



NGUYEN MINH DUC FOR USAID

# BEHAVIOR CHANGE IN LOCAL SYSTEMS TO MITIGATE OCEAN PLASTIC POLLUTION

## Case Study of USAID's Municipal Waste Recycling Program in Two Vietnamese Cities

Executive Summary

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## EXECUTIVE SUMMARY

Every year, an estimated 8 million metric tons of plastic waste ends up in our oceans,<sup>1</sup> damaging marine life, coastal communities, and the livelihoods of people who depend on marine resources to earn a living. The majority of ocean plastic pollution stems from the mismanagement of plastic waste on land, specifically in rapidly urbanizing and fast-growing emerging-market cities. In these contexts, solid waste management (SWM) infrastructure and systems have struggled to keep pace with increasing waste volumes, fueling leakages of plastics into the ocean.

In 2016, USAID launched the Municipal Waste Recycling Program (MWRP) to address this challenge in urban and peri-urban areas of four countries: Indonesia, the Philippines, Sri Lanka, and Vietnam. Through grants and technical assistance, MWRP supports local innovations to improve solid waste management and recycling. Underpinning USAID's approach is an understanding that marine plastic pollution is a global problem with local origins. Solutions must be rooted in local realities, guided by the knowledge of communities and stakeholders, whose inputs are crucial for the design and implementation of effective interventions. Local organizations implementing grants under MWRP often target behavioral changes, at the individual and community levels, to improve solid waste management.

This case study report explores the efforts of MWRP projects to create behavior change in two Vietnamese cities. In Ho Chi Minh City (HCMC), Towards Higher Effectiveness of Informal Sector Waste Pickers in Increasing Plastic Waste Recycling (The Informal Sector on Plastics) was implemented by Environnement et Développement du Tiers-Monde (ENDA). In Da Nang City, Plastic Recycling in Strong Communities in a Green City (Oceans without Plastics) was implemented by the Center for Environment and Community Research (CECR). Both projects have behavior change goals of reduced plastic use, increased waste separation, and increased recycling. Through a qualitative case study, we sought to understand how the projects have addressed plastic pollution by changing relevant human behaviors, to gather insights on aspects of the project contexts that support or impede behavior change goals, and to document lessons that can inform future programs.

Key findings from our research are as follows:

- **Effective solid waste management can help reduce ocean plastic pollution, but in places experiencing rapid economic growth and urbanization, solid waste management is an increasingly complex public service to deliver.** Inadequate infrastructure and low technical capacity disrupt the flow of core waste management functions, such as transportation and final treatment of waste. Two factors exacerbate these challenges: limited financial resources in local government and the unwillingness of households to pay for services beyond waste collection. The absence of necessary waste management infrastructure discourages households from practicing recommended behaviors (e.g., waste separation).
- **In Vietnam, regulatory measures are important enablers of behavior change but need strong enforcement to be effective.** HCMC and Da Nang recently changed regulations to require households to separate waste (a targeted behavior change for ENDA and CECR), but both cities have weak enforcement mechanisms. Without the right infrastructure and technical capacity, enforcing solid waste management regulations is difficult for local authorities. In Vietnam, regulations are a necessary but insufficient condition to create behavior change; the weak enforcement environment tempers the effect of such regulations on households' waste management behaviors.
- **In both cities, solid waste management functions are shared between state and nongovernmental actors (households, community groups, the informal sector, the private sector, and civil society), suggesting that achieving large-scale behavior change requires inputs from and collaboration among diverse stakeholder groups.** Especially in HCMC, informal sector actors play a significant role in waste collection, working in parallel with local utilities. They also dominate the recycling ecosystem, without sufficient

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<sup>1</sup> Jambeck et al., 2015.

government support or direction. In addition, local non-governmental organizations and sociopolitical organizations like the women's union have supported waste management through programming that is generally well-aligned with governmental efforts to address plastic pollution. Overall, experiences from both cities indicate that government has a crucial role to play in creating an enabling environment for local solutions, including securing household buy-in for behavior change goals like waste separation.

- **In collaboration with government and non-governmental actors, the ENDA and CECR projects sought to change behavior in two main ways: by helping households understand the importance of the recommended behaviors and building their capacity to carry out the behaviors.** Project activities included campaigns to raise awareness about the harm of plastic pollution and trainings on waste separation. Project strategies varied across the two cities, reflecting the unique features of solid waste management in each. For instance, the ENDA project's behavior change goals were situated within the context of improving the welfare of informal waste pickers, a vulnerable group that plays a salient role in the city's SWM system and is affected by households' behaviors (e.g., failure to separate waste). CECR's project, on the other hand, used a neighborhood-based training-of-trainers approach to pilot local recycling models.
- **The journey from increased awareness and knowledge to changes in solid waste management behavior is not linear; infrastructure and trust in the system matter too.** The ENDA and CECR projects appear to have contributed to increased levels of awareness of waste separation and of the negative impacts of plastic pollution. However, increased awareness did not automatically translate to behavior change. Both cities lack infrastructure and processes to manage separated waste, which means that when households separate waste, solid waste management companies end up disposing of the separated waste together. This reality diminishes households' trust in waste management systems and reduces their motivation to separate waste. In the absence of necessary infrastructure, separating waste becomes a pointless exercise, even for those individuals and communities that understand its importance and intend to do so.
- **Addressing gaps in the plastic value chain<sup>2</sup> is key to sustaining household commitment to waste separation and recycling.** Interviews reflected that monetary gain is the main factor that drives people to separate and recycle plastic. If certain items, like plastic bags, have no market or prices fall, people are discouraged from separating waste and recycling. Other barriers include long distances and limited infrastructure for transporting recyclables. In Da Nang, a lack of market linkages was a disincentive for continued separation of plastic bags. After the project ended, households had no one to sell their separated plastic bags to, so they stopped separating waste.

Based on these findings, there are several program and policy implications for future efforts to address plastic pollution through behavior change:

- **A local systems approach to addressing plastic pollution requires government partners with capacity to support and create an enabling environment for local solutions.** The CECR and ENDA projects represented innovative roles for civil society organizations in Vietnam to coordinate with government action on a pressing environmental issue. The civil society organizations were close to communities on the ground and brought technical knowledge, and they looked to the government partners to cultivate buy-in and address needed policy levers.
- **Project designs need to be based on understanding of personal and situational factors that shape waste management behaviors.** Some people may not separate

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<sup>2</sup> The global plastics value chain "ranges from the extraction of raw materials for plastics production to final disposal of the plastic or plastic containing products" (UNEP, 2018).

waste or recycle because of a lack of awareness, while others may want to engage in those behaviors but need help translating those intentions to action. Because behavioral bottlenecks can vary between individuals and across places, solutions are likely to have a better chance at success if their design is informed by evidence on how and why people behave the way they do in a given context. In other words, project designs need to ensure that they are targeting the right problem in the right places.

- **Policies strengthening the recycling ecosystem are needed to divert plastics from landfills.** Getting households to reduce plastic use and separate plastic waste is only a first step; it has limited impact on diverting waste from landfills in the absence of a strong recycling market and system. As recycling in both cities is largely informal and small-scale, there is room for policy action to build the capacity of existing actors and attract new business investments in the sector, with a view to increasing recycling rates.