transition, where decarbonization, recycling and other sustainability measures do not inadvertently increase a burden on those more vulnerable, requires providing those groups with the necessary support to navigate the challenges posed by plastic pollution. Without these efforts, the cycle of injustice will continue, further exacerbating global inequalities.



Key strategies to combatting plastic pollution

STRENGTHENING POLICIES AND REGULATIONS



Effective policies and regulations must address the entire lifecycle of plastics and engage all sectors of society to drive systemic change across five key areas.

- **Promote sustainable production and consumption:** Policies and regulations focusing on shifting production and consumption patterns toward sustainability could: **1)** establish extended producer responsibility (EPR) schemes that hold manufacturers accountable for the lifecycle of their products, including end-of-life disposal and recycling; **2)** incentivize eco-friendly product design through tax breaks or subsidies for businesses or companies that adopt sustainable materials and packaging, or set clear standards that products must meet to qualify as eco-friendly; and **3)** introduce public awareness campaigns to educate consumers on reducing plastic use and opting for sustainable alternatives.
- **Eliminate or phase out problematic non-essential single-use plastics:** Policies and regulations could include: **1)** adopting bans, taxes and fees to discourage the use of problematic non-essential single use plastics; **2)** supporting the development and adoption of ecological alternatives, such as biodegradable and compostable materials that can replace single-use plastics, especially in sectors such as food service and retail; and **3)** encouraging innovation in local materials to stimulate economic growth and create alternatives to plastics, such as products made from agricultural waste or natural fibres.
- **Restrict harmful chemicals in plastics:** Specific measures include: **1)** developing strict chemical safety standards to ban or limit the use of hazardous substances in plastic manufacturing; **2)** introducing mandatory labelling requirements so consumers are informed about the chemical content in plastic products; and **3)** promoting research into safer alternatives to hazardous chemicals used in plastic production, coupled with regulations that incentivize industries to shift toward non-toxic materials.
- **Promote circular solutions through reuse, refill, and eco-design:** Policies can support the creation of systems or business models that extend product life, reduce waste, and cut the need for virgin, or first-use, plastic.

Examples of such policies may include: **1)** mandating eco-design principles for plastic products, ensuring they are durable, reusable, and easier to disassemble and recycle; **2)** supporting the scaling of reuse and refill infrastructure, such as refill stations for household and personal care products, and promoting container-return schemes in industries such as beverage packaging; and **3)** encouraging businesses to adopt zero-waste packaging strategies by providing financial incentives or regulatory frameworks that reward circular business models.

➤ **Improve waste management systems.**

Many countries, especially developing ones, lack the collection systems, infrastructure,

and, most critically, the financing to effectively manage plastic waste. Addressing this gap is essential. Policies to address this issue include: **1)** invest in modern waste management infrastructure, including collection, sorting, and recycling facilities that can process complex plastic types; **2)** expand public-private partnerships to establish waste management systems, particularly in areas lacking adequate facilities; and **3)** enforce strict regulations on illegal dumping and open burning of plastics to prevent environmental contamination, while promoting safe and sustainable waste disposal practices.



By focusing on these key areas, governments and societies can drive the systemic change needed to reduce plastic pollution, promote sustainability, and protect both the environment and public health.



Photo: UNDP Jordan

BOOSTING INNOVATIVE SOLUTIONS



Innovation plays a crucial role in tackling plastic pollution. It can manifest in various ways, such as adopting new design rules, business models, materials, and technologies that minimize environmental impacts.

- **Design innovation:** Design choices, including material composition and product lifespan play a crucial role in determining a product's environmental impact and plastic footprint across its entire lifecycle. Implementing eco-design practices that prioritize simplicity in material composition, durability, and options for reuse or repair can significantly reduce waste and, in some cases, eliminate the need for plastics altogether (e.g., toothpaste tablets replace non-recyclable tubes with plastic-free alternatives). Where packaging is used, designing with end-of-life in mind is essential to minimizing environmental harm. It is equally important to assess the broader environmental impact of new innovations, as certain designs could inadvertently increase greenhouse gas emissions.
- **Business model innovation:** Changing how products are delivered or shifting from product sales to service-based models

can greatly decrease plastic pollution. By adopting systems for reusable or refillable products, we can eliminate the need for single-use plastic packaging. For example, refill stations for household products such as detergent eliminate the need for individual product packaging.

- **Material innovation:** Rethinking our current use of plastics and selecting alternative materials with minimal environmental and health impacts can make a difference. Emerging material innovations include locally sourced, minimally processed plant-based products, such as edible spoons and palm leaf packaging, as well as various bio-based, biodegradable materials. To avoid ineffective solutions or substitutions that bring their own problems, it is crucial to conduct comprehensive lifecycle assessments.

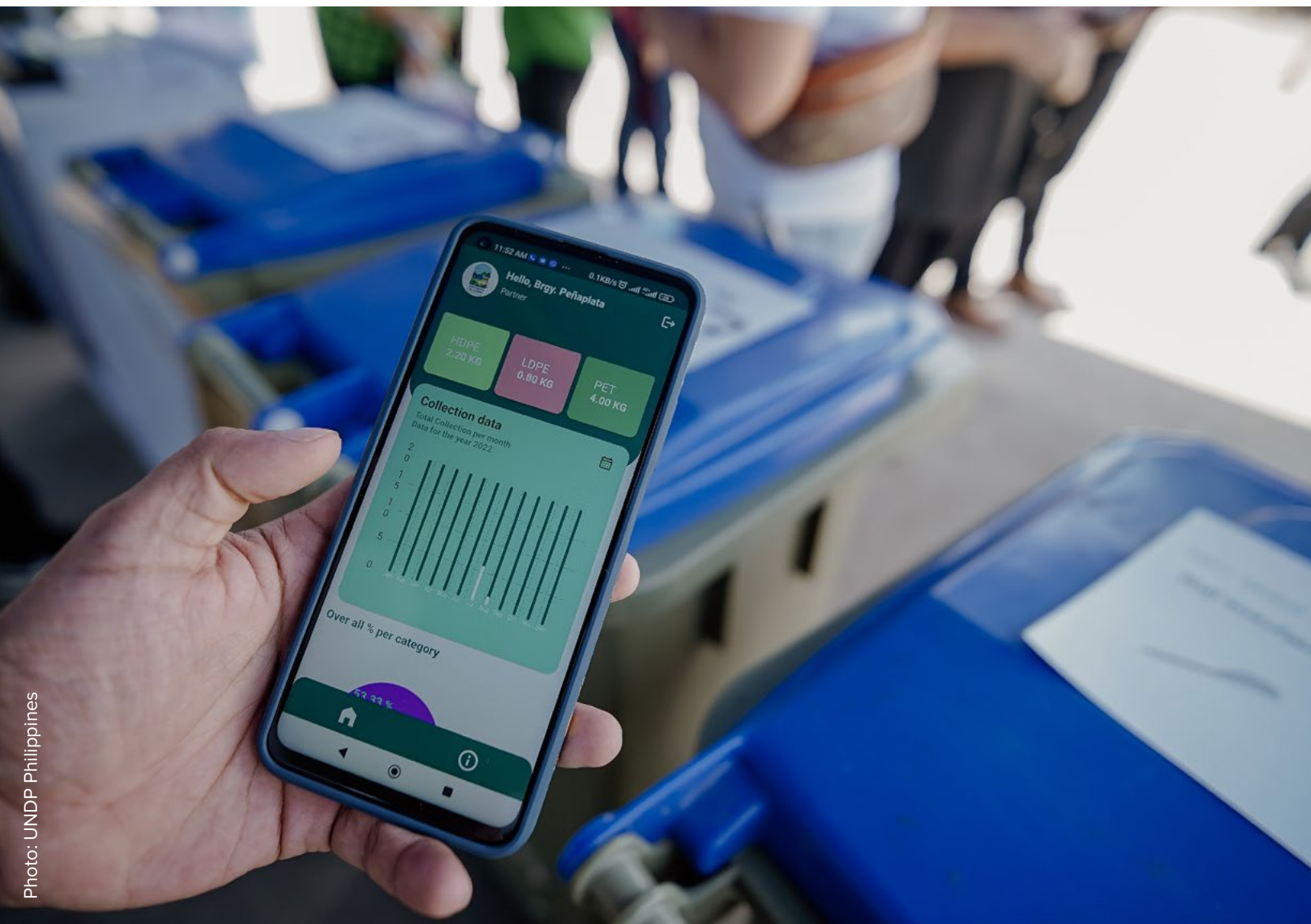


Photo: UNDP Philippines

➤ **Technology innovation:** Upgrading recycling systems and processes can enhance material circulation and extend product lifespans. However, these upgrades require proper sorting and collection infrastructure,

which can be expensive to set up. Products should be designed with recycling in mind and avoid complex material compositions to facilitate easier processing at the end of their life.



Regulations are essential for fostering innovation and encouraging more sustainable practices. Measures that promote resource efficiency, durability, repairability, and recyclability are vital for advancing toward a circular economy.

DRIVING BEHAVIOUR CHANGE



Behaviour change along the value chain is crucial to addressing plastic pollution. Behaviour scientists have long noted that awareness of a problem itself does not result in behaviour change. A mix of six strategic levers can be tailored to local context to successfully shift behaviours over time.¹⁶

- **Material incentives:** Adjusting the cost, time, and effort associated with a particular action can influence behaviour. For instance, offering discounts for bringing reusable cups to coffee shops encourages customers to ditch single-use takeaway cups. Conversely, imposing a fee on plastic bags can discourage their use and promote more eco-friendly alternatives.
- **Rules and regulations:** Implementing laws and regulations can guide behaviour toward desired outcomes. For example, a city may enact a ban on single-use plastic straws in restaurants, prompting businesses to switch to more sustainable alternatives. Similarly, regulations that require companies to meet recycled content quotas can encourage better waste management practices.
- **Information:** Providing clear information about desired behaviours can motivate change. For example, public campaigns that explain the environmental impact of plastic waste and offer practical and clear tips for reducing plastic use can empower individuals and businesses to act.
- **Choice architecture:** The way choices are presented can significantly impact decisions. For instance, placing water refill stations in convenient and visible locations at public events encourages attendees to choose reusable water bottles over disposable plastic ones. By making the sustainable option more accessible, it becomes the easier choice.
- **Emotional appeals:** Messaging that connects with people's feelings can drive action. Campaigns that showcase the devastating effects of plastic pollution on marine life can inspire empathy and a sense of responsibility. This emotional connection can motivate individuals to adopt more sustainable behaviours, such as reducing plastic consumption.

