

# DRINKING WATER IN CUBA AND UNITED STATES-CUBA RELATIONS: A NEO-FUNCTIONAL APPROACH

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Much has been written about diplomatic relations between the United States and Cuba, whether the two nations should continue to negotiate, and under what terms and conditions transactions should take place. Such consideration is timelier now than ever given the recent cooling effects from the outcome of the 2016 U.S. election on the bilateral relation. The discussion of these questions is always politicized, clearly falling along ideological lines. The political contagion overshadowing bilateral relations often obscures more perplexing questions that our paper attempts to address such as, how adversaries negotiate, how nations build trust after prolonged contentious relations, and, once adversaries decide to negotiate, how they sustain the momentum to broaden their relationships. In answering these questions, our work suggests a new interpretative framework for U.S.-Cuba relations.

It is obvious that throughout history adversaries have often discussed issues of mutual concern despite contradictory public posturing and rhetoric. At particular points in the relationship between the United States and Cuba, negotiations have taken place, sometimes even yielding marginal results as LeoGrande and Kornbluh (2014) illustrate. Efforts to provide essential services, particularly water for consumption, could trigger a more collaborative and

sustainable relationship between the two nations since the quality of water is a public good that affects all Cubans, whether they reside in the island and whatever ideological position they espouse.

There are some signs that Cuba would be open to technical discussions with the United States. The United States' relationship with Cuba improved dramatically under President Barack Obama, only to worsen with President Trump in the White House. But travel between the United States and Cuba remains at a high point and, after many years without formal diplomatic relations, the United States has an embassy in Havana and Cuba has one in Washington. Whether talks on improving essential public services can get underway soon, is not clear. Cuba has a lot to gain from improved relations with the United States, and there are some indications that Cuba would be willing to engage. In October 2016, the U.S. Secretary of State and Cuba's Minister of Foreign affairs met in Washington, in an effort initiated by Cuba to reduce discord. Cuba has built a reputation as a leader in public health and it has a strong interest in providing clean drinking water for its people, if, in the most cynical analysis, for nothing more than global optics. The two countries have a long history of finding common ground on technical issues, including matters concerning the U.S. Coast Guard

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1. This paper was first prepared for the 11<sup>th</sup> Annual Conference on Cuban and Cuban-American Studies sponsored by Florida International University's Cuban Research Institute on February 23–25, 2017. The findings were also presented at the University of Miami Institute for Advanced Study of the Americas Research Lunch Series. We thank the participants at both forums for their questions, and we particularly thank Yolanda Prieto, Sallie Hughes, and Carmelo Mesa-Lago for their comments.

and the U.S. Drug Enforcement Administration. We are optimistic that the theme of clean drinking water can provide an opening for new conversations. There is reason to believe that the humanitarian value of providing clean drinking water to more than 11 million people might ease the reluctance of the Trump Administration to deal with Cuba.

Trust, or more accurately, the lack of trust, has been a persistent wedge between the United States and Cuba. The literature on international relations points to many reasons why nations paradoxically have trouble trusting others even after engaging in high level talks such as those that led to the re-establishment of diplomatic relations between the United States and Cuba during the Obama presidency. This scholarship identifies many obstacles and conditions that push adversaries, and former rivals, to proceed cautiously with bilateral relations.

Amid these theoretical controversies, we examine how the accessibility to clean water might contribute to interstate collaboration. Before we proceed with our argument, it is useful to review the abundant literature about the sources of mistrust between nations following the level of analysis organizational model proposed by J. David Singer (Singer 1961). At the structural level, international relations scholars remind us that despite the proliferation of international cooperation regimes, the world remains an anarchical society at best and that under conditions of anarchy, distrust reigns (Bull 1977). Even when decision-makers show their best intentions, nations are generally guarded toward each other. Distrust sometimes arises from misinterpretations of intentions and signals and the structural power differential among states (Johnston and Shen 2015 and Jervis 1976). Many themes that foster mistrust were first explored by Thucydides in the Melian dialogue, when the Athenians justified their domination in terms of their natural rights to preserve their power status and refused to offer concessions that might have been perceived as signs of weakness (Thucydides 1954).

