



CASE STUDY — Hulhumalé, Maldives

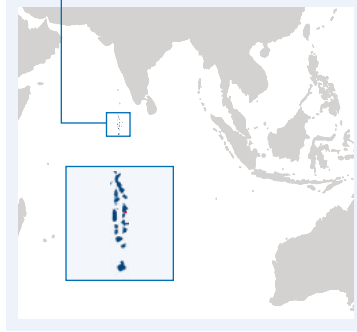
Reducing Single-use Plastics Through Social and Behavior Change Research

Case in Brief

The proliferation and disposal of single-use plastics threatens the health and biodiversity of our oceans and contributes to climate change. **USAID Clean Cities, Blue Ocean—the Agency’s flagship program to address ocean plastic pollution under the Save our Seas Initiative—collaborates with local partners in rapidly urbanizing cities to promote locally-relevant, feasible social and behavior change to reduce single-use plastics and their many impacts.** The program’s approach is grounded in qualitative research followed by Trials of Improved Practices (TIPs)—a formative research approach that tests out environmentally friendly, feasible practices in an everyday setting. In TIPs, participants are asked to select the behaviors they would like to pilot from a menu developed from the qualitative research findings.

In the Maldives’ city of Hulhumalé, with an estimated population of over 240,000—roughly 41 percent of household solid waste is single-use plastics.¹ For the Maldives and many other island nations, the lack of space on islands and geographic distance between islands makes it very challenging to store waste and return it to the local or global circular economy, resulting in plastic leakage in the ocean, which becomes a global problem.² In response, USAID’s local grantee, the Small Islands Geographic Society (SIGS), designed the Sustainability Begins at HOME (Helping our Marine Environment) project, which employed a modified TIPs approach with Hulhumalé residents that researched and piloted the use of viable alternatives—identifying the greatest areas of opportunity to reduce plastic usage. The research resulted

Maldives Hulhumalé



At a Glance

In November 2020, the President of the Maldives approved a plan to phase out single-use plastics by 2023.

99% of the Maldives’ territory is water—lack of space makes waste management very challenging.³

¹ 2023. Small Islands Geographic Society. Final Report on Household Journey Without Plastic.

² Practicing Anthropology. (2023). A Career-Oriented Publication of the Society for Applied Anthropology, Vol. 45, No. 2, Spring 2023. ISSN 0888-4552

³ Maldives Land and Survey Authority. OneMap. <https://onemap.mv/>.

in recommendations for potential local government incentive programs and future social and behavior change strategies, in addition to reducing single-use plastics among the participating households. **USAID is engaging other local partners across the Clean Cities, Blue Ocean program to implement TIPs research to help local organizations and governments align solid waste management policies and plans with sustainable behaviors that residents and businesses are able and willing to practice.**

Background

With global plastic production expected to double over the next two decades, it is imperative that we reevaluate our behaviors around single-use plastics.⁴ In 2019, over 1,000 metric tons of plastic were imported into the Maldives,⁵ a country whose waste management system is challenged by geography, land scarcity, a densely populated capital city, and limited effects of governmental awareness-raising efforts.⁶ After the formal announcement at the United Nations General Assembly in 2019, the President approved a plan in November 2020 to phase out single-use plastics in the Maldives by 2023.

While an increasing number of cities are working to improve their solid waste management systems to reduce plastic leakage into local waterways and the ocean, the needs and abilities of the public are not always taken into consideration. TIPs provides critical information about residents' and businesses' current practices, priorities, and ability to adopt new behaviors. Local governments understand that by providing reliable and efficient collection and disposal services they are able to improve segregation—and retain the value of plastic and other waste—to significantly extend the life of landfills and contribute to a circular economy. In addition to improving services, governments also need to promote and educate residents on sustainable practices—including engaging residents early on in the planning process.

Improved solid waste management systems and the reduction of single-use plastics often necessitate that businesses and residents change their accustomed practices—for example, separating their waste properly or using alternative products. To be successful, policies that involve intentional behavior change require evidence about what behaviors residents and businesses are currently doing; what they are able and likely willing to do; what challenges should be addressed to better assist communities to change their behavior; and how best to promote new behaviors identified as being feasible.

Behavior change is the process that a person or group undergoes either by adopting a new behavior that replaces the old one or revising the way the person or group performs an accustomed (current) behavior. When promoting behavior change, it is important to be very specific and to break down behaviors into their component parts or sub-behaviors.