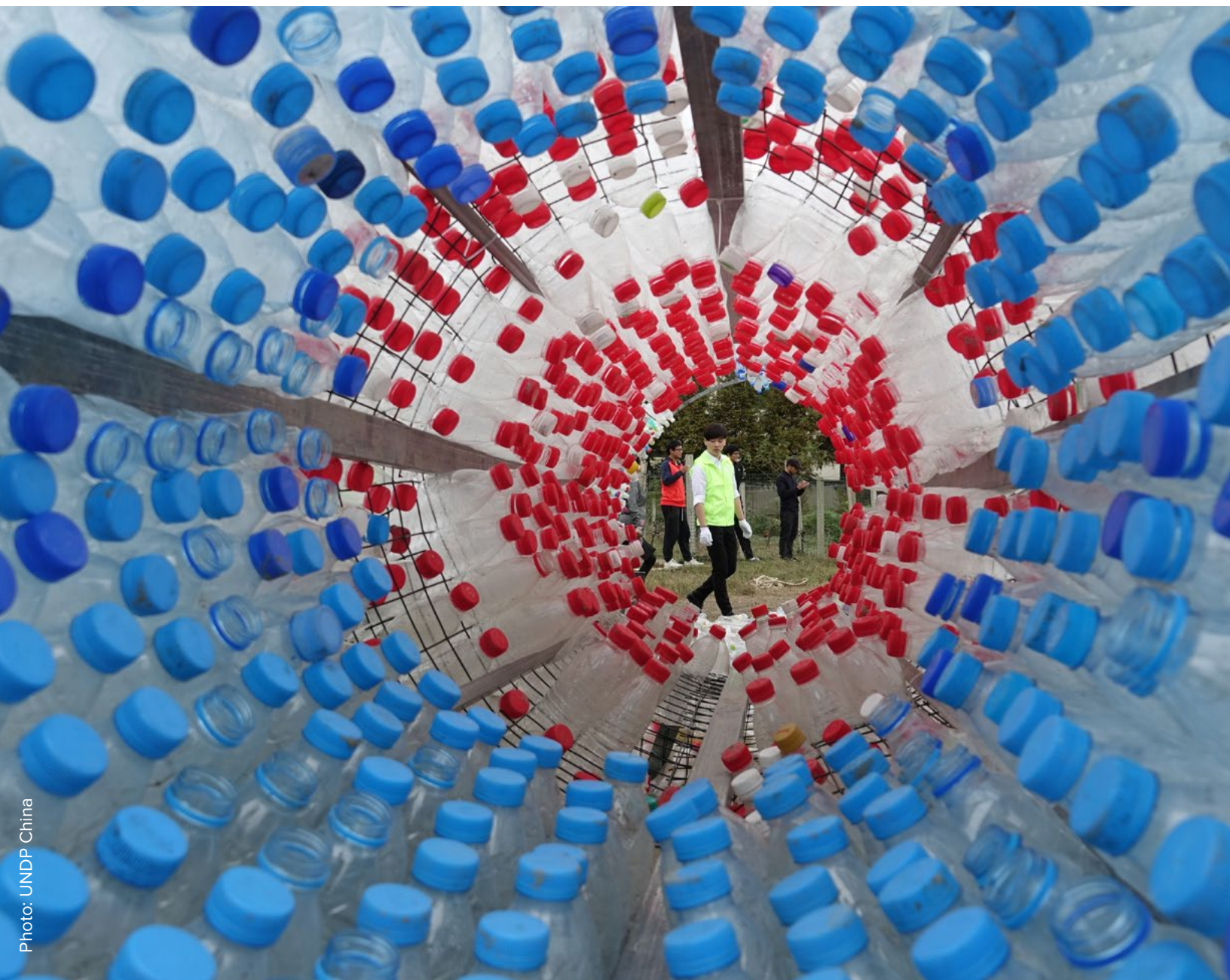


Photo: UNDP China

➤ **Social influence:** Mobilizing communities through awareness campaigns can create a shared sense of responsibility. For example, organizing local clean-up events where community members come together to pick up plastic waste can foster a collective

commitment to protecting the environment. This shared experience not only raises awareness but also encourages participants to adopt more sustainable practices in their everyday lives.

DIVERSIFYING FINANCING



Financing is a critical component in the battle against plastic pollution. Estimates indicate that resolving this crisis could require somewhere between hundreds of billions and more than a trillion dollars in global investment over the next few decades.¹⁷ These funds are essential for developing the necessary infrastructure, fostering innovation, implementing effective policies, and providing economic incentives to support sustainable practices.

A comprehensive approach that includes diverse sources of funding is vital, particularly for supporting initiatives in developing countries, where resources may be limited. Different types of financing to address plastic pollution are listed below.

➤ **International public finance:** Institutions such as development banks support large-scale projects focused on waste management infrastructure and recycling programmes. Multilateral funds such as the GEF and Green Climate Fund support projects to address plastic waste management in connection with chemicals and waste management, international waters, and climate change mitigation and adaptation.

➤ **Bilateral donor funding:** Bilateral donors are vital for financing plastic pollution initiatives in resource-limited countries. They provide grants, technical assistance, and capacity-building support to help countries implement sustainable waste systems, reduce plastic

waste, and explore alternative materials. This funding also enables knowledge exchange and technology transfer, allowing countries to adopt best practices in plastic reduction and recycling.

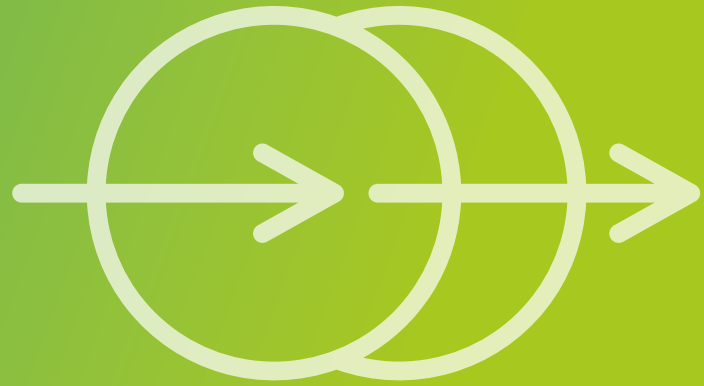
➤ **Domestic public finance:** Allocations for waste management infrastructure, public awareness campaigns, and research into sustainable alternatives come from government budgets. Imposing taxes on plastic products or producers can help generate additional tax revenue that can be directed towards pollution mitigation efforts. Financial support for businesses adopting environmentally friendly practices, such as using biodegradable materials or investing in recycling technologies, is also crucial.

- **Private capital:** Different forms of private capital are being directed at supporting countries to tackle plastic waste, including financing for innovative technologies and solutions that help stop plastic waste at source as well as to develop new materials to replace plastics, ranging from packaging to clothing. Thanks in part to new regulations, individual companies are also investing more in their own supply chains, including sustainable packaging, waste reduction technologies, and circular-economy initiatives. Corporate social responsibility (CSR) funds are allocated by businesses to support sustainability projects. and cooperation between the public and private sectors is key to creating effective waste management systems and pollution control measures.
- **Innovative financial instruments:** Green bonds are issued by governments or municipalities to fund projects with positive environmental impacts, including waste management and pollution control. Environmental taxes and levies generate revenue that is reinvested into pollution reduction initiatives, while sovereign wealth funds allocate capital towards sustainable projects targeting plastic pollution.
- **Hybrid financing solutions:** Blended finance mechanisms combining public, philanthropic, and private capital are essential for scaling solutions to plastic pollution by de-risking investments. Innovative financing tools, such as partial or full guarantees and insurance instruments, attract private capital by enhancing credit profiles and mitigating risks (e.g., currency, political). Impact funds apply environmental, social and governance (ESG) guidelines to support companies with strong sustainability practices, especially those reducing plastic waste, while impact bonds offer upfront private funding with repayment tied to environmental outcomes. Finally, innovative insurance products incentivize companies to adopt more sustainable practices around plastic use, such as eliminating single-use plastics in their operations by offering reduce premiums or offering other benefits, such as rebates if they meet specific plastic reduction targets.
- **Cross-sectoral financing mechanisms and policy instruments:** Policies such as EPR hold producers accountable for the entire lifecycle of their products, encouraging waste reduction and recycling. Tax incentives provide rebates for manufacturers using recycled plastic, while research and innovation funds from the public and private sectors aim to develop new materials and technologies for waste management.



There is no single solution to financing plastic pollution initiatives; instead, a combination of traditional public and private financing schemes, innovative financial mechanisms, and policy instruments is essential. These diverse funding sources work together to mobilize the necessary capital, de-risk investments, incentivize sustainable practices, and improve waste management efforts. By fostering collaboration among various stakeholders and leveraging innovative financial strategies, we can effectively address the pressing issue of plastic pollution and work towards a more sustainable future.

REALIZING A JUST TRANSITION



About 20 million people work in the informal waste sector worldwide, including many women, children, elderly, and people with disabilities. In 2016 alone, informal waste workers collected 27 million tonnes of plastic waste, keeping it out of landfills and oceans. This effort makes up about 59 percent of all plastic collected for recycling globally.¹⁸ As we seek sustainable solutions for plastic pollution, it is essential to ensure that the transition benefits affected communities. A just transition considers the needs of vulnerable groups, such as waste pickers and local businesses, ensuring their voices are included in decision-making processes by a variety of measures.

- **Formalizing the informal waste sector:** providing waste pickers with better working conditions, fair wages, and social protection.
- **Designing access to finance:** developing innovative financing schemes to support vulnerable stakeholders in the plastics sector, such as blended finance options with low or zero interest.
- **Raising awareness and capacity building:** involving various stakeholders in decision-making and providing the knowledge and skills necessary for effective participation.
- **Monitoring progress:** establishing clear metrics and indicators to evaluate the success of initiatives can track progress and ensure inclusive participation throughout the process. Engaging marginalized groups, like waste pickers, in planning and implementing waste management policies can help create a fairer transition for all.

BUILDING MULTI-STAKEHOLDER PARTNERSHIPS



Tackling plastic pollution requires collaboration among governments, the private sector, civil society, academia, and international organizations. By leveraging the unique strengths of each stakeholder, multi-stakeholder partnerships can create impactful solutions across the plastic lifecycle.

- **Governments:** National and local authorities set policies and regulations to drive sustainable plastics management practices. By implementing policies, investing in infrastructure, aligning standards and engaging people and businesses, governments play a crucial role in reducing plastic pollution.
- **Private sector:** Businesses can reduce plastic use through eco-design, reusable packaging, and circular economy practices. As partners in financing waste systems and creating demand for recycled materials, the private sector is essential for driving sustainable market shifts.
- **Civil society organizations:** Civil society organizations raise awareness, educate, and mobilize local people and communities.
- **Academia and research institutions:** Through advocacy and local initiatives such as innovative local alternatives and clean-up campaigns, these organizations foster behavioural changes and contribute diverse perspectives. Research institutions develop alternative materials, conduct lifecycle assessments, and advance eco-friendly product designs, providing critical scientific insights that support industry and policy innovations.
- **International organizations:** Institutions such as the UN system and development banks provide funding, technical expertise, and forums for cooperation, helping align national efforts with global sustainability goals.



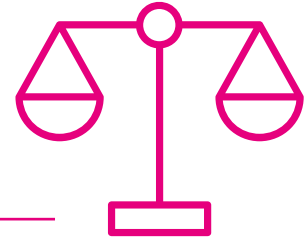
Building multi-stakeholder partnerships amplifies the effectiveness of plastic pollution initiatives, supporting sustainable, scalable solutions with lasting environmental, health, and economic benefits. Such collaborations are essential for creating systemic change toward a cleaner, sustainable future.



Breaking down barriers: six lessons from UNDP's portfolio

With years of experience supporting countries in fighting plastic pollution across diverse regions and contexts, UNDP's Country Offices have gathered valuable insights on how to address these key barriers. This chapter distils the gained knowledge into six key lessons learned, providing decision-makers with guidance on how to address plastic pollution more effectively.

Key barrier 1: Laws without teeth



Many countries have introduced bold policies to curb plastic pollution, reduce plastics use, and improve waste management, including EPR schemes and bans on certain single-use plastics. However, without effective implementation and sufficient resources, these measures are often applied inconsistently and fail to deliver real-world results.

Regulatory bodies and local authorities often lack the resources and capacity needed to enforce policies effectively. This results in loopholes that allow restrictions to be bypassed, and weakens

the mechanisms for enforcement, monitoring, and accountability, such as penalties for non-compliance. Overlapping responsibilities between agencies further complicate enforcement, while administrative bottlenecks can cause significant gaps between the approval of laws and their implementation. Inconsistent and ambiguous guidelines and standards also create challenges for businesses and undermine compliance and accountability. As a result, many well-intentioned policies fail to achieve their full impact.

Lesson 1: Effective policy enforcement is critical



To turn policy into action, strong enforcement mechanisms, robust monitoring, and accountability systems such as penalties for non-compliance, are crucial. Additionally, ensuring clear responsibilities, and providing adequate resources and guidance are key to achieving tangible outcomes and ensure greater compliance. To ensure sustainability after initial implementation, investing in training programmes for local authorities and stakeholders is critical.

