

TRIALS OF IMPROVED PRACTICES (TIPS) IN THE DOMINICAN REPUBLIC TO DEVELOP A SOLID WASTE MANAGEMENT SYSTEM AND SOCIAL AND BEHAVIOR CHANGE

Laurie Krieger, Natividad Pantaleón, and Daniel Abreu

Laurie Krieger (*Laurie.Krieger@clean-citiesblueocean.org*), Ph.D., is a public health anthropologist; the USAID Clean Cities, Blue Ocean (CCBO) Director of Social and Behavior Change and Gender; Manoff Group long-time senior staff member; and Research Associate, University of Johannesburg.



Natividad (Naty) Pantaleón (*natypan-taleon@gmail.com*) is currently writing her dissertation on coastal sustainability at the Universidad de Alcalá Henares in Spain and is also a consultant.



Daniel Abreu (*danielabre@gmail.com*)—M.A., M.A., M.A., Independent Consultant—is a Dominican researcher and project manager on environmental and climate change education topics; he directed this study.



roots lie in ethnography and commercial marketing. It is initiated after qualitative, often ethnographic, formative research and is based on those research results. TIPS focuses on behavior and what people can and are willing to do; in this case, to support an improved solid waste management (SWM) system. Through the United States Agency for International Development (USAID) Clean Cities, Blue Ocean (CCBO) program, we conducted TIPS in Samaná Province, Dominican Republic, after completing a qualitative study of households and waste. We followed the TIPS sample as members tried out their chosen new behaviors, for example, waste segregation, over the course of a week. Most people felt empowered through segregating waste, perhaps because the qualitative study revealed that most residents felt dispirited and hopeless about the waste in their environment.

Key words: Dominican Republic, waste, TIPS

local environmental NGOs (represented by Naty Pantaleón and Daniel Abreu), applied anthropology (Kathleen Skoczen), and practicing anthropology (Laurie Krieger). It also highlights the differences between and complementarity of applied and practicing anthropology.¹

The definitions of applied and practicing anthropology vary—sometimes contentiously (Crain & Krieger, 2017). I use the two terms in this article somewhat idiosyncratically. “Applied anthropology” here refers to anthropology applied by academically-based anthropologists to understand and sometimes to help solve the world’s problems. “Practicing anthropology” refers to anthropology applied by non-academically-based anthropologists to understand and address the world’s problems, often going beyond recommendations to action.

Skoczen’s articles in this issue were part of a wider ethnographic study initiated prior to CCBO’s technical support to improve the SWM system in Samaná Province, Dominican Republic (DR). Based on the results of a household study, we focused our research more finely on household members’ behavior related to SWM and the 3Rs (reduce, reuse, recycle). The results later informed

¹The following researchers helped conduct the TIPS interviews: Fatima Manzueta, Yocasta Medina, Indhira Gil, and Shaira Orbe.

Abstract

The Trials of Improved Practices (TIPS) approach permits very rapid formative research for policy formation and social and behavior change programming. TIPS’