“When I moved to Hulhumalé, I saw the amount of waste and litter and the struggle to manage it... We were quite bothered by the waste flying in the air and going along the ground. I thought about how this household could help even if what I managed to do were a very small percentage.”

– Jawa

Participant in SIGS' TIPs study

4 Chen, V., Awasthi, A. K., Wei, F., Tan, Q. and Li, J. (2021) Single-use plastics Production usage disposal, and adverse Impacts Science of The Total Environment 752 141772 doi:10.1016/j.scitotenv.2020.141772. Chen.

5 Maldives Ocean Plastics Alliance. (2021). Socio-Economic Impact Assessment of the use of PET in the Maldives.

6 Mohamed, M and Ahmed Jameel (2023). Sustainability begins at HOME: Challenges in Replacing Plastic Bags in Urban Households in the Maldives. Practicing Anthropology.

Our Approach

As part of its local systems approach to addressing ocean plastic pollution, USAID promotes the reduction of single-use plastics through sustained social and behavior change. Clean Cities, Blue Ocean employs TIPs—a brief formative research method, based on preceding qualitative research. It aims to help local governments and policy makers understand which behaviors are feasible for key participant groups to adopt and identify what resources can further support their success.

USAID's Clean Cities, Blue Ocean program works with local partners in its ten focal countries to reduce consumption of single-use plastics, including through sustained social and behavior change. Rather than using traditional behavior change campaigns that solely raise awareness and may achieve short-term results, USAID is promoting a longer-term, holistic approach supported by evidence and formative research to achieve sustained change and development of solid waste systems that serve the public's needs and abilities. In the Maldives, and other focal countries across the world, the program is partnering with local organizations to complete TIPs that inform city planners and community partners about which positive waste management behavior changes are feasible, most impactful, and how they can further be supported.



USAID local grantee, Small Islands Geographic Society, holds a focus group discussion with women on single-use plastic alternatives. Photo: SIGS for Clean Cities, Blue Ocean



Qualitative Formative Research

Qualitative research should be conducted first amongst a larger group, representative of the city's population, to identify how households or businesses and the individuals within, conceptualize and categorize waste and what each household and business member does regarding waste. With respect to single-use plastics, qualitative research should be carried out to understand what people are doing now and what they have done in the past; how waste is segregated; how people feel about plastic waste and the environment; and what alternatives are available.



Trials of Improved Practices (TIPs)

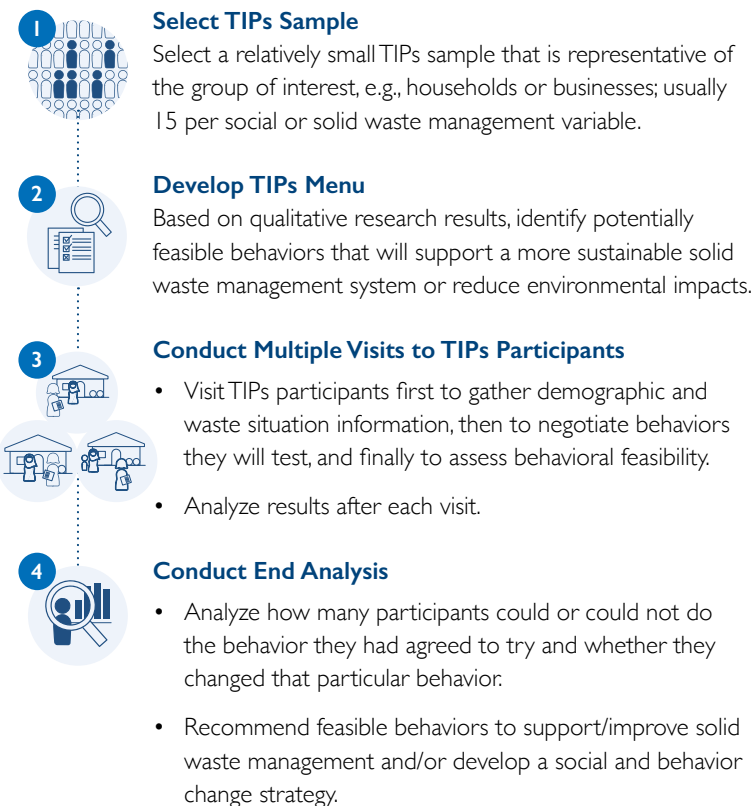
Based on the qualitative research findings, and in close communication with the government and any other key stakeholders, the next step is to conduct TIPs, which is focused on identifying behaviors that may be feasible for the community to adopt. TIPs asks participants to select and test a set of behaviors (from a menu