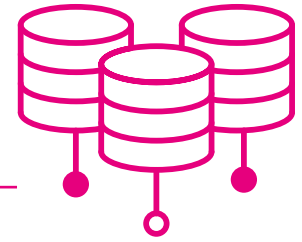
AT A GLANCE:

Even well-crafted policies cannot drive meaningful change without proper enforcement. Strengthening monitoring systems and dedicating resources to ensure that policies are upheld is critical.

IN PRACTICE:

In Cambodia, UNDP supported the creation of key policies, including the National Circular Economy Strategy and the draft Sub-Decree on Plastic Management. Although policies are now in place, enforcement was initially challenging. UNDP helped to address this by providing capacity-building programmes that trained local authorities and stakeholders, strengthening their ability to monitor and enforce regulations such as single-use plastic bans.

Key barrier 2: Data blind spots



Reliable data is critical to inform policy decisions, allowing governments to understand the scale of the problem, identify high-impact intervention areas, allocate resources, and track progress. Yet, many countries lack comprehensive data on plastics across their lifecycle, including insights on plastic production, trade and consumption

patterns, plastic additives, waste collection and recycling rates, health and environmental impacts. Without solid baselines, governments are feeling their way in the dark when designing interventions and are not able to set up effective tracking mechanisms to monitor the impacts of their policies.

Lesson 2: A data-driven approach results in better decision-making



Robust data collection and analysis underpin successful policy development and implementation. Establishing baseline data allows policymakers to tailor interventions to specific local contexts, track the progress, plan more realistically and ensure financial sustainability.

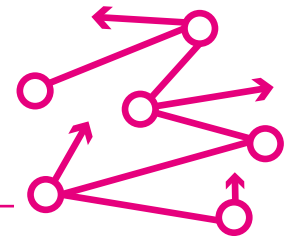
AT A GLANCE:

Improved data collection and transparency are necessary to understand the true scale of plastic pollution and guide evidence-based policymaking.

IN PRACTICE:

In China, UNDP supported a project assessing the types and quantities of abandoned fishing gear in coastal and fishing communities. This data helped identify hotspots of abandoned fishing gear and provided essential insights for the government to implement targeted interventions boosting the collection and recycling of fishing nets and develop policies on marine plastic waste management. The robust data collection allowed authorities to better understand the scale of the problem and take.

Key barrier 3: Poor coordination between stakeholders



Plastic pollution cuts across multiple sectors, e.g., environment, industry, health, or waste management, yet governance structures often do not reflect this reality. Without clearly identified responsibilities between national and local governments, policy implementation can be inefficient and uncoordinated.

In many cases, local authorities lack the autonomy or resources to effectively manage plastic pollution. In addition, the private sector and civil society are frequently left out of policy discussions leading to duplicated efforts, inefficient use of resources, and limited progress.

Lesson 3: Integrated approaches maximize impact



Effectively tackling plastic pollution along the plastic lifecycle requires strong collaboration among diverse stakeholders. This involves cross-sectoral coordination across different municipal and national authorities, private-sector entities along the value chain of plastics, civil society, informal sector workers, and local communities.

For example, recognizing and integrating the informal sector as well as local communities can boost innovation. Their deep knowledge of local conditions and networks makes informal waste workers invaluable partners in informing policy development and can boost their roles as change-makers for a circular economy. Engaging communities from the start helps to ensure local ownership and long-term success and sustainability of initiatives.

Uniting these diverse resources and expertise through formal collaboration mechanisms drives innovation, closes knowledge gaps, and helps to develop integrated strategies that tackle plastic pollution from different entry points while avoiding duplication.

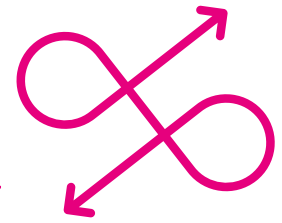
AT A GLANCE:

A whole-of-society approach with clear, coordinated governance structures is essential to overcome fragmentation and implement measures for plastic pollution reduction across all levels.

IN PRACTICE:

In the Dominican Republic, the Rescate Ozama initiative (“Rescue the Ozama”) is a powerful example of a coordinated approach to tackling plastic pollution. Formed through a partnership between the Ministry of the Presidency, non-profit organization The Ocean Cleanup, the Embassy of the Netherlands, and UNDP, this initiative helped to introduce the Interceptor 004 system to the Ozama River,¹⁹ which has so far prevented 239 tonnes of plastic waste from entering the Caribbean Sea. Additionally, the platform has facilitated research on riverine plastic pollution sources informing the country’s EPR regulation, reached more than 1 million people with awareness campaigns on reducing single-use plastics, held inclusive dialogues with local organizations, installed plastic bottle collection points in seven schools, and provided sustainability training for 30 businesses.

Key barrier 4: Misaligned financial incentives



In many countries, the market remains skewed in favour of traditional, linear plastic production. Subsidies and lower production costs keep virgin plastics prices low and make recycled plastic and

alternatives less competitive. This incentivizes behaviours that fuel plastic pollution and discourages businesses from embracing circular-economy models and investing in innovation.

Lesson 4: Financing mechanisms must be diversified



In the current system, externalities related to plastic use and disposal are often not factored into production costs. As a result, interventions tackling plastic pollution often compete for limited public funding and many areas remain underfunded. Addressing the plastic pollution crisis requires tailored financial solutions across the value chain. Blended finance models, combining public and private investment, help to de-risk projects and attract more private-sector engagement. Pilot projects that introduce alternative materials or systems must be backed by financial incentives and market development to scale effectively.

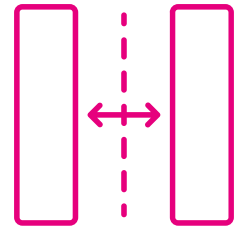
AT A GLANCE:

Creating financial incentives for the adoption of more sustainable practices is critical, such as tax breaks, grants or subsidies for businesses adopting circular-economy principles, or penalties for virgin plastic use through taxes or levies.

IN PRACTICE:

In Thailand, UNDP's Biodiversity Finance (BIOFIN) initiative and Krungthai Bank worked with local government to mobilize capital for waste management and biodiversity conservation through the Cash for Work scheme on the popular tourist-destination island Koh Tao. Through this initiative, small-scale fishers, tourist boat operators, and scuba divers received THB 3,000 (\$100) per month for working on waste management and biodiversity conservation. The programme raised close to \$100,000 to help 200 vulnerable families.

Key barrier 5: The awareness-behaviour gap



Behaviour changes along the plastics value chain, from regulators to producers to consumers, is key to solving the plastic pollution crisis. However, in many countries, there is still a lack of awareness among policymakers, businesses and citizens about the perils of plastic pollution and potential ways forward. Even in countries where awareness continues to grow, behavioural shifts lag behind.

In many societies, a culture of convenience and throwaway habits has fostered a heavy reliance on plastics. Consumers often view single-use plastics as safer and more convenient than reusable alternatives, while businesses and policymakers may lack understanding of the benefits of circular economy practices. Additionally, affordable eco-friendly options for consumers are limited, and businesses face a lack of financial incentives and clear guidance to shift to more sustainable practices.

Lesson 5: Behaviour change requires sustained, targeted interventions



While awareness-raising campaigns are still needed to achieve a wider understanding of the plastic pollution crisis, translating awareness into lasting behavioural change is challenging. Human-centred design, behavioural science, and ongoing engagement are key to realizing long-term change. Many countries solely focus on public awareness while overlooking other key levers driving behaviour change, such as providing a better choice framework, offering material incentives, implementing rules and regulations, and leveraging social influence.

Providing viable, affordable alternatives to plastic is critical to reducing plastic pollution. Interventions that promote reusable materials and products, as well as circular-economy innovations such as recycling technologies or alternative business models (products-as-a-service), have a higher chance of sustaining long-term impact.

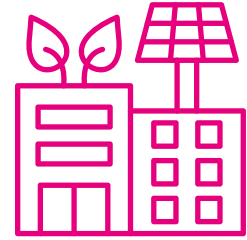
AT A GLANCE:

Shifting behaviours along the plastics value chain requires both awareness and structural change. Awareness campaigns are important and must be paired with other measures such as the availability of affordable, sustainable alternatives to encourage widespread behaviour change.

IN PRACTICE:

In the Philippines, UNDP has led awareness campaigns for local governments, businesses, and consumers, emphasizing the health and environmental risks of plastic pollution, and offering reduction strategies. By framing plastic waste as an environmental and health crisis and providing capacity-building, these efforts boosted public engagement and institutional support, leading to sustainable practices such as green procurement and reduced single-use plastics.

Key barrier 6: Insufficient waste management infrastructure



A major barrier to reducing plastic leakage into the environment is the lack of systems, infrastructure and technologies for collecting, sorting, recycling, and disposing of plastic waste. In many countries collection systems are underdeveloped, especially in rural and remote areas, and recycling facilities and sanitary landfills can be scarce. Local governments often have inadequate budgets for waste management. As plastic waste generation increases globally, many developing countries rely on open burning, dumping, or poorly managed landfills, which lead

to environmental contamination and health risks for nearby communities. Without proper systems for collecting, sorting, recycling, and disposing of plastic waste, even the most well-intentioned policies and behavioural change efforts fail to achieve their full potential. Many local governments, especially in rural or underserved urban areas, lack both the technical expertise and financial resources to invest in effective waste management systems, leading to leakages and harmful environmental impacts, including plastic pollution in waterways, oceans, and ecosystems.

Lesson 6: Significant investment in waste management systems is essential



Countries need to focus on building and upgrading their waste management systems including basic infrastructures to combat plastic pollution effectively. This includes developing efficient collection systems, modern recycling facilities, and secure landfills. Additionally, investments should prioritize integrating new technologies for waste processing and recycling, as well as training local governments and communities to maintain these systems.

AT A GLANCE:

Investment in waste management systems and infrastructure remains critical to tackle plastic pollution.

IN PRACTICE:

In Viet Nam, UNDP is collaborating with partners to strengthen local waste management systems and address the root of the plastic pollution problem. With funding from the GEF and the governments of Norway and the Netherlands, UNDP has established collection and recycling facilities, promoted reusable alternatives, and provided technical support to local authorities to pilot waste sorting at the source, engaging over 8,000 households. A material recovery facility (MRF) has been inaugurated with a processing capacity of 4 tonnes of plastic waste per day, creating green jobs for more than 15 workers and supporting an informal waste workers' club consisting of nearly 200 women members. UNDP also partnered with the Department of Fisheries to implement the initiative titled Fishers Bring Back Waste to Shore, which involves more than 150 fishing boats, encouraging them to return waste to shore, preventing it from polluting the ocean.



Portfolio snapshots in 12 countries

SNAPSHOT 1: CAMBODIA



OVERVIEW

	Number of plastics projects	3
	Number of people served	500,000
	Financing	\$6,633,433
	Co-financing	\$546,000
	Start date of projects	2019
	End date of projects	2024

Plastic pollution in Cambodia

In Cambodia, plastic pollution is a growing problem, largely driven by economic growth, urbanization, tourism, and changing lifestyles. In 2020, the country generated 4.78 million tonnes of solid waste.²⁰ Despite regulations aimed at managing waste, enforcement remains weak, with only about 2 million tonnes of waste collected in 2020. Uncollected waste often ends up in open dumps or waterways, contributing to environmental degradation.

Plastic waste is a significant portion of Cambodia's municipal solid waste, making up around 20 percent in Phnom Penh.²¹ The widespread use of single-use plastics in the food and beverage sector exacerbates the issue. Mismanagement of plastic waste leads to pollution of waterways, with an estimated 4.6 million plastic bottles entering Cambodian water bodies annually. This plastic waste clogs drainage systems, increases flooding risks, and contributes to environmental and public health challenges.

Key initiatives addressing plastic pollution in Cambodia

Collecting and analysing baseline data

Several key assessments have been conducted to close Cambodia's data gaps on plastic pollution, including studies on the volume, types, and sources of plastic waste, assessments of global recycling practices, an overview of major plastic producers and importers, and a baseline assessment of waste management. The findings of these studies have informed the development of a draft regulation and the design of an EPR pilot in Cambodia.