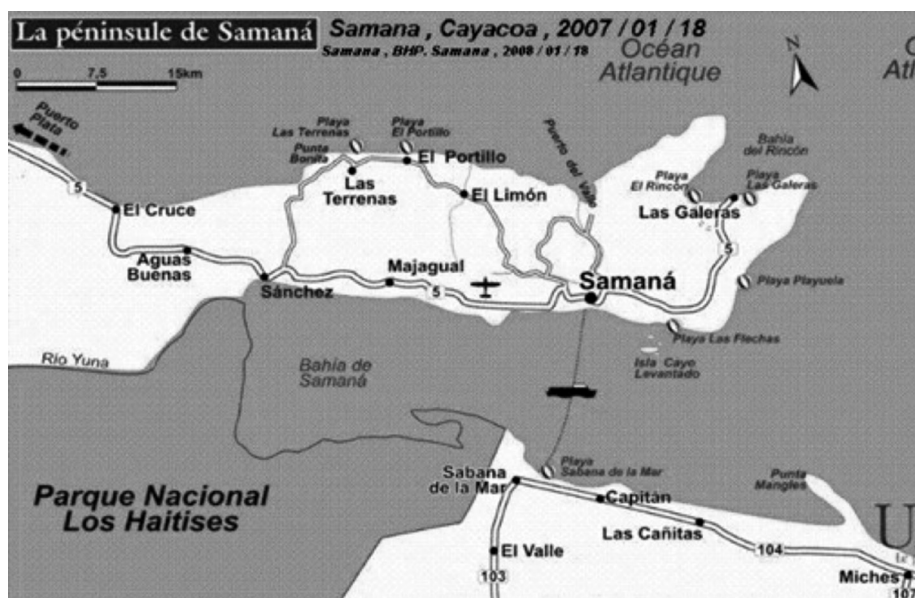
Introduction

This paper represents an example of what a partnership can achieve between passionate

Figure 1

Map of Samaná Province

Note. From pinimg.com.



how a new SWM system could respond to households' needs and what, in turn, the system would demand of households to support it. The DR government views the Samaná peninsula SWM system design as a template for the rest of the country.

In 2020, the DR passed a long-awaited bill that requires changes in the way solid waste, AKA "garbage" or "trash," is disposed of by municipalities, and segregated by households and businesses. As a Technical Director of CCBO, responsible for social and behavior change and gender, I determined that we needed qualitative formative research followed by Trials of Improved Practices (TIPs)—to be described later—to better understand household behaviors and practices around waste. I drafted a scope of work for the research, which laid out the study design, and several organizations applied.

CCBO provided the grant to a consortium of two Dominican NGOs and a Dominican for-profit led by the NGO Centro para la

Conservación y Eco-Desarrollo del a Bahía de Samaná (CEBSE). The grant researched and developed a social and behavior change strategy to help the population of the Samaná peninsula to support improvements to the provincial SWM system.

I knew that the CEBSE consortium would need assistance to successfully conduct and analyze the research. While researching Samaná, I had found a terrific paper by Kathleen Skoczen on race and class in Samaná, so I contacted her to submit an application for the consultancy. After competitive bidding, CCBO hired Skoczen to advise the consortium. I served as the technical manager of the grant, hiring and consultancy manager for Skoczen, and collaborated on instrument design. I also trained and mentored the consortium on TIPs. The research, subsequent thinking, and analysis was done by the CEBSE consortium and Skoczen. Abreu was the CEBSE consortium research manager, assisted by Pantaleón.

Although I did not conduct the research, my project staff role enabled me to utilize the results to influence some outcomes. Before the household study report was completed, I was already providing the results to the CCBO SWM technical experts who were advising the Dominican government to inform the national and the Samaná municipal governments and influence outcomes related to waste management.

SWM systems are quite flexible during the design phase; there are many different ways to accomplish the same environmental goal. For example, recycling does not automatically demand that households segregate their garbage: segregation can be done at a materials recovery facility by hired workers. There are also many possible levels of segregation.

The research aimed to understand how the new SWM system could respond to households' needs and what, in turn, the system would demand from households to support it. To that end, we employed a methodology new to SWM but used widely in global health to collaborate with households: TIPs. The CEBSE consortium team conducted TIPs in sites throughout the Samaná peninsula.

What Is TIPs?

TIPs is a marriage between anthropology and market research. It is an iterative approach that is part research, part implementation. Marcia Griffiths, Marian Zeitlin, and Thomas Cook (The Manoff Group) created TIPs in 1979 to help caretakers ensure that young children would receive sufficient and nutritious complementary feeding² (Griffiths

²The Manoff Group was established in the late 1960s by Richard K. Manoff, the founder of social marketing. Since the late 1980s, it had been a woman-owned (by Marcia Griffiths), small business working in social and behavior change for global health and the environment.

and Piwoz, 1997). The TIPs researcher interviews the same research participants multiple times, usually three. In Samaná, the research team conducted only two TIPs visits since the TIPs sample was drawn from the larger household study sample, and we already knew a lot about these households.