identified by the initial formative research) in their daily lives with the goal of learning which behaviors a population can and is willing to do—and what is difficult for people to do. Based on the qualitative research findings, and in close communication with the government and any other key stakeholders, the next step is to conduct TIPs, which is focused on identifying behaviors that may be feasible for the community to adopt. TIPs asks participants to select and test a set of behaviors (from a menu identified by the initial formative research) in their daily lives with the goal of learning which behaviors a population can and is willing to do—and what is difficult for people to do.

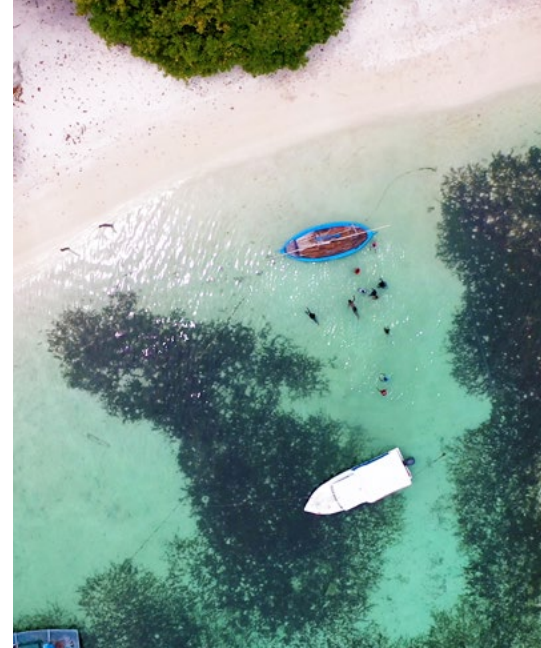
Examples of behaviors that may be tested through TIPs include separating organic and plastic waste, using reusable bags, or using an in-home water filter. Clean Cities, Blue Ocean and its local partners have completed TIPs in multiple countries to support behavior change strategy, policy design, and waste system planning.

The TIPs method is broken down into the following components:

Before the TIPs method, select a qualitative research sample and conduct qualitative research to inform the TIPs process.



After the TIPs method, provide TIPs and qualitative research results for solid waste management policy development or refinement.



Seventy percent of the Maldives' 1,500+ coral islands have less than 10 hectares, which makes waste management very challenging.
Photo: SIGS for Clean Cities, Blue Ocean

TIPs is usually conducted with a small sample size (15 households or businesses per participant group is conventional) as one of the final formative research steps, after qualitative research has been carried out and before developing a more comprehensive social and behavior change strategy.

TIPs includes three key features:

- A **consultative method** that asks a sample of people to test a few behaviors in their daily lives, for a short period of time, conventionally 15 people per variable
- A **process of negotiation**, in which the researcher and participant negotiate which behaviors the participant will try from a menu of behaviors derived from prior qualitative research
- An **iterative method** with usually at least three TIPs visits with each participant, household, or business that are spread over enough time to enable the participants to try out the behavior(s)

TIPs In Action

In the Maldives, USAID's local partner, Small Island Geographic Society, researched how Hulhumalé residents currently consume and dispose of single-use plastic products—and what alternative behaviors they are willing and able to do that would be successfully promoted at a larger scale.

First, SIGS conducted a Waste Analysis Characterization Study, a household survey with over 300 respondents, and qualitative research, which consisted of the first ever research effort conducted in the Maldives on household single-use plastic consumption patterns.

SIGS then pioneered a novel, highly innovative TIPs approach to identify how easy or difficult it was for households to switch to more sustainable products and practices. Instead of conducting a two-week TIPs—the most common research method used to design a social and behavior change strategy—SIGS conducted a nearly year-long TIPs and used the findings to inform social and behavior change at a national scale. In addition, SIGS worked with the private sector to find alternatives to single-use plastics used by TIPs participants, e.g., a kitchen counter water filtration system as an alternative to bottled water.