Developing policy and regulation

UNDP Cambodia is supporting the government in drafting policies and regulations to encourage people to adopt more sustainable practices, including reducing, reusing, and recycling materials. For example, by aiding the Ministry of Environment in developing the National Circular Economy Strategy and Action Plan (2021-2035), which aims to guide Cambodia's transition to a circular economy by 2035 and encourages the private sector to adopt circular-economy practices for plastics. UNDP also helped draft rules to reduce plastic waste by focusing on single-use plastics, encouraging companies to take responsibility for their products, and promoting recycling and alternatives. In addition, a policy promoting plastic alternatives and supporting recycling was developed and then approved by the Prime Minister in 2022. A study tour to Viet Nam was organized for government officials to learn about EPR and workshops with the UN Environment Programme (UNEP), the German international development agency (Gesellschaft

für Internationale Zusammenarbeit, or GIZ), and others were facilitated to share global best practices in reducing plastic waste.

Piloting and scaling up innovative solutions

UNDP launched several innovation challenges, including the Beat Plastic Innovation Challenge, to find the best ways to encourage people to reduce, reuse, recycle, and rethink their use of materials, as well as the E-commerce Solution to Plastic Pollution to gather ideas for alternative products. A competition titled Ending Plastic Pollution Innovation Challenge (EPPIC) focuses on reducing plastic pollution in coastal areas of Cambodia and South-East Asia by bringing together citizens, governments, and businesses to develop innovative solutions. In addition, a Hotel Manual was created to help the hospitality sector reduce plastic use and promote the 4Rs: reduce, reuse, recycle, and rethink.

Raising awareness and boosting advocacy

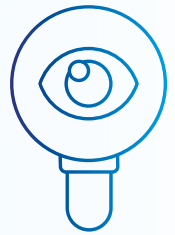
The success of new regulations relies on increasing awareness among all stakeholders. To support this, UNDP organized various awareness-raising efforts about the plastic crisis and its solutions, including through social-media platforms and promotional videos, brochures, and posters. Influencers and celebrities helped share videos and key messages, reaching more than 4 million people across Cambodia. Public events such as clean-ups, workshops, and forums were also held to encourage sustainable practices.



RESULTS

UNDP's support in Cambodia contributed to both environmental protection and socio-economic development. Installing water filtration systems in 97 schools provided students with clean water and eliminated the need for 30 tonnes of plastic bottles annually. Waste bins and traps collected more than 16.5 tonnes of plastic waste each year, while equipment in canals prevented plastic from reaching the ocean. Beach clean-ups and campaigns further reduced marine pollution, and cutting down plastic burning improved air quality.

On the socio-economic side, 2,100 households were supported in testing plastic waste separation, while women and people with disabilities were trained to produce banana-fibre packaging as an alternative to plastic. Youth participated through campaigns and innovation challenges, and more than 300 videos on plastic pollution awareness reached more than 4 million viewers.



SNAPSHOT 2: CHINA



OVERVIEW

	Number of plastics projects	4
	Number of people served	N/A
	Financing	\$5,210,000
	Co-financing	\$50,148,808
	Start date of projects	2022
	End date of projects	2030

Plastic pollution in China

China is the world's largest manufacturer, producer, and exporter of plastics, as well as a major player in the global plastic recycling system. In 2020, China produced 105.42 million tonnes of primary-form plastics, primarily used in the packaging, construction, electronics, and automotive sectors.²²

Plastic consumption in China has increased dramatically, with per capita use rising from 5 kg in 2000 to 20 kg by 2020. In 2022, China generated about 63 million tonnes of plastic waste. Of this, 30 percent was recycled, 32 percent went to landfills and 31 percent was incinerated.²³

The Chinese government has acknowledged the challenges of plastic pollution and committed to various initiatives to address it, including the Plastic Pollution Control Action Plan launched in 2020, which aims to significantly reduce the production and use of single-use plastics by 2025.

Key initiatives addressing plastic pollution in China

Collecting and analysing baseline data

A UNDP-supported project in China has produced detailed reports on plastic production, consumption, and recycling, providing a robust foundation for informed policymaking and industry transformation. Additionally, extensive surveys conducted in fishing communities assessed the status of abandoned fishing gear and public awareness of marine plastic pollution, providing policy recommendations and proposals to address these issues effectively.

Developing policy and regulation

UNDP has supported the Chinese government and civil society in advancing policies and regulations to tackle plastic pollution. Key initiatives include the development of policy recommendations, endorsed by the Ministry of Ecology and Environment, focusing on enhancing separate waste collection, exploring EPR, and improving coordination between plastic pollution control and environmental supervision. Additionally, the Investigation Report on Abandoned Fishing Gear in Part of Zhoushan Fishing Ground, submitted to the National People's Congress and Ministry of Agriculture and Rural Affairs, has influenced national policy on abandoned fishing gear, prompting the Vice Premier to request local solutions and demonstration cases from Zhoushan. Another report, Investigation and Recommendation Report on Floating Gill Nets in Zhoushan Fishing Ground, was shared with various government bodies, providing a foundation for regional policy decisions.

Further support includes the Shifting to Zero Waste Against Pollution Initiative, which aims to enhance solid waste management in Tianjin through improved data collection, classification methods, and demonstrations of EPR in the vehicle industry. UNDP has also promoted green design practices to boost resource efficiency and reduce plastic waste from the product development stage.

Piloting and scaling up innovative solutions

UNDP promotes innovative solutions to enhance waste management and reduce plastic pollution through projects focused on waste collection, circular-economy practices, and technological advancements. A community-based project supported by the GEF Small Grants Programme (SGP) introduced a point-based monitoring system in pilot communities to track plastic reduction, alongside advocacy campaigns that have boosted recycling rates and lowered plastic waste. By emphasizing circular-economy principles, UNDP's projects encourage the use of recycled materials and renewable product designs to improve resource efficiency and cut waste. In the fishing sector, innovations include solar-powered fishing lanterns that remove the need for disposable batteries, and a community-driven model for managing marine plastic waste.

Raising awareness and boosting advocacy

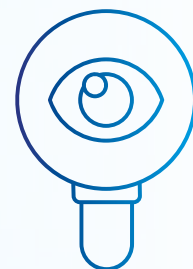
Local publicity campaigns, including door-to-door outreach and community activities, have effectively raised awareness within specific communities. On a larger scale, the National Campaign on Ending Plastic Pollution, involving more than 130 organizations, received extensive media coverage and significantly increased public awareness nationwide. In fishing communities, advocacy efforts have boosted participation in marine plastic waste collection, reaching local fishers and community organizations. Media engagement, including the documentary Ghost Fishing Gear and various reports on marine plastics, has successfully captured public interest and generated positive support for marine environmental protection.



Photo: UNDP, China

RESULTS

Overall, the interventions have achieved significant environmental, social, and policy impacts. Collectively, they reduced plastic waste by more than 5,000 tonnes between 2022 and 2023, with a circular food-box model alone preventing approximately 29.6 tonnes, and clean-up operations removing around 80 tonnes of marine plastic debris. UNDP's initiatives also advanced social inclusion and empowerment by engaging more than 73,000 students, training 17 female volunteers in waste management, and economically supporting vulnerable households through recycling efforts, providing additional income and boosting self-esteem. On the policy front, recommendations from these projects influenced national guidelines that promote aquatic resource conservation, encourage the recycling of abandoned fishing gear, and support sustainable practices.



SNAPSHOT 3: COSTA RICA



OVERVIEW

	Number of plastics projects	7
	Number of people served	>5 million
	Financing	\$10,681,650
	Co-financing	\$51,067,323
	Start date of projects	2018
	End date of projects	2030

Plastic pollution in Costa Rica

Plastic pollution is a growing concern in Costa Rica, impacting the environment, public health, and key economic sectors such as tourism and agriculture. As the largest importer of plastic resins in Central America, the country consumed more than 355,000 tonnes of plastic during 2017-2021, with each person using an average of 70 kilogrammes annually. In 2022, Costa Rica generated over 290,000 tonnes of plastic waste, but only around 11 percent was recycled. Almost 50 percent of the waste ended up in landfills, while 37 percent remained unmanaged, polluting the environment. Coastal areas are particularly affected, with 80 percent of waste found on beaches being plastic, and microplastics found in both sand and marine life.²⁴

Challenges in tackling the issue stem from gaps in governance, limited recycling infrastructure, and a lack of public awareness. Despite laws aimed at reducing plastic use, enforcement and implementation is uneven, leaving Costa Rica to contend with the high cost of alternatives and inefficiencies in managing plastic waste across municipalities.

Key initiatives addressing plastic pollution in Costa Rica

Collecting and analysing baseline data

UNDP has been supporting the Costa Rican government in advancing knowledge on plastics use, waste management, and sustainable alternatives. This includes developing a repository of renewable and compostable substitutes for single-use plastics as well as supporting an assessment of the regulatory framework, which mapped and analysed existing regulations to identify barriers and gaps in waste management. Additional studies by UNDP have examined the economic impact of a plastic materials tax, assessed plastic consumption in sectors such as agriculture, construction, and automotive manufacturing, and determined the externalities of plastic mismanagement. These initiatives collectively aim to inform government policy and establish national technical standards for improved recyclability and sustainable practices.

Developing policy and regulation

UNDP is working closely with the Costa Rican government to shape policies to combat plastic pollution. In line with the implementation of Law 9786, which aims to reduce plastic pollution by banning certain single-use plastics, UNDP supported the development of guidelines to prohibit the purchase of single-use plastics in government institutions and educational centres, setting a model for sustainable practices in the public sector. Additionally, the Country Office is helping to develop regulatory standards that incorporate EPR and define green job profiles within the plastics industry. A political communication campaign is also under way to engage stakeholders and build support for proposed regulatory frameworks.

Piloting and scaling up innovative solutions

UNDP in Costa Rica is collaborating with other stakeholders to pilot solutions to tackle plastic pollution along the value chain, focusing on reducing plastics use, promoting circular-economy practices, and improving waste management. Initiatives include developing a labelling tool to classify single-use products by material and compostability (renewable, compostable, marine compostable, or “RCM”), implementing pilots to reduce plastic content in widely used products, and launching an innovation challenge to encourage businesses to adopt circular-economy practices. Additional efforts aim to improve waste recovery through integrated household and commercial waste management and to capture plastic pollution in rivers by installing floating barriers.

Raising awareness and boosting advocacy

Supporting Costa Rica’s efforts to raise awareness and promote behavioural change around plastics is a key priority. UNDP has collaborated on a comprehensive communication and awareness campaign to promote EPR and circular-economy principles among all stakeholders in the plastic lifecycle. National campaigns, such as Yo Me Comprometo (“I commit”) and Zona Libre de Plastico (“Plastic-Free Zone”), have been launched to increase public understanding of plastic pollution and encourage sustainable practices, targeting both the general public and organizations. Additionally, a knowledge platform with a particular focus on vulnerable groups has been developed to educate the public on sustainable practices in tackling plastic pollution.

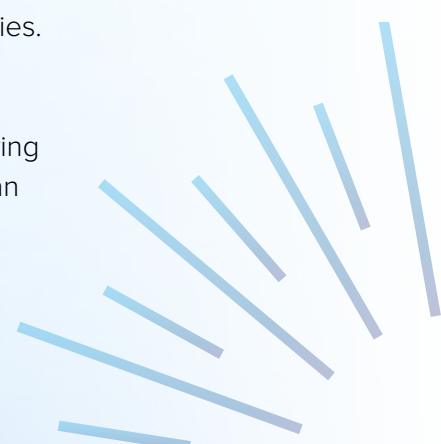
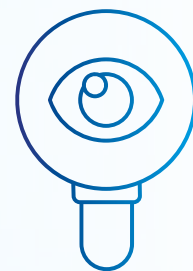


Photo: UNDP Costa Rica

RESULTS

UNDP supported Costa Rica's progress in tackling plastic pollution through initiatives such as the national strategy to replace single-use plastics, regulations for EPR, and public awareness campaigns. Key achievements included enforcing a ban on single-use plastics in parks and recovering 2 tonnes of plastic from the Virilla River.