TIPs starts with a small sample, which in Samaná consisted of 26 households. The researcher asks sample members to try out a new behavior in their daily lives for a designated short period of time. The researcher usually visits once to get to know the household, a second time to explain the problematic issue and negotiate behavior change, and a third time to see how the sample members fared. We already knew the households, so the first TIPs visit was to participant households to ask more about all household members' waste behavior, discuss the environment and plastic problem, and how the household's behavior could be contributing to an outcome that we knew people disliked: waste in the environment. The researcher asked what household members would like to do differently to help remedy the situation. If the participants could not think of anything, the researcher recommended some behaviors from the menu of potentially feasible behaviors that the research team had prepared ahead of time, based on the preceding qualitative research. TIPs menu behaviors must be broken down into single actions to enable researchers to understand precisely what will or won't work. Normally, the researcher and participant negotiate which practices the participant will try.

At the end of the trial period, the researcher returned to see how the household did. Were

they able to do the behavior? Did they change the behavior? What helped, what hindered; did they recommend the behavior to anyone else, etc.?

TIPs enables program and policy developers to test behaviors *before* they are incorporated into a program or policy to promote only actions that potential participants are able and willing to do. In this way, TIPs enables potential participants or those subject to policies to participate in program or policy design. In fact, TIPs can be an excellent research approach for anthropologists developing programs or policies.³

However, the SWM system must be able to support the new practices; for example, if segregating waste is one of the practices, the SWM system must be able to keep the waste streams separate from collection through disposal, and there must be markets for the recyclables. This does not currently exist in Samaná, so Pantaleón and Abreu found someone to collect and keep plastic and other recyclables separate until they could be sold. This turned out to be difficult, as one after another would-be recycler suffered mishaps, but they finally found someone to do it.

The research team also decided that on the first visit, they would give households large, fortified plastic sacks for storing their segregated recyclable waste to make segregation easier since many households are extremely poor. Researchers explained that recyclables would be collected separately during TIPs for recycling.

³For further information on TIPs and solid waste management, see Krieger and Caceres (forthcoming) *Clean Cities, Blue Ocean* trials of improved practices Manual.

Figure 2

TIPs Household Member Segregating Her Waste in Plastic Sacs Provided by the Research Team

(Photo by CEBSE consortium)



Use of Qualitative Research Results in TIPs

The household data had been analyzed before TIPs began. Due to the pandemic, the team met virtually with Skoczen and me. We reviewed the key results of the household study and decided on a menu of behavioral choices. Our previous research revealed that ethnic Dominican women native to Samaná save organic kitchen waste in a bucket and leave it for pig food collectors, who replace the household's full bucket with a clean, empty one. The porcine husbandry economy in Samaná depends on free pig food. However, saving kitchen scraps for pig food collectors was deleted from the menu at the last minute due to an epidemic of swine flu. Many TIPs sample members chose to do it anyway, even if they were not native Samaná Dominicans.

Table 1*TIPs Sample, Samaná Province*

Municipality	# of Households- 1st Visit	# of Households- 2nd Visit
Sánchez	7	7
Las Terrenas	9	6
Santa Bárbara de Samaná	5	4
Arroyo Barril	5	5
Total	26	22

Table 2*Portion of TIPs Menu in Samaná Province***Option 2B**

1. Take yard waste and separate out non-yard waste.
2. Put yard waste in a pile in a corner of the patio.
3. Put metal in one bag.
4. Put glass in one bag.
5. Put plastic in one bag.
6. Separate out kitchen scraps and put in bucket.
7. Put in kitchen scraps in bucket, combine with pile of yard waste, mix to compost.
8. Put wrappers, plastics, and bottles in with the residual waste.
9. Put your bathroom waste in bag (with toilet paper, pads etc.), tie it tightly on garbage pickup day and give to truck.
10. Put residual waste out for collector as usual.