For the twelve selected households that participated in the TIPs, water bottles and diapers were the biggest contributors to single-use plastic waste, estimated at approximately 2,100 kilograms annually. Participating households could choose to replace common single-use plastic products with alternatives, such as reusable water bottles, in-home water filters, reusable diapers and menstrual products, and cloth bags. As in other TIPs, SIGS met with participant families multiple times during the study to receive their feedback and to track their journeys to share with other Maldivians.

One of the main findings was that even though households supported behavior change, systemic barriers prevented them from completely changing their behavior. For example, all 12 households reported a disincentive to continue using alternative reusable bags provided by the program because plastic bags—obtained for free when buying groceries—are required for municipal waste collection (i.e., garbage) and would then need to be purchased. SIGS found that replacing these garbage bags with alternative products, such as compostable and water-soluble starch-based bags (already in use in other countries), to be prohibitively expensive because they were classified as single-use plastic and therefore subject to a 400 percent import tariff.⁷ Other barriers included a lack of information on available alternatives and households' ability to access them locally.

Highlight

As part of SIGS' project, a docu-series documented the households' throughout the TIPs process so that viewers would be both educated and inspired to adopt more sustainable practices themselves.

Scan the QR code to watch the series.



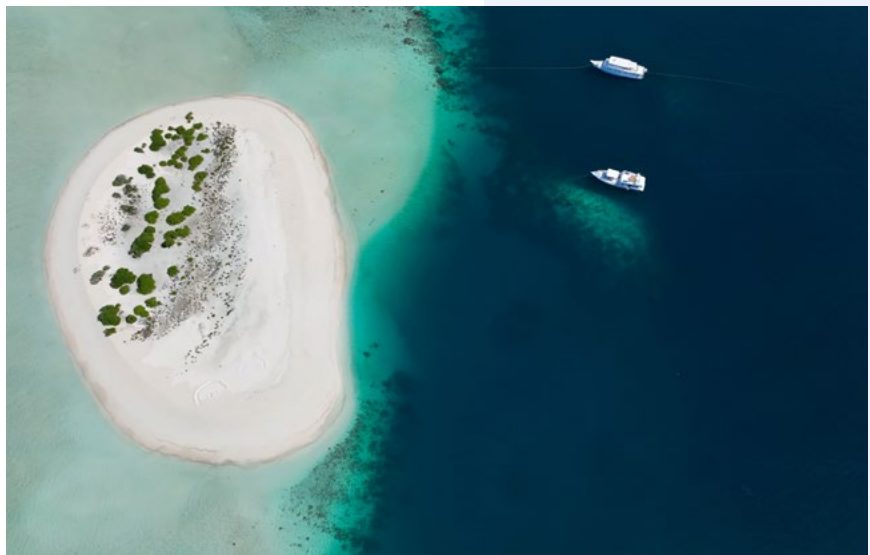
⁷ Small Islands Geographic Society, 2022. Final Report on Household Journey Without Plastic.

Impact

TIPs provides USAID and its in-country partners with **concrete, actionable information to support the reduction of single-use plastics** from the perspective of the residents and businesses whose behaviors are key to creating sustainable positive change and whose lives and families are most affected by that change. Longer TIPs, such as those conducted by SIGS, can serve as the basis for a social and behavior change intervention in which a whole city, region, or country can be invited to participate.

- **Informs social and behavior change strategy development**

TIPs identifies the factors that enable or impede repetitive long-term behaviors, how likely various population segments are to be able to perform the various behaviors, and how to promote and support the behaviors. In the Maldives, TIPs demonstrated to policymakers that systemic issues in Hulhumalé need to be addressed to promote behavior change at a national scale around the use of plastic bags for waste disposal; that some alternatives, like water filters need to be subsidized to encourage uptake; and that other products, like reusable diapers, are challenging to adopt because of limited time and space for washing and drying them.



For the Maldives and many other island nations, the lack of space on islands and geographic distance between islands makes it very challenging to store waste and return it to the local or global circular economy.
Photo: SIGS for Clean Cities, Blue Ocean

- **Facilities improvements to solid waste systems and policies**

Applying TIPs findings helps to ensure that local government policies and regulations are geared to what people affected by them are likely to be able and willing to do and that waste systems and services support new behaviors. For example, TIPs participants in Hulhumalé liked the water filtration systems that saved them money over time compared to buying bottled water and discarding empty bottles. SIGS amortized the cost of the filtration system so households made monthly, affordable payments. SIGS' efforts resulted in a reduction of nearly one metric ton of plastic waste over just a few months by switching to alternative products.