Programmes such as Paid Beach Cleaning Days and Paid Plastic Transformation Days empowered marginalized communities and provided economic opportunities. A national standard ensures fair wages for workers, many of whom are single mothers. Vulnerable groups, such as trans women and fishers' associations, are now integrated into plastic collection efforts, promoting social equity and improving recycling efficiency. These initiatives not only protect the environment and human health but also foster economic empowerment and inclusivity.



SNAPSHOT 4: DOMINICAN REPUBLIC



OVERVIEW

	Number of plastics projects	10
	Number of people served	>2 million
	Financing	\$5,500,000
	Co-financing	\$51,522,286
	Start date of projects	2018
	End date of projects	2024

Plastic pollution in the Dominican Republic

The Dominican Republic is grappling with a growing plastic pollution crisis. Each year, the country generates approximately 300,000 tonnes of plastic waste, but only about 34,000 tonnes are properly managed.²⁵ There is a high risk of leakage into the ocean, even if the country generates less municipal plastic waste than many of its neighbours.

Key rivers, particularly the Ozama River, which runs through the capital Santo Domingo, carry more than 2,900 tonnes of plastic annually into the sea, primarily soft plastics, foam, and polyethylene terephthalate (PET), which threaten marine life and ecosystems.

Beyond environmental harm, plastic pollution affects human health and the economy. Waste near water bodies fosters diseases like malaria and dengue by creating small, stagnant pools that serve as ideal breeding sites for mosquitoes, increasing transmission risks. Tourism, a vital sector for the Dominican economy, suffers as plastic debris pollutes beaches and coastlines. Microplastics have also begun contaminating food, water, and air, posing serious health risks to the local population. Despite a 2020 law to curb plastic waste, weak infrastructure, limited regulations, and reliance on disposable products continue to hinder meaningful change.

Key initiatives addressing plastic pollution in the Dominican Republic

Collecting and analysing baseline data

Through the Rescate Ozama (“Rescue the Ozama”) project, UNDP has collaborated with other stakeholders to conduct extensive research on plastic pollution in the Ozama River to assess waste types, volumes, and local management practices. Insights from this research helped to inform and develop targeted interventions.

Similarly, a community-led organization, funded by the Small Grants Programme, analysed plastic use in banana farming to scale up recycling efforts. UNDP also assessed sustainability in tourism and small and medium-sized businesses, highlighting the need for alternatives to plastics. Together with the National Council of Private Enterprise, UNDP developed a Catalogue of Promising Practices featuring initiatives that reuse plastics and produce biodegradable packaging to reduce plastic pollution in the food and beverage industry.

Developing policy and regulation

SGP projects collaborate with municipalities to develop and update waste management plans and ordinances, creating Action Plans for Plastic Management and Recycling. Rescate Ozama and the GEF Plastic Reboot programme are also supporting the Ministry of Environment in preparing and implementing EPR policies, which are expected to come into effect in the first quarter of 2025.

In addition, UNDP is contributing to the groundwork for sustainability-focused policies on plastic production and waste collection services by integrating private-sector input throughout the development of a Roadmap for Sustainable Consumption and Production.

Piloting and scaling up innovative solutions

UNDP is piloting several innovative projects, including repurposing banana bags into packaging materials, and converting PET bottles into irrigation hoses. Working with municipalities and other sectors to promote behavioural change in the neighbourhood of Las Lilas, in Santo Domingo, was another key focus. Measures included the organization of community workshops on pollution and waste management, waste collection route evaluations, and inclusive community clean-ups in parks and playgrounds. The municipality, actively involved from the start, is now considering implementing this project in other communities.

Raising awareness and boosting advocacy

The Rescate Ozama campaign #voyconlamia (“I’ll bring mine”) encourages the reduction, reuse, and recycling of single-use plastics and has reached more than 1 million people. Community projects funded by the SGP include workshops and training sessions to improve household waste management, especially in communities with limited understanding of plastic pollution. Together with the National Council of Private Enterprises (CONEP) and in collaboration with The Ministry of Industry, Commerce and MSMEs, UNDP also developed the online platform [Empresas Sostenibles](#) (“Sustainable Businesses”), offering training to enhance sustainability in production for companies and educating industry decision-makers, including those in plastic production. National campaigns under the GEF Plastic Reboot project will further engage the private sector and major plastics producers to promote EPR and circular-economy practices.

Leveraging financial instruments

The GEF Plastic Reboot project aims to create and implement financial instruments that channel capital into sustainable business models. To support this effort, UNDP helped to develop an investor map for the Dominican Republic, identifying sectors that impact the SDGs and highlighting key investment opportunities focusing on reducing plastic use, particularly within the tourism and food and beverage sectors.

Building public-private partnerships

Rescate Ozama is a multi-stakeholder platform uniting government, private sector, non-governmental organizations (NGOs), and international organizations to combat plastic pollution in the Dominican Republic. Partners include the Ministry of the Presidency, the Ministry of Environment, Santo Domingo's local governments, international organizations such as The Ocean Cleanup and other NGOs, the Dutch Embassy, and private-sector players such as the national cross-sector sustainability network ECORED.

RESULTS



In the Dominican Republic, UNDP has helped to prevent 310 tonnes of plastic from reaching the ocean, engaged more than 30 communities, and reached more than 1 million people through campaigns encouraging plastic use reduction.

A key focus is empowering communities by involving them in the decision-making process and encouraging participation in the reduction of plastic use as well as plastic waste collection and recycling activities. This approach has led to active engagement from local groups, including women and youth, as well as micro-entrepreneurs who are expanding the projects to other communities. These efforts have created jobs and increased incomes for local families.

The Sustainable Business Platform has identified over five new investment opportunities, attracting more than \$15 million for plastic reduction efforts. From 2021 to 2023, UNDP mapped more than 500 companies and supported more than 100 small and medium-sized enterprises to improve their sustainability practices.



Photo: UNDP Dominican Republic

SNAPSHOT 5: ECUADOR



OVERVIEW

	Number of plastics projects	1
	Number of people served	129,000
	Financing	\$8,490,000
	Co-financing	\$40,571,428
	Start date of projects	2018
	End date of projects	2024

Plastic pollution in Ecuador

Plastic pollution in Ecuador is a mounting crisis. Each year, the country produces around 500 million plastic bags, and in 2020, the average person used 253 bags.²⁶ Only 52 percent of plastic waste ends up in landfill sites that meet technical and environmental standards, and just under 8 percent is recycled.²⁷ Waste management systems are struggling, with many cities relying on open dumps dangerously close to protected areas. Grassroots recyclers, who supply most of the materials for recycling, play a crucial role in this system. An estimated 20,000 recyclers – 70 percent of whom are women – work without formal recognition, social security, or steady incomes, underscoring the informality of this critical sector.²⁸

The effects are deeply felt across Ecuador. A study on the Galapagos Islands, a popular tourist destination known for its unique biodiversity, found microplastics in 52 percent of marine invertebrates such as oysters, snails, and sea cucumbers.²⁹ On the coast, several beaches show alarmingly high levels of plastic pollution.³⁰ This pollution threatens Ecuador's vital tourism, fishing, and agriculture sectors, while also impacting the health of vulnerable communities.

Ecuador's response to the crisis faces significant hurdles. Despite a 2020 law to reduce single-use plastics, implementation has been slow due to a lack of technical expertise and funding. Public apathy and limited government capacity further delay progress, leaving the country in urgent need of more robust solutions to tackle its plastic pollution problem.

Agricultural plastic pollution is another urgent issue. Ministerial Agreement 021, introducing EPR, sets collection targets for agricultural plastics, starting at 20 percent and aiming for 100 percent by 2031.³¹ Despite this, 48 percent of empty containers are still openly burned, and less than 20 percent are properly managed. This highlights the need to engage farmers through awareness and capacity-building efforts to ensure better management of agricultural plastics.

Photo: UNDP Ecuador



Key initiatives addressing plastic pollution in Ecuador

Collecting and analysing baseline data

To inform policy development, UNDP has collaborated with partners to carry out studies to evaluate the impact of plastic waste on the beaches and rivers along Ecuador's coastal profile. This assessment aligns with the national plan for the reduction of plastics, identifying critical areas for intervention and guiding future actions.

Developing policy and regulation

Ecuador has initiated crucial reforms in policy and regulations to enhance pesticide container management and reduce environmental hazards. A comprehensive guide for proper pesticide

container management has been developed to provide farmers and agricultural stakeholders with best practices for safe handling and disposal.

Raising awareness and boosting advocacy

The campaign Aliados del Ambiente ("Environmental Allies") was implemented in 2020 and 2021 to promote proper management of pesticide containers. This campaign aimed to raise awareness among farmers and the public about the importance of safe pesticide disposal and the environmental impacts of improper management. Through targeted advocacy efforts, the campaign has contributed to greater public understanding and action toward sustainable practices in pesticide use and waste management.

Results

UNDP's support in Ecuador has contributed to protecting and restoring the environment by enhancing waste management practices. The capacity of INNOVAGRO, the chamber of industry for agricultural innovation and technology, to collect empty pesticide containers has increased from 30 to 90 tonnes per year and continues to grow. As a result of the project, 6,700 empty pesticide containers have been collected and properly managed in the Galapagos Islands. A total of 239 tonnes have been effectively managed at national level.

Over 45,000 individuals have been educated on the proper collection of empty pesticide containers, reaching more than 120,000 people nationwide. Guides have been developed specifically for the Galapagos region, and a communications strategy has engaged children and youth through the "Environmental Allies" initiative, promoting environmental awareness and fostering participation among younger generations. This outreach empowers local communities while encouraging sustainable practices in waste management.

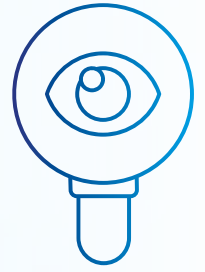


Photo: UNDP Ecuador

SNAPSHOT 6: INDIA



OVERVIEW

	Number of plastics projects	9
	Number of people served	>11,000
	Financing	\$24,777,810
	Co-financing	\$4,874,163
	Start date of projects	2018
	End date of projects	2025

Plastic pollution in India

The plastics sector in India is a vital part of the economy, contributing around 2 percent to the country's gross domestic product.³² India is the third-largest producer of plastics globally, following China and the United States, with the sector expected to grow around 8-10 percent annually over the next few years.³³ However, India faces a significant challenge with approximately 9.46 million tonnes of plastic waste generated annually, of which about 40 percent is uncollected and mismanaged.³⁴ The plastic industry also contributes about 4 percent to India's greenhouse gas emissions, highlighting the need for policy interventions to lower emissions and support the informal waste worker sector, which plays a crucial role in managing and recycling plastic waste, thereby helping to reduce emissions.

India has a fairly robust regulatory framework on plastic waste reduction, recycling and reuse. The most recent regulatory move is the launch of the EPR Framework under the Plastic Waste Management (Amendment) Rules, 2022. The EPR Framework incentivizes upstream and midstream interventions for companies (producers, importers, and brand owners), and promotes ambitious targets for collection, recycling, reuse, and use of recycled plastic packaging.

But despite robust regulations, challenges remain, including limited enforcement of existing policies and regulations, lack of incentives for alternative materials, inadequate technology access, subsidies to petrochemical industries, lack of public awareness, and insufficient waste management infrastructure.

Key initiatives addressing plastic pollution in India

Launched in 2018, UNDP's programme Plastic Waste Recycling Management - A Partnership aims to improve plastic waste management through a socio-technical model aligned with government guidelines. It focuses on three key pillars:

Materials management

Through the establishment of MRFs, the programme supported local governments in the adoption of closed loop systems by enhancing the reuse, recovery and recycling of materials from municipal solid waste streams. By setting up systems, processes and infrastructure, the programme enabled material separation, processing, and recycling of plastic waste, built capacities of the local governments and practitioners, created green jobs, and supported cities in meeting waste diversion targets.