Option 2C

1. Take yard waste and separate out non-yard waste.
2. Put yard waste in a pile in a corner of the patio for compost.
3. Put metal and glass in one bag.
4. Put plastic in one bag.
5. Separate out kitchen scraps and put in bucket.
6. Give bucket to pig farmer or to pig food collector.
7. Put wrappers, plastics, and bottles in with the residual waste.
8. Put your bathroom waste in bag (with toilet paper, pads etc.), tie it tightly on garbage pickup day and give to truck.
9. Put residual waste out for collector as usual.

Method, Sample, and Duration

Skoczen chose the 26 household TIPs sample from the 154-household sample to represent the geographic, class, and ethnic-racial structure of Samaná province.

We decided to wait one week between the first and second TIPs visits to allow time for the municipality to collect everyone's waste. COVID illness caused four households to drop out between the first and second visits, resulting in a 22-household

sample. Table 2 shows a portion of the TIPs menu choices. The choice for pig food collection is highlighted so that researchers remembered to skip it. Since participants were distressed by waste in their environment, they were willing to try new behaviors, rendering negotiation unnecessary.

After the second visit, Abreu, Pantaleón, and other TIPs interviewers analyzed the data, which are both quantitative and qualitative. Marcia Griffiths intentionally designed TIPs so that after

Figure 3*Litter in Samaná Province*

(Photo by CEBSE consortium)



training and help with the first TIPs, NGOs can independently conduct and analyze TIPs. The data are put into tables for ease of analysis. Table 3 is part of the analysis table from Arroyo Barril. The team analyzed the data by town, then looked at trends across towns. You can see how quantitative and qualitative data fit together in this analysis table.

Findings

Results differed by town, but there were overall similarities. We found that one week did not allow enough time for households to accumulate metal and glass waste; therefore, all subsequent TIPs in CCBO have lasted two weeks (i.e., Maldives, Indonesia, Philippines, and Vietnam).

The household study found that Samaná residents are very distressed by the waste in their environment but feel helpless to do anything about it. One startlingly unexpected TIPs finding was that many, especially the poor and powerless, regarded segregation of waste as a form of empowerment. A very poor woman said, "*Me dio una sensación como que estaba haciendo algo por el planeta, como que soy importante para mi comunidad, a la vez una*

sensación de orgullo y orden." ("It gave me a feeling like I was doing something for the planet, like I'm important to my community, at the same time a sense of pride and order.") She was not alone, as someone from another town commented, "*Me sentí rara y bien; porque no estaba segura si lo estaba haciendo bien y bien porque estaba ayudando de manera positiva al medio ambiente.*" ("I felt strange and good; [strange] because I was not sure if I was doing it well and good because I was helping the environment in a positive way.") Another man said simply, "*Me sentí orgulloso de mi mismo.*" ("I felt proud of myself.")

In three towns, neighbors joined in, delighted to be able to recycle their waste plastic, which they added to the TIPs households' sack. In Arroyo Barril, at least three of the households had already talked with neighbors; one participant convinced a neighbor to participate. "*Hablé con una vecina y echó algunos plásticos en nuestros sacos.*" ("I told a neighbor and she threw some of her plastics in my sacks.") Another participant understood the danger of burning waste and shared, "*Yo he conversado con vecinos para que no quemem los plásticos.*" ("I spoke with my neighbors so they don't burn plastics.") In Sánchez, at least four participants discussed their new behaviors with neighbors. In fact, several of the TIPs participants became recycling "champions," promoting recycling and avoiding burning waste to their neighbors. Almost all participants, except in Samaná town, were willing to recommend some of their new behaviors.