- **Empowers people to participate in a program or policy design.**

TIPs is a participatory process that asks the people most impacted by a policy change whether they would be willing to and able—and what assistance is necessary—to change their behavior. It enables program and policy developers to test behaviors before they are incorporated so that only feasible behaviors and actions are included in program design.

- **TIPs process supports behavior change in the sample population and their networks.** In the SIGS study, participants reduced their plastic consumption by almost one metric ton. The study also found that friends and family members of participants were more likely to use alternative plastic products.

TIPs studies are supporting USAID's grantees in multiple countries to develop sustainable social and behavior change strategies, plan solid waste system improvements, and design policies.

- In the **Dominican Republic**, Centro para la Conservación y Eco-Desarrollo de la Bahía de Samaná completed a TIPs that tested various segregation behaviors and trialed a household collection system for recyclable waste. The research found that Samaná residents are very distressed by the waste in their environment but felt helpless to do anything about it—the TIPs empowered participants to become environmental stewards and share what they learned with neighbors.
- In the **Maldives**, Soneva Namoonaa conducted qualitative research, including a household survey with 425 households, and employed TIPs with 38 households to test whether a four (or more) bag separation system is feasible for residents of three islands in an atoll far from the capital. Soneva Namoonaa safely recovered over 38 metric tons of waste, of which nearly 6 metric tons were plastic.
- In the **Philippines**, Catholic Relief Services and Caritas conducted TIPs in poor neighborhoods in Manila where the residents have little indoor or outdoor space to store waste. To save space and earn extra income, many of the TIPs participants agreed to wash and cut up plastics into small pieces to exchange for cash or for dried milk and other products through a company's recycling program.

Key Recommendations

TIPs research informs social and behavior change strategies that can positively impact waste management systems around the world—and reduce the amount of plastic entering our ocean. Key takeaways from the TIPs completed to date revolve around the importance of qualitative research to inform behavior change, the capacity of TIPs to increase knowledge broadly across waste system frameworks, and the need to remain vigilant about potential participant fatigue.

Prioritize the initial qualitative research.

The qualitative formative research reveals key information and enables researchers to identify the reasoning behind behaviors harmful to the environment, as well as identify areas of greatest opportunity that a TIPs menu can be developed around.



By the Numbers

SIGS study participants **reduced plastic consumption** by almost

1 Metric Ton

or the equivalent of over 108,000 plastic bottles.

To date, **Clean Cities, Blue Ocean** has conducted

8 TIPs

across the program.

Understand the local context based on qualitative formative research.

To develop policies and waste management systems based on current realities—with allowances for possible future changes—planners need to understand what behaviors residents and businesses are able and willing to do. For example, in the Maldives, participants agreed to try to use reusable bags instead of plastic bags, but reported an inability to continue because the city required plastic bags for waste disposal.

Understand the broad application of TIPs findings.

Although conducted primarily for social and behavior change strategies, TIPs can also produce data and recommendations for waste infrastructure, policies, and programs as well. TIPs should be designed with the intent to share findings with a range of waste management stakeholders, from national and local governments to community organizations. For example, in the Maldives, SIGS found that a large amount of plastic is taken to and disposed of at schools, which would benefit from social and behavior change interventions.

Address the systemic barriers to behavior change.

Use the TIPs findings to identify systemic barriers in the adoption of sustainable alternatives to plastic products, for example households should not be asked to segregate waste if waste collection services only then dump all of the segregated waste in one truck. In the case of the Maldives, these barriers included difficulty in accessing alternatives. Participant households reported that if alternatives were more widely available in shops and comparably priced, they would be more likely to adopt them.

Engage governments and/or suppliers to provide incentives.

Where appropriate, incentives can increase households' adoption of more sustainable positive behaviors. For example, in the Maldives, households found the cost of water filters to be prohibitive. SIGS suggested that either private and/or public sectors could increase the use of household water filtration systems—and decrease single-use plastic bottles—by adopting a monthly, more affordable payment scheme.

Related Resources

Trials of Improved Practices Manual

[Practicing Anthropology Journal
Spring 2023, Volume 45 Issue 2](#)

Virtual Training

[A New Approach for Social
and Behavior Change for Solid
Waste Management](#)

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