Addressing informality

Informal waste workers, aggregators, and recyclers are established actors in the local waste markets, and make recycling happen. The programme aims to enable different models for the integration of informal waste workers into the formal sector, including working on their

economic empowerment and improving their living and working conditions. To achieve this, the programme focused on their recognition and social inclusion, facilitated access to social protection programmes, and provided protective gear and equipment to reduce the health risks associated with handling plastic waste, ensuring safer working conditions. It also facilitated fair wages, provided access to financial resources, and offered opportunities for skill development, thereby enhancing their economic stability and overall quality of life.

Raising awareness and boosting advocacy

The programme focuses on driving behaviour change among different stakeholders by promoting greater understanding and engagement among consumers, government partners and waste workers and other stakeholders, encouraging a shift towards responsible consumption, and facilitating the adoption of best practices. Through education, incentives, policy support, capacity building and collaboration, the programme creates a more sustainable and efficient approach to managing plastic waste, benefiting the environment and public health.

RESULTS

Through proper collection, recycling, and the establishment of 34 MRFs, the programme has processed 125,264 tonnes of plastic waste, effectively preventing it from ending up in landfills or leaking into the environment. Beyond the environmental impact, the programme has had profound socio-economic benefits, particularly in terms of social inclusion, empowerment, and economic improvement for marginalized communities. More than 11,000 waste workers have been integrated into the programme, gaining livelihoods and employment opportunities that foster greater economic resilience.





Photo: UNDP India

SNAPSHOT 7: INDONESIA



OVERVIEW

	Number of plastics projects	6
	Number of people served	>1.3 million
	Financing	\$1,382,927.49
	Co-financing	\$97,313.20
	Start date of projects	2019
	End date of projects	2024

Plastic pollution in Indonesia

Indonesia is the second-largest marine polluter, after China, contributing to 10 percent of the world's marine pollution, with 3.22 million tonnes of its waste ending up in oceans annually.³⁵ Marine plastic pollution is one of the major threats to Indonesia. Just over 60 percent of Indonesia's 275 million population live on the coastline. Plastic pollution is threatening Indonesia's fisheries and tourism industries, damaging the nation's rich marine biodiversity, mangroves, seagrass and coral reef habitats, and negatively impacting marine communities.

Indonesia generated an estimated 53 million tonnes of waste in 2023, approximately 40 percent of it plastic. Only 10-15 percent of plastic waste is recycled, 60-70 percent is taken to landfills and 15-30 percent is leaking into rivers, lakes and the sea. Indonesia has inadequate waste collection systems and infrastructure, especially in rural and remote areas, which leads to leakage into rivers, causing pollution and health hazards.

Tackling solid waste management is high on the national agenda. The Government of Indonesia set policies and ambitious targets to tackle marine plastic pollution in Presidential Decree No 83/2018 on the Plan of Action on Marine Plastics Debris 2018-2025, which aims to reduce marine debris by 70 percent by 2025.

Key initiatives addressing plastic pollution in Indonesia

Developing policy and regulation

UNDP has been supporting the Government of Indonesia with the Presidential Decree No. 83/2018 on Marine Debris Management, which set a target to reduce plastic waste entering Indonesian waters by 2025 by 70 percent. UNDP's support is as the coordinating entity for stakeholders on behalf of the National Coordination Team for Marine Debris Management Secretariat (Secretariat Tim Koordinasi Nasional Penanganan Sampah Laut). UNDP also supported the Government of Indonesia in developing the National Action Plan for Circular Economy 2025-2045. The implementation of circular economy in Indonesia focuses on five priority sectors, namely plastic packaging, food, textile, construction, and electronics. The Action Plan was launched in July 2024 and will be implemented through the Medium-Term National Development Plan (2025-2029).

Collecting and analysing baseline data

Since 2018, UNDP has been actively supporting the Government of Indonesia in addressing marine plastic debris. From 2018 to 2024, UNDP supported a baseline study and annual monitoring of marine plastic debris leakage, collaborating with experts and researchers from various universities. This comprehensive research provided accurate and insightful data on the flow of plastic waste into marine ecosystems. UNDP also supported research on plastic waste reduction scenarios to help the government achieve its target of a 70-percent reduction in marine plastic debris by 2025.

Piloting and scaling-up innovative solutions

UNDP Indonesia has collaborated with other stakeholders in actively promoting and supporting innovative solutions to advance waste management practices. A key initiative was pitching for the 2021 EPPIC, a competition designed to encourage and support groundbreaking ideas to tackle marine plastic debris. A standout success story from this competition was the Siklus partnership, an Indonesian innovator that won the challenge by creating a system for refillable household products in East Nusa Tenggara, to reduce single-use plastic.

Raising awareness and boosting advocacy

UNDP Indonesia supported comprehensive education campaigns on plastic and marine pollution with key stakeholders, including Zero Waste Adventure Camp at Mount Merbabu which provided training to 1,000 selected youth participants from university nature clubs who are expected to become change agents in their respective communities and promote litter-free outdoor adventure activities. UNDP also supported the Interfaith Waste Charity, and Exchange Session which engaged 1.3 million participants and collected 840 tonnes of waste in 75 cities. Together with the Ministry of Environment and Forestry, UNDP also supported a nation-wide awareness raising campaign on National Waste Awareness Day 2024 focusing on engaging youth as future leaders of environmental stewardship through cleanups and workshops.

Building multi-stakeholder partnerships

UNDP supported several programmes focusing on marine debris management. These have included the EPPIC competition, the Youth Forum for Waste Awareness (Forum Pemuda Peduli Sampah - FORMULA), the Ending Plastic Pollution Through Comic and Writing Contest for A Better Indonesia (EUPHORIA), and the Indonesia Waste Charity Movement (Gerakan Sedekah Sampah Indonesia, or GRADASI). These

initiatives engaged the public, particularly youth and women's communities, as well as the private sector in actively managing waste and combating marine debris. Danone Aqua allocated funding to the GRADASI programme to enhance waste management and promote sustainability. By collaborating with the private and public sectors, UNDP Indonesia has played an essential role in ensuring that development projects are both innovative and sustainable, benefiting from the expertise and resources of diverse partners.

RESULTS



Environmental, socio-economic and livelihood impacts of these initiatives include the following: i) the levels of plastic debris reaching the ocean annually reduced by 42 percent between 2018 and 2023, equivalent to a reduction of 256,614 tonnes; ii) the GRADASI has empowered more than 450,000 women across Indonesia, showing a notable increase in the social inclusion of marginalized communities; iii) the establishment of standard waste management facilities at the provincial and regional levels has led to improvements in local incomes and employment opportunities by supporting micro-enterprises involved in waste management; and iv) the GRADASI programme has facilitated the integration of informal waste workers into the formal economy by creating green jobs related to waste management, providing stable employment and income.



Photo: UNDP Indonesia

SNAPSHOT 8: JORDAN



OVERVIEW

	Number of plastics projects	7
	Number of people served	>5 million
	Financing	\$35,437,061
	Co-financing	\$112,584,656
	Start date of projects	2015
	End date of projects	2027

Plastic pollution in Jordan

As of 2020, the plastics industry in Jordan was estimated to be worth about **\$1.5 billion**, representing approximately 5 percent of the country's total industrial production, and 3.6 percent of exports. The sector employs around 13,000 people. Despite the contribution to economic growth, it presents waste management challenges to the country. For instance, the total amount of solid waste generated annually in Jordan is approximately 2.9 million tonnes, with plastic waste constituting about 17 percent. Of this, up to 2,000 tonnes of PET waste per year are collected from industrial sources and exported for recycling in Turkey.³⁶

As a result of limited capacity to manage plastics, a large proportion of the waste ends up in landfills and in the environment. In a recent clean-up exercise along the Aqaba Gulf, 2.5 tonnes of plastic material were collected per month. While action is being taken by various stakeholders, progress has been impeded due to lack of effective regulations, lack of incentives for alternative materials or sustainable business models, limited access to technology, subsidies promoting pollutive industry activities, limited awareness among citizens and policymakers, and inadequate waste management infrastructure, among others.

Key initiatives addressing plastic pollution in Jordan

Collaborating with various organizations including the GEF, the Government of Canada, the Government of Jordan and UNEP, UNDP has supported a wide range of interventions across various themes including research, analysis and baseline assessments, piloting and promoting innovative solutions, awareness raising, advocacy and campaign, and policy and regulations development.

Collecting and analysing baseline data

Data is critical to understanding the scale of the plastic pollution crisis, levers of and barriers to sustainable plastic management; to informing the development and implementation of effective policies and interventions; and to monitoring and evaluating progress and impacts of efforts. Working with other stakeholders, UNDP has been conducting research and baseline assessments. For instance, under the programme Enhancing Women's Participation in the Solid Waste Management Sector in Jordan, UNDP Jordan supported waste composition studies in target areas as well as value chain analyses of recyclables (including plastics). The project Pilot Testing of PET Recycling in Jordan is supporting a market analysis of PET and a cost-benefit analysis of PET recycling in Jordan. These projects help to identify current gaps and opportunities for sustainable plastics management and provide a basis upon which progress will be measured.

Developing policy and regulation

Policy and regulation create an enabling environment to drive sustainable production and consumption behaviour and regulate or discourage behaviours that lead to pollution. Through the project Improving Solid Waste Management and Income Creation in Host Communities, UNDP supported the development of a policy that enhances waste pickers' working

conditions in landfills in Jordan. This policy was adopted by the Ministry of Local Administration. In addition to this, UNDP collaborated with the Ministry of Environment to draft EPR instructions for e-waste (discarded electric and electronic devices and materials). The instructions for e-waste management have been issued and instructions for medical waste have been updated.

Piloting and scaling up innovative solutions

A number of solutions aimed at tackling plastic pollution have been undertaken. For instance, the project Mitigating Climate Change through Solid Waste Management in Southern Jordan piloted sorting at source and promoted the processing of waste and recyclables in MRFs managed by local communities. Other initiatives with local community-based organizations supported the establishment of green businesses with the aim to reduce the use of plastics, for example through procuring wool fabrics or hydroponic farming.

Raising awareness and boosting advocacy

Improved public awareness can drive sustainable consumption, reduce plastic waste generation, and encourage proper waste management. UNDP is therefore committed to supporting activities that improve stakeholders' awareness of plastic pollution and various mitigation measures. For instance, through the project Improving Solid Waste Management and Income Creation in Host Communities, UNDP Jordan collaborated with stakeholders to carry out awareness campaigns in targeted areas, focusing on the importance of reducing waste generation and improving waste management. The project also established a knowledge station for children and rehabilitated a children's park using recycled and upcycled items, mainly plastics and rubber.



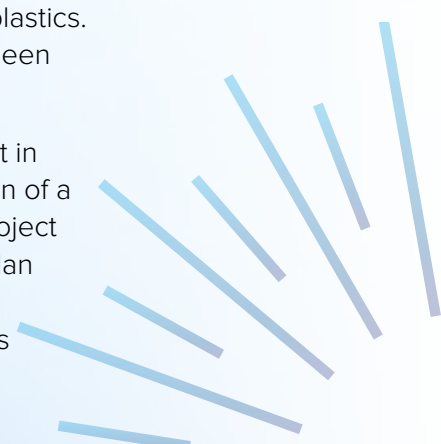
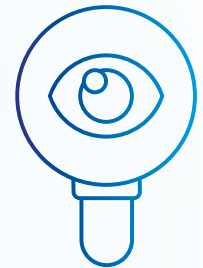
Photo: UNDP, Jordan

RESULTS

The plastics projects have yielded multiple benefits across environmental and socio-economic development variables. Environmental benefits include an improvement in plastics and solid waste management. For instance, the provision of waste management facilities such as waste sorting stations improved waste collection, increased plastic recycling rates and reduced the volume of waste disposed at landfills. Two dumpsites were closed because of the construction and operation of transfer stations.

