

CONFRONTING THE CAÑADA: TACKLING REAL-WORLD PROBLEMS THROUGH SERVICE LEARNING

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AS GRADUATE students in international planning and development, we struggle to balance theory and practice. One creative

way to apply what we learn in the classroom is through international service learning courses. Such courses can range from community-based research to applied projects, which become the source of regenerative, innovative, and collaborative solutions that go beyond conventional end-of-semester deadlines.

Students in Dr. Bjørn Sletto's Latin American Planning Studio in the Community and Regional Planning program, School of Architecture, had the opportunity to experience this in Los Platanitos, an informal settlement in Santo Domingo Norte, Dominican Republic. In January 2010, we conducted a participatory solid waste assessment in Los Platanitos, documenting the social, cultural, and

political-economic causes of the trash problem and examining possible solutions, all in close cooperation with community members and project partners. In March 2010, we returned to conduct follow-up research and to share and discuss research findings and their implications, focusing primarily on building vital relationships between community members, municipal government, and local NGOs, and developing a strategic plan for project sustainability.

Los Platanitos is home to about 3,000 people and was founded in the late 1980s in a steep canyon, or *cañada*. A partly channelized creek runs through the canyon before it enters the Parque Mirador Norte, and then the river Isabela. Los Platanitos is one of more than thirty such *cañada* settlements in Santo Domingo Norte. *Cañada* is not only the Dominican term for "canyon," it also has come to signify informal settlements characterized by unplanned

"self-help" housing, constructed by and for the people who live there. In such settlements, residents generally do not hold titles to the land and lack many basic services. Los Platanitos, like most *cañada* communities in SDN, is not provided with municipal trash collection services or electricity, sewage, clean water, or plumbing.

Cañada communities also have come to signify places that are dirty or polluted. In Los Platanitos, in particular, community members live surrounded by solid waste. The community was built on an old municipal dumping site and today bears the brunt of the regional mismanagement of solid waste. The community's narrow, precarious walkways combined with the scarcity of municipal resources have prevented efficient and regular trash collection in Los Platanitos and other *cañada* settlements. Because of the lack of solid waste collection, mounds of trash accumulate throughout the



A resident outside her home in Los Platanitos.

community, causing a formidable public health risk. Garbage also clogs parts of the channel, leading to severe flooding whenever it rains, and floodwaters are extremely contaminated by trash and other waste products.

In 2008, the first team of students from the University of Texas at Austin was invited to work with the community of Los Platanitos and the Municipality of Santo Domingo Norte to conduct a participatory risk and vulnerability assessment. This study, *El Rincon de los Olvidados*, identified several social problems, but community members and research partners agreed that solid waste was the primary cause of the flooding and public health issues facing Los Platanitos. In this way, solid waste became the focus of the second phase of the ongoing UT project in this community.

Our work in 2010 was guided by two primary goals. First, we wanted to develop a model for participatory solid waste research

that could be replicated in other informal settlements throughout the Caribbean and Latin America. And, second, we wanted to work with residents to design a community-based, solid waste management program that would serve as a pilot project for an integrated solid waste management plan throughout Santo Domingo Norte. Such a program would build upon several strategic partnerships between community-based organizations, NGOs, and the government.

Our research methods were loosely based on those of Participatory Rural Appraisal (PRA), a family of research methods with roots in activist participatory research, applied anthropology, and Rural Rapid Appraisal (RRA), whose central goals are to “democratize” and “decentralize” development by drawing upon local knowledge. PRA and RRA are greatly influenced by the work of Robert Chambers and Paolo Freire’s seminal text, *Pedagogy of*

the Oppressed. Inspired by this perspective, we decided that community participation was essential for the project. We relied on community members not only to relate their knowledge and perceptions of the social, political, economic, and environmental realities they face, but also to guide what questions we asked and methods we used. In addition, we also worked with municipal and federal government agencies, as well as local NGOs, to better understand the institutional context that shapes the challenges of Los Platanitos.

We formed three teams in order to investigate both the social and environmental dimensions of the solid waste problem: community engagement and project design, physical survey and design, and social survey and assessment. Each team developed different research methods, considering the adequacy, appropriateness, and limitations of different approaches.

The community engagement and project design team (Lindsey Carte, Omar Diaz, and Vanessa Martinez) organized community meetings to better understand the social relations that inform decision-making processes at the household and community level. Working with groups of women, men, and youth, this team facilitated discussions about the potential of a solid waste management program in Los Platanitos. Through creative tools of engagement such as drawing activities and participant narratives, residents were encouraged to express their ideas of how a participatory waste management system would best function in their community.