We did not expect participants to explain to their children the importance of reducing and managing waste in the environment and had not asked anyone to do this as part of the TIPs,

Figure 4

Burning Waste

Burning Waste

In much of the Global South, plumbing cannot handle used toilet paper and women's sanitary products. We had learned through the previous household interviews that in Samaná people burn the bathroom waste together with yard waste because they are concerned about hygiene, modesty, and privacy. Bags of trash left on the street for collection are likely to be ripped apart and rifled through by dogs. Informal waste collectors go through the bags at the dump. People did not want others to see their intimate waste.

but several mothers and fathers did. "*Yo empecé a hablarles a los niños de la problemática de medio ambiente. Les dije que todo plástico que usaran debían tirarlo en el saco que había puesto en el patio.*" ("I started talking to the children about the environmental problem. I told them that all plastic they use should be thrown in the sack that I had put in the yard.")

Another finding that CCBO is hearing in research in different countries conducting TIPs (e.g., Maldives and Indonesia) is that people appreciate waste segregation as a form of household organization. "*Para mi esta experiencia fue como organizar las gavetas y/o closet de mi habitación, me siento organizada y me siento importante por hacer algo por el medio ambiente.*"

("For me this experience was like organizing the drawers and/or closet in my room; I feel organized and I feel important to do something for the environment.") Apparently, for some people exercising control over their physical environment through organization links waste segregation and household organization, which is empowering.

Many participants emphasized the need to educate the public. "*Esta iniciativa está bien, esos plásticos y esas botellas no deberían estar en la playa. La gente no quiere cooperar pero creo que si uno le explica bien ellos harían lo mismo que hice yo.*" ("This initiative is good; those plastics and bottles should not be in the beach. People do not want to cooperate but I think that if you explain it well to them, they would do the same thing I did.")

All but one person found segregating waste easy to do. But even that person was supportive of the practice in principle, "*Son unas prácticas que no son muy difíciles de realizar y tiene un impacto muy positivo.*" ("These are some practices that are not very difficult to do, and they have a positive impact.")

A small minority could not do the behaviors. Most who did not separate metal and glass did not have time to accumulate them. However, one person from Sanchez said, "*No quiero esas cosas acumuladas en mi casa. Uno tiene que estar lavando eso también.*" ("I don't want those things accumulated in my house. You have to wash them too.") Although only one participant said this, in TIPs, we pay attention to the minority opinion and try to address it in the program. Often in TIPs, we learn more from the reasons of those who cannot do the practice than we do from participants who are able to do the practice.

Table 3*Portion of TIPS Analysis Table from Arroyo Barril*

Behavior	Did	Did Not Do	Changed	Intend to Continue	Did/Would Recommend	Comments
Plastic separation	5	0	2	5	5	<p>“Separar la basura me dio comodidad y en el zafacón eché menos basura.” “Separating the garbage gave me comfort, and I put less garbage in the trash can.”</p> <p>“Fue muy fácil, incluso en el tanque de la vecina yo busqué plásticos y vidrios para separarlos.” “It was very easy, even in the neighbor's bin I looked for plastic and glass to separate them.”</p> <p>“Es una carga menos, se me hace más cómodo para juntar toda la basura cuando pasa el camión.” “It is one less burden, it makes it easier to collect all the garbage when the truck passes.” NOTE: to clarify, the participant is referring to how the recyclable collection system instituted for TIPS makes the waste collection at her house easier.</p> <p>“Le hablé a mi vecina sobre la clasificación de plásticos que estábamos haciendo para que ella aprenda a hacer lo mismo.” “I told my neighbor about the classification of plastics that we have been doing so that she could learn to do the same thing.”</p> <p>“Hablé con una vecina y echó plásticos en nuestros sacos.” “I spoke to a neighbor, and she put plastics in our bags.”</p> <p>“Yo he conversado con vecinos para que no quemem los plásticos.” “I have talked with neighbors so that they do not burn plastics.”</p>
Separation of metal and glass	0	1	0	1	1	<p>These materials were not accumulated that week, so the sack was not used. They used the sack as a substitute for the plastic cover in the trash that the town hall collects.</p>
Metal separation	3	0	0	3	3	
Separation of bathroom trash in bags*	2	0	0	2	2	