The project Reduction and Elimination of Persistent Organic Pollutants helped to collect and recycle around 1,100 tonnes of recyclable materials. In addition to this, 500 tonnes were processed for the production of refuse-derived fuel. The establishment of green businesses also led to the introduction of sustainable alternatives to traditional plastics. For instance, biodegradable plastic bags, fabric bags and other products have been introduced to reduce plastic consumption.

Socio-economic benefits include the creation of green jobs and an improvement in household incomes. Green jobs were created in the establishment and operation of a MRF and the production of sustainable alternatives to traditional plastics. The project Enhancing Women's Participation in the Solid Waste Management Sector in Jordan created job opportunities for 660 rural women, by engaging women in 12 green business group projects that are managed by 10 community-based organizations and two cooperatives within the target municipalities.



SNAPSHOT 9: PHILIPPINES



OVERVIEW



Number of plastics projects

13



Number of people served

No data



Financing

\$32,000,000



Co-financing

\$42,500,000



Start date of projects

2018



End date of projects

2028

Plastic pollution in the Philippines

The Philippines is grappling with the challenges from rapid urbanization. In 2015, 58.93 million people, or 54 percent of the population were reported to live in urban areas, increasing the demand for goods, services, and resources, leading to more waste, particularly plastic. The country generates 2.7 million tonnes of plastic waste annually, with 500,000 tonnes of that leaking into the ocean.³⁷ In 2021, the Philippines was ranked among the largest contributors of mismanaged plastic waste entering the marine environment. Natural disasters and climatic events such as the July 2021 typhoon in Metro Manila exacerbate plastic pollution, with large amounts of plastic debris left behind. Plastic pollution also threatens human health and food safety, with women and youth particularly vulnerable. Many of the informal workers in the waste management sector are women, who are more directly exposed to pollution while collecting recyclables from municipal waste, dumpsites, or landfills.

To address the plastics crisis, the Philippine government enacted laws and developed roadmaps. The Ecological Solid Waste Management Act of 2001 promotes a decentralized and community-centred approach to waste and resource management. In 2022, the government also enacted the EPR Act to mandate large plastic packaging businesses to recover their plastic packaging waste. Despite these efforts, significant challenges remain due to unsustainable production and consumption patterns, inadequate waste management infrastructure, incomplete legal frameworks, and uneven enforcement.

Key initiatives addressing plastic pollution in the Philippines

Collaborating with various organizations including the GEF, European Commission, European Union, Coca-Cola Foundation, World Economic Forum, Governments of Japan, Germany, and Spain, Norwegian Agency for Development Cooperation, China International Development Cooperation Agency, and Korea Environment Corporation, UNDP has supported a suite of interventions, building on research, innovative solutions, enabling policies, and capacity and knowledge development, to promote circular solutions in tackling plastic pollution in the Philippines. This approach offers multiple benefits and is essential for achieving sustainable development outcomes. Key thematic areas include the following:

Collecting and analysing baseline data

UNDP collaborated with various stakeholders to conduct a stocktaking of initiatives on plastics and the circular economy in the Philippines. Under the Japan-funded ACE project (from “Accelerating Nationally Determined Contributions through Circular Economy in Cities”), UNDP developed a circular-economy data platform and knowledge portal that consolidates information on existing initiatives on plastics, waste management, and circular economy. A study of plastic generation and pollution in the tourism sector is also ongoing to identify key actions to tackle plastic pollution generated by the sector. Additionally, UNDP is employing remote sensing to monitor and track plastic waste on Samal Island and in the Manila River systems, estuaries, and esters. This initiative is a collaboration between the UNDP Accelerator Lab, the Japan SDG Innovation Challenge, and the Japan Manned Space Systems Corporation.

Developing policy and regulation

UNDP has provided significant support to the Philippine Government in developing the National Plan of Action for Marine Litter, which aims to achieve zero waste in Philippine waters by 2050. It also assisted in creating the EPR Framework and an online EPR registry and portal. To implement the EPR initiative, UNDP supported the formulation of the Implementing Rules and Regulations of the EPR Act of 2022 which mandates plastic packaging companies (referred to as Obligated Enterprises) to ensure compliance with EPR regulations. Under the EU-funded Green Economy Programme in the Philippines (EU-GEPP), UNDP will collaborate with 20 local government units to build their capacity to be EPR-ready for effective plastic waste management in partnership with local government units, the private sector, and the informal sector.

Piloting and scaling up innovative solutions

UNDP has partnered with other stakeholders to pilot innovative solutions to address plastic pollution in the Philippines. One example is the project Piloting of the Innovation and Circular Economy (ICE) Hub in Pasig City through the ACE Project. It partnered with the Department of Science and Technology which supported grassroots-level circular waste management practices by providing access to technologies and facilities such as mobile waste facilities and plastic melters. Through the EPPIC competition, UNDP offered seed funding to local solutions, such as Pure Oceans and Trash Cash, supporting their efforts in addressing plastic pollution. Under

the EU-GEPP programme, UNDP will further support local innovators to test and scale up local solutions for resource challenges including plastic pollution.

Raising awareness and boosting advocacy

UNDP has undertaken awareness-raising and capacity development initiatives to ensure effective plastic management in the Philippines. Training on plastics and solid waste management has been provided to healthcare professionals, local government staff, and others involved in essential services. Additionally, capacity-building

interventions have improved stakeholders' understanding and application of concepts and tools on green procurement, and value chain development. Support has also been provided to operationalize the EPR Act of 2022 through the LOOPFORWARD Campaign (tagline "Linking Opportunities and Partnerships Towards Circular Economy through EPR"). Under the EU-GEPP programme, UNDP will work with universities, the private sector, and civil society organizations to support strategic communication and campaigns for behaviour change towards circular practices, including efforts to avoid, reduce and recycle plastic products.

RESULTS

Various initiatives in the Philippines have yielded both environmental and socio-economic benefits. For instance, two winners of the EPPIC competition, namely Pure Oceans and Trash Cash, implemented their solutions for plastic pollution, resulting in the diversion of an estimated 500 kilogrammes of plastic waste, as an important environmental benefit. These benefits are expected to be higher after its second phase of implementation. As for social benefits, these initiatives have strengthened inclusion by involving persons with disabilities, informal waste workers, indigenous peoples, women and youth through the joint planning, co-design and implementation of various circular-economy interventions. Under the EU-GEPP programme, UNDP will further measure the number of green jobs and quantity of income generated for individuals from circular-economy interventions.



Photo: UNDP Philippines

SNAPSHOT 10: THAILAND



OVERVIEW

	Number of plastics projects	2
	Number of people served	Not Available
	Financing	\$500,000
	Co-financing	\$350,000
	Start date of projects	2021
	End date of projects	2030

Plastic pollution in Thailand

Thailand imports approximately 2 million tonnes of plastic resins annually and is a significant exporter of plastic products to neighbouring ASEAN countries.³⁸ Every year, 25 million tonnes of waste is generated in Thailand, of which 2.76 million tonnes (11 percent) plastic. Of this plastic waste, about 550,000 tonnes (20 percent) is plastic.³⁹ With an estimated 1 million tonnes of its waste ending up in oceans each year, Thailand ranks 10th globally among countries leaking plastic waste into the sea. The presence of microplastics in seafood and drinking water poses serious health risks to the population. There are also socio-economic impacts. For example, plastic pollution negatively affects agriculture by degrading soil quality and reducing crop yields, which impacts farmers' incomes. Revenue from the fishing industry also declines due to diminished fish stocks. Plastic pollution damages beaches and tourist sites, which can shatter Thailand's reputation as a pristine tourist destination, thus undermining the long-term tourism prospects and tourism revenue. Coastal communities that depend on tourism face increased economic losses. The urban poor, living in areas with inadequate waste management, are particularly vulnerable to health hazards, affecting their overall quality of life.

The Government of Thailand has developed an action plan for plastic waste management under the Pollution Control Department. Phase 1 of the plan ended in 2022, and implementation continued with Phase 2 (2023-2027). Despite the progress made, there are still significant challenges due to: insufficient enforcement of policies for plastic management; limited financial incentives for alternative materials; limited innovation and inadequate waste management infrastructure; subsidies promoting polluting practices; and limited awareness among stakeholders.

Key initiatives addressing plastic pollution in Thailand

Collaborating with organizations including Thailand's Government Savings Bank, UNDP has supported interventions across multiple themes such as policy and regulations, piloting and promoting innovative solutions and public-private partnerships.

Developing policy and regulation

UNDP has supported policy development strategies in Thailand. For instance, through the project Linking Plastic Waste Treatment with Sustainable Tourism Promotion, UNDP supported Phuket province in formulating its post-pandemic sustainable transformation vision and strategy. This strategy prioritizes investment in improving the province's waste management system as a basis for transforming its economic growth model towards higher-productivity tourism. UNDP also collaborates with the Secretariat of the House of Representatives on the Green Parliament Initiative. A wide range of sustainable development topics are discussed in this partnership including plastics and solid waste management.

Piloting and scaling up innovative solutions

As part of the EPPIC competition (hosted by UNDP Viet Nam), UNDP collaborates with the innovative recycling project CIRAC to tackle non-recyclable plastic waste, especially aluminium-laminated thermoplastics from snack and food packaging. CIRAC's innovative reactor design and optimized pyrolysis conditions help to extract aluminium and convert the remaining

plastic into heavy oil, which has applications as fuel. UNDP's community-focused approach and CIRAC's technology bring practical solutions to life, helping to advance innovative solutions that could be replicated and/or scaled up to address plastic pollution at scale.

Leveraging financial instruments

Through the initiative Mobilizing and Realigning Resources for Plastic Waste Treatment, UNDP supports innovative financing activities, helping to align investments with sustainable development activities. For example, UNDP's Biodiversity Finance initiative and Krungthai Bank worked with local government in implementing the Cash for Work scheme at Koh Tao Island, Surat Thani Province. This initiative helped to provide basic income to small-scale fisherfolk, tourist boat operators, and scuba divers who received \$100 per month for working on waste management and biodiversity conservation. The programme raised close to \$100,000 to help 200 vulnerable families.

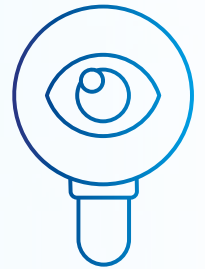
Building public-private partnerships

UNDP's initiative Innovative Solutions for Waste Bank Development in Surat Thani leveraged public-private resources to address inefficient waste management at Surat Thani Rajabhat University (SRU). The project received financial support from Cargill, GSB, and other private-sector partners to create a replicable waste bank model and incentivize waste management initiatives. The initiative is now being replicated in other areas with continued private-sector funding.



RESULTS

The interventions in Thailand have resulted in both environmental and socio-economic benefits. For instance, the pilot projects on plastic and solid waste management have contributed to environmental management by minimizing plastic waste generation, improving waste management and reducing its leakage into marine environments. By implementing sustainable waste management practices, the projects have successfully reduced solid waste by 50 tonnes per year, with 13 percent constituting plastics and recycled materials. The projects have cut greenhouse gas emissions by 33 tonnes CO₂ equivalent (CO₂e) annually. The demonstration projects have led to significant improvements in socio-economic development variables such as employment, income generation and cost savings. The establishment of waste banks and incentivized recycling programmes created job opportunities in waste collection and management for SRU students and staff as well as local communities. This initiative generated additional income for the university, initially producing \$2,000 per year and saving \$1,000 in operational costs. The projects also introduced technological advancements in waste management practices and promoted the participation of marginalized groups in development activities. Women and youth have been particularly engaged, with targeted programmes to increase their participation and leadership in waste management. Their involvement has provided them with the knowledge and skills to manage waste more sustainably, empowering women and youth while improving waste management.