Similarly, the social survey and assessment team (Eva Hershaw, Laura Muraida, and Lindsey Engelman) conducted surveys and interviews with a random sampling of community members and was particularly concerned with understanding the challenges faced by those living along the channel. The household data on vulnerability, risk, and perceptions of solid waste gathered by this team complemented the information docu-

mented in the focus groups. The team also collected qualitative data that revealed personal decision-making processes and behaviors imperative to developing an appropriate waste management program.

Additional insight was provided by the physical survey and design team (Christeen Pusch, George McQueen, and Gina Casey), who used a number of mapping, measurement, and observation methods to assess, in quantitative terms, challenges associated with access, mobility, trash generation, and water quality. Their methods included the distribution of trash bags to randomly selected families along the channel to measure household generation of solid waste. In addition, this team also documented patterns of flow and accumulation of solid waste both within the channel and throughout the community, and measured water quality at various points along the channel to complement qualitative risk and vulnerability data gathered by the other research teams.

Community members were actively involved in data collection at each stage of the process.

Residents of Los Platanitos were not simply subjects of this research, but also served as our research partners. Beyond participating in focus groups and surveys, they also helped to measure solid waste accumulations, assisted with water quality tests, and organized additional focus groups to promote greater community participation. We also brought representatives from microenterprises, known as *fundaciones*, which had developed similar community-based solutions to trash problems in poor neighborhoods elsewhere in Santo Domingo, to share their experiences with residents in Los Platanitos.

When we returned to Los Platanitos in March 2010, we could see the impact of our participatory approach. We learned that a group of residents had begun the process of forming a grassroots organization to address the solid waste problem, and had organized four large-scale community clean-up efforts to remove solid waste accumulations. As the new organization's informally elected Board of Directors led us through the neighborhood, we saw where community volunteers had removed



A young community member looks down at the cañada filled with solid waste.

massive amounts of plastic bottles, Styrofoam, and other garbage from the channel, mostly by hand or with limited equipment. Most impressive were the mounds of trash—enough to fill four dump trucks—that lay in neat rows along the rim of the channel. Community members had been able to secure a tractor, they told us, to literally dig the garbage out of the channel where it had been accumulating for years.

It was clear that the group had been inspired by the representatives of the *fundaciones*, since they also had begun informal education efforts, walking door-to-door and asking residents to stop throwing trash in the channel, and instead collect it in trash bags and bring it to disposal sites outside the community. Given this great enthusiasm and the hope evidenced by these residents, we decided to provide whatever assistance we could to facilitate the development of this group. We organized additional focus groups to assess and promote community awareness of the new organization, and we led capacity-building workshops to prepare members of the organization for a major presentation at a citywide forum on solid waste. Because both community members and students were aware that support from external actors would be vital to the continued development of this effort, we invited representatives of the municipal Solid Waste and Sanitation Department to tour Los Platanitos and observe the results of the cleanup, and helped to arrange meetings with the country's principal NGO engaged with community and slum development, Centro Montalvo.

As a result of these interactions, the municipality has committed to providing financial and technical support for the removal of the remaining trash in the channel and for weekly trash pickup conducted by residents. Centro Montalvo has offered to hold a twelve-week capacity-building course for Los Platanitos to assist in the development of their organization. Inspired by this progress and the enormous potential of this fledgling community group, we are now in the process of assisting Ciudad Alternativa, a Santo Domingo-based NGO that has partnered with us since 2008, in submitting grants to international foundations. The goal is to secure continued funding to aid Los Platanitos not only in the removal of trash, but also in transforming the harmful problem of solid waste into opportunities for income, education, and empowerment.

The implications of this research go far beyond semester grades, technical reports, and graduate theses. By engaging in the real-world problem of solid waste, UT students have encouraged additional movements and community endeavors in Santo Domingo Norte, and have already made a positive impact on the lives of the residents of Los Platanitos. But perhaps most important, this project can serve as a model for similar, student-led research and planning work elsewhere. From the beginning, our primary goal was to develop a replicable model for solid waste management research and program implementation. Opportunities for replication have been built into everything we have done, from research, to capacity building and education, to community-led trash collection. Extending this work to some of the one billion people who live in informal settlements similar to Los Platanitos would be the greatest outcome of our project.

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