Refraining from burning yard waste and bathroom waste container contents was more difficult; few volunteered to stop, but of those who did, most were able to refrain. Some participants thought avoiding burning was desirable, but circumstances got in their way. “*Había llovido y para evitar acumular basura en el patio solo quemé la hierba del patio.*” (“It had rained and to avoid accumulating garbage in the yard, I only burned the grass in the yard.”) “*Sabemos que no es bueno quemar, ahora lo hicimos con menor frecuencia.*” (“We know it’s not good to burn, now we did it with less frequency.”) It was not surprising that some people had difficulty refraining from burning their bathroom waste since TIPs could not address the reasons that people burn their waste. The municipal SWM system was not able to eliminate the possibility that bathroom waste would be unmolested by dogs and unseen by informal waste collectors. Since people may know the day that the truck will collect their waste but not the time, whoever is home must run out with the garbage when s/he hears the truck, or a household member must put out the waste early in the day. Furthermore, IWCs at the landfill go through the waste, potentially viewing the bathroom waste.

In Samaná town (Samaná de Santa Bárbara), even when participants practiced the TIPs behaviors, they mentioned factors that would prevent them from doing so in the future: half expressed fear of losing the bags and not having a safe space to store them. Participants in all but Samaná town expressed generally strong interest in being able to continue doing the behaviors, if the SWM system supported them. No one in Samaná town was interested in continuing the

behavior change. The research team hypothesized that this may have been due to the large number of research studies and public and private initiatives in the town during the past 30 years, none of which had produced any concrete, lasting results. None had ensured that the municipal SWM system could support segregated waste streams. The residents had repeatedly witnessed their carefully segregated waste mixed together in the collection truck and heaped altogether at the town dump.

In the rest of Samaná, the enthusiastic response could be summed up by a Las Terrenas resident, “*Yo sé que este es un estudio, un proyecto de práctica, pero sería fabuloso seguir haciéndolo de esta manera.*” (“I know this is a study, a trial, but it would be fabulous if we could continue doing it this way.”³)

Research to Action

TIPs was part of the formative research to develop a social and behavior change strategy, but TIPs also provided input to the development of SWM services in the province. The findings have enabled me to advocate for the viewpoints of Samaná residents during internal program meetings as well as those with the Dominican national government.

Decisions about the SWM system are evolving, and changes take time. However, at least two sanitary landfills will be built in the peninsula by the national government, with advice from CCBO SWM experts. On the advice of these experts, some dumps have been remediated (covered with soil daily to

³For a copy of the full TIPs report see: <https://urban-links.org/resource/social-and-behavior-change-trials-of-improved-practices-final-results-samana-province-dominican-republic/>

prevent fires and trash leaking into waterways). The transfer station/scale house has been designed to include separate bathrooms for women and men, based on the IWC study results, and may incorporate a way to separate male and female IWCs working there to avoid gender-based violence and sexual harassment (see Skoczen, this issue). It will also have a daycare center for their children.

Findings from the TIPs have led to the idea of a local pilot of compacting bins in an effort to address the reasons for burning bathroom waste. People would be able to deposit their bathroom and residual waste and have it emerge compacted with everything else, totally unrecognizable. Municipalities do not have funds to provide trash containers to households. I am suggesting a public-private partnership to supply the bins.

This paper illustrates the power of local, dedicated NGO staff and applied and practicing anthropologists collaborating together to design and conduct research that helps all classes of people have a say in waste management and then aims to ensure that waste services will respond to what people want and are able to do.

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