SNAPSHOT 11: TRINIDAD AND TOBAGO



OVERVIEW

	Number of plastics projects	6
	Number of people served	>2,500
	Financing	\$236,610
	Co-financing	\$217,238.95
	Start date of projects	2022
	End date of projects	2023

Plastic pollution in Trinidad and Tobago

The latest available data shows that a total of 129,669 tonnes of plastic and plastic products was imported into Trinidad and Tobago in 2016.⁴⁰ Measured per capita, the country is the second largest per capita producer of mismanaged plastic waste in the world and the third highest per capita of plastic waste that ends up in the ocean⁴¹. This extensive use and mismanagement of plastics in Trinidad and Tobago has several recognized impacts. Firstly, there is the negative impact on the environment. Additionally, plastic waste often obstructs drains, resulting in flooding. This can result in loss and damage to property, and also harbour vectors of disease, most notably mosquitos.

The major barriers that have impeded progress include the lack of viable sustainable alternatives to single-use plastic, and the absence of legislation or an enabling environment.

Key initiatives addressing plastic pollution in Trinidad and Tobago

In Trinidad and Tobago, UNDP has collaborated with various stakeholders to support interventions across various themes including research, analysis and baseline assessments, the development of policies and regulations, piloting and promotion of innovative solutions, and awareness raising, advocacy and campaigning.

Collecting and analysing baseline data

In 2021, UNDP led a stakeholder consultation involving a situational analysis to identify gaps and recommendations for context-specific solutions towards strengthening plastics and solid waste management in Trinidad and Tobago. The consultative process resulted in the publication of a report titled Sustainable Plastic Waste Management in Trinidad and Tobago. The report outlined existing gaps and provided recommendations on how plastics could be better managed in the country. This report triggered a number of actions on the part of the government (see following policy and regulation section).

Developing policy and regulation

One of the major actions following the publication of the report Sustainable Plastic Waste Management in Trinidad and Tobago was the launch of three policies addressing plastics and solid waste management. To guide plastics and

solid waste management efforts, the Ministry of Public Utilities launched: 1) the National Integrated Solid Waste/Resource Policy 2024; 2) the National Recycling Policy 2024; and 3) the Beverage Containers Deposit Return Policy 2024.

Piloting and scaling up innovative solutions

UNDP partnered with other stakeholders to support the experimentation and promotion of sustainable alternatives to traditional plastics. Various biodegradable products were manufactured to replace single-use plastics. These alternative materials and utensils include coconut bowls, calabash bowls, bamboo spoons, bamboo cups, banana wraps, edible chocolate spoons and edible savoury spoons.

Raising awareness and boosting advocacy

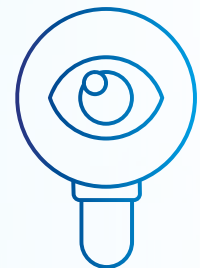
UNDP facilitated awareness raising campaigns, in partnership with government, NGOs and the private sector, to educate various segments of the population about plastic pollution and practices that can contribute to reducing the crisis. Social media, community workshops and many other channels have been used to reach thousands of people within various demographic groups in Trinidad and Tobago.



RESULTS

UNDP's plastics and waste management portfolio in Trinidad and Tobago contributes to environmental and socio-economic benefits. In terms of environmental benefits, the projects helped to create sustainable alternative products to replace plastics and reduce the volume of used and mismanaged plastics. The Municipal Management Organizations, referred to as the Regional Corporations, have installed more recycling bins to encourage waste collection and increase material recovery. They are also working more closely with GEF SGP-supported recycling initiatives to divert plastics from landfills and the environment. More than 24 tonnes of waste was diverted from landfills in 2023, much of which was recycled in usable products. For instance, waste plastic filaments were converted into parts for the first locally produced robotics kit for introducing students to science, technology, engineering, and mathematics (STEM).

Regarding socio-economic benefits, the interventions have expanded employment opportunities for community members including vulnerable people. For instance, persons with disabilities benefitted from increased capacity and improved skills in 3D printing through training. Furthermore, they received the equipment to produce their own tools and other products, which are now available commercially via their online store. Many communities are now able to manufacture sustainable alternatives to plastics and this generates income for them. Some of these products include coconut bowls, calabash bowls, bamboo spoons, bamboo cups, and banana wraps. The project has also increased economic accessibility to STEM subjects. The STEM robotics kit manufactured from the UNDP-supported projects cost about half the market price (\$60-300), making it more affordable and creating greater accessibility opportunities for more students.



SNAPSHOT 12: VIET NAM



OVERVIEW

	Number of plastics projects	9
	Number of people served	N/A
	Financing	\$7,700,000
	Co-financing	\$13,100,000
	Start date of projects	2019
	End date of projects	2028

Plastic pollution in Viet Nam

Viet Nam is one of the largest marine plastic polluters. With more than 100 million residents and a 3,260-kilometre coastline, Viet Nam faces significant plastic pollution risks with waste leaking from land to sea. Rapid economic growth, urbanization, and lifestyle changes have intensified the issue. It is estimated that 3.1 million tonnes of plastic waste is generated annually, with 280,000-730,000 tonnes leaking into the ocean.⁴² According to the Viet Nam Pollution Control Department, the amount of waste generated is increasing by 10-16 percent every year.

The plastic industry in Viet Nam has also grown significantly, with about 4,000 enterprises involved in producing various plastic products. Coastal provinces are said to contribute more marine plastic waste than those inland, negatively impacting tourism and fishing industries, as well as the communities dependent on these sectors.

The existing infrastructure for waste management (collection, segregation and recycling) is often inadequate. The informal sector plays an important role, with 10 to 30 percent of the plastic waste collected for recycling through this channel. Most informal waste workers are women, yet their role in material recovery is often overlooked by local authorities and municipal waste collection services.

Key initiatives addressing plastic pollution in Viet Nam

Developing policy and regulation

UNDP Viet Nam facilitated the formulation of various policies at the national, provincial and city levels. This includes supporting the formulation of the National Action Plan for Management of Marine Plastic Litter by 2030 (Decision No. 1746 / QĐ-TTg), which calls for a reduction of plastic debris in the sea and ocean by 75 percent. The National Action Plan was issued by the Prime Minister in 2019. UNDP also worked closely with the Ministry of Natural Resources and Environment during the formulation of the Law on Environment Protection 2020, which developed key policies such as EPR, waste sorting at source, and circular economy. At the local level, UNDP Viet Nam also supported provinces and cities to develop provincial regulation on plastic waste management and waste sorting plans.

Collection and analysis of baseline data

UNDP has been exploring new methodologies to inform evidence-based policies. UNDP Viet Nam conducted the first analysis in Viet Nam mapping greenhouse gas emissions and material flows to inform the circular-economy roadmap in Thừa Thiên Huế Province.⁴³ UNDP Viet Nam also rolled out the establishment of a Responsible Sourcing Framework for plastic value chains under The Circulate Initiative.⁴⁴ The purpose of the framework was to bring together representatives from government, brands, investors, recyclers, informal waste workers and civil society organizations to address pressing labour rights issues in plastic recycling supply

chains. UNDP has supported the Ministry of Natural Resources and Environment and the Vietnam Plastic Association in developing a national database on plastic material flow, plastic scraps, and plastic waste. This database provides essential information to support a more sustainable development of plastic industry and effective plastic waste management.

Piloting and scaling-up innovative solutions

With the EPPIC competition implemented across six ASEAN countries, UNDP focused on driving change in the way we produce, consume and dispose of plastics, and in the way we source, innovate, incubate, finance and scale up eco-design solutions. The second phase of EPPIC focused on nurturing a financial impact investment ecosystem in Viet Nam. Through a Norway-funded project, UNDP also established the first MRF in Binh Dinh province to process 4-6 tonnes of plastic waste daily and create jobs for more than 200 residents in waste management, sorting and recycling. The project also successfully piloted a scheme “fishermen bring back waste to shore”, which has been endorsed by local authorities and is ready to be replicated in other locations. UNDP is also piloting an initiative for a secondary material marketplace, which aims to facilitate the exchange of waste and recycled resources in the plastics and textiles sectors, supporting sustainable and effective business practices. The technology-based marketplace application will be piloted to enable online trading, providing a more accessible and user-friendly marketplace for buyers and sellers.

Raising awareness and boosting advocacy

UNDP Viet Nam produced the podcast *Hậu duệ Hai Bà Trưng* (“Descendants of Hai Ba Trung”), showcasing the journey of local women taking action in the circular economy. For example, Episode 9 shared stories of women entrepreneurs, and Episode 3 shared stories of grassroots innovators proposing new solutions to address the issue of plastic pollution while delivering social impacts. The podcast dives into the nexus between climate change and gender equality telling the stories of these critical actors of change.

Leveraging financial instruments

UNDP successfully scaled up a domestic waste management model by utilizing financing from the GEF SGP in the UNESCO World Heritage site of Hoi An. The project created livelihoods for women through the Women’s Union, which led to funding from the Government of Norway to develop an integrated green waste and plastic management model in five cities. With

the success of this project, the Viet Nam Circular Economy Hub was established, leading to additional funding from the GEF, Government of the Netherlands, GIZ, the World Economic Forum, and the International Waster Management Institute on Circular Economy. The multi-source funding allowed for a portfolio of circular economy solutions to be developed and piloted, while exploring models for scaling up.

Building public-private partnerships

In August 2022, UNDP Viet Nam became the secretariat host of the World Economic Forum’s National Plastic Action Partnership, a nationally led multi-stakeholder platform that enables collaboration between government and partners to turn plastic waste and pollution commitments into actions. Through this platform, UNDP nurtured more than 200 partnerships with universities, civil society organizations, and members of the private sector. UNDP also hosts of the Viet Nam Circular Economy Hub: a public-private partnership to accelerate the transition to a circular economy in Viet Nam. The platform has more than 90 members.

RESULTS

Through UNDP Viet Nam’s plastic portfolio more than 350 innovative solutions were sourced, supported and nurtured; more than 500 tonnes of plastic were reduced, recycled or otherwise prevented from entering the environment; and more than 10,000 informal waste workers received comprehensive training on waste management and circular-economy practices, focusing on women’s participation and safety improvements. As a result, local incomes increased between 20 and 80 percent depending on location. Women informal waste workers were empowered and recognized by local authorities through the establishment of an informal waste workers club and their integration into cities’ plans on waste sorting at source and local waste management programmes. These women also received support to apply for zero-interest loans and received protective equipment and training on occupational health risks. The first formal MRF was established, marking an important milestone to tackle waste management.





Photo: UNDP Viet Nam

LOOKING AHEAD

Plastic has become a fundamental part of our global economy and everyday lives, but its growing prevalence brings with it a host of challenges that we can no longer ignore.

Plastic pollution poses an urgent threat to sustainable development, directly jeopardizing the achievement of the SDGs. Combatting plastic pollution is a critical priority—not merely as an environmental concern, but as a decisive step toward securing equitable and resilient development.

This portfolio snapshot illustrates that there is no single solution to ending plastic pollution. To effectively “close the tap” on plastic pollution and drive long-term, systemic change, countries must adopt holistic strategies that integrate policy, collaboration, financing, and innovation. Governments and other stakeholders must adopt strategies that promote circular economy and life cycle management of products to reduce plastic pollution across the value chain.

Effective policies must go beyond design to include robust enforcement, clear responsibilities, and sufficient resources to ensure their impact. Reliable data is equally essential, serving as a foundation for targeted interventions and progress tracking, while collaboration across governments, private sectors, and local communities can amplify efforts by pooling expertise and resources. Financing remains a critical enabler; blended models and targeted incentives are needed to de-risk investments and support the scaling of sustainable solutions. Changing behaviours along the plastics value chain requires more than awareness—it demands accessible alternatives, structural shifts, and the power of social influence to reshape habits. Underpinning these efforts, investment in waste management infrastructure is vital to close the loop on plastic use, ensuring effective collection, recycling, and disposal. By weaving these elements together, we can forge a comprehensive and impactful strategy to address plastic pollution and foster equitable and sustainable development.

Addressing this challenge aligns with UNDP’s overarching mission to eradicate poverty, protect the planet, and leave no one behind. Looking ahead, UNDP is committed to scaling up best practices to support the implementation of a future global instrument to end plastic pollution. UNDP is dedicated to working with partners hand in hand to eliminate plastic pollution and secure a sustainable future.

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