At the national level, the other relevant level of analysis stream in international politics according to Singer, domestic impediments often undermine bilateral relations. Leaders from Cuba and the United States have espoused opposing operational codes and ideological outlooks on sovereignty and national interests. Contrasting ideological perspectives and professional elite socializations have no doubt contributed to different interpretations of the meaning and implications of agenda items between the two nations. If one assumes, following Robert Putman (Putman 1988), that diplomatic encounters are enmeshed in domestic politics, the difficulties of negotiations between the United States and Cuba become apparent<sup>2</sup>. In Cuba, as in the United States, hardliners mobilize to derail any policy moves that they regard as concessions without reciprocation. The hardliners contend that negative actions are most likely to produce concessions from opponents. The result is more distrust and sometimes fear. The more one nation plays a hard hand, the more the other is likely to feel menaced leading to a security dilemma. As an example, consider the bitter exchanges between the United States and North Korea in 2017.

## CONCEPTUAL FRAMEWORK

Following a neo-functional approach, our paper asserts that adversaries collaborate incrementally, negotiating technical non-political issues first and then moving to more difficult political issues once sufficient trust to collaborate has been built. Figure 1 depicts this process, which involves agenda setting on a technical non-political topic, trust building through interactions required to address the topic, and issue-linkages through complementary expertise and potential synergies by working together on a topic. This process can ultimately result in collaboration among countries. It increases dialogue and understanding. Our neo-functional approach follows insights from the work of Ernest Haas, the renowned scholar who for many years taught at the University of California-Berkeley and went on to father the neo-functional

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2. Putman (1988) opened his well-received argument with the following statement: “domestic politics and international relations are somehow entangled, but our theories have not yet sorted out the puzzling tangle.”

intellectual movement in international relations during the 1960s. He later focused on regime theory.

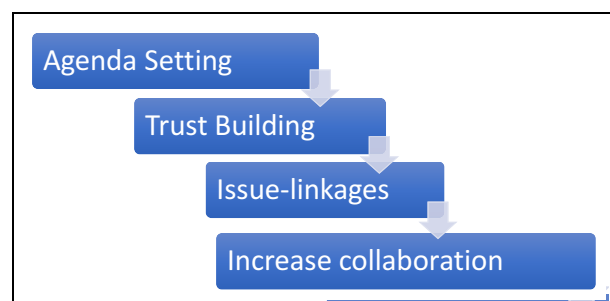
Haas was concerned about the chances of collaboration among nations with strong domestic opposition to compromise and with few incentives to negotiate. He studied regional integration schemes, particularly in Europe, to understand how trust among nations evolves and can eventually lead to collaborative relations and policy coordination (Haas 1961). Not content with prevailing realist theories, Haas observed that despite the many incentives not to collaborate (mutual misperceptions, bureaucratic obstacles, public opinion pressures, and contrasting ideologies, among others), countries often see it in their best interest to collaborate to resolve social problems. They are able to overcome resistance, in some cases, by advancing incrementally and at a modest pace. The challenge for leaders who proceed incrementally is to sustain their diplomatic engagement over time despite the many diversions they are likely to face. The scenario described by Haas seems to apply to Cuba-United States relations.

As in many regional relationships, the dealings between Cuba and the United States have often led to mistrust, competition, antagonism, and, at times, disregard for one another. Contending groups in Cuba and the United States have historically been at odds over the nature of bilateral relations and even whether the two nations should engage at all. The legacy of hostility has weighed heavily on the interactions of Cuba and the United States. In moments of crises, such as the Mariel Boatlift that abruptly brought 125,000 Cubans into the United States in a flotilla of small boats in 1980, the two countries agreed to consult. Discussions on migration have provided opportunities for diplomats to discuss how to best regulate immigration and human trafficking. These periodic negotiations built sufficient trust to move forward and have sometimes gradually expanded to other themes. The limited discussions ultimately led to the restoration of diplomatic relations between the United States and Cuba and the reopening

on embassies in each other's capitals on July 20, 2015.<sup>3</sup>

Before the Haas model and its relation to water is elaborated further, we note that immigration talks between the United States and Cuba have slowed. This disappointing development may, however, have created a situation in which talks on less tendentious issues like clean drinking water might be considered by both sides. President Obama, as he was leaving office in January 2017, took one more step in improving relations with Cuba by ending the so called “wet foot, dry foot” migration policy. Cuba called the decision “an important step in advancing relations” between the two countries (*Chicago Tribune*, January 12, 2017). But in a speech in Miami in June 2017, President Trump said he was considering new restrictions against Cuba. His Administration has indicated it plans to reduce the number of legal visas for Cubans wishing to visit the United States while it maintains the Obama Administration's decision to end the “wet foot, dry foot” migration policy. In general, the Trump Administration has generally taken a more populist approach to migration than the Obama Administration.

**Figure 1. Steps associated with the neo-functional approach for initiating rapprochement between two countries**



### AGENDA SETTING ON THE TOPIC OF WATER

In order to justify agenda setting on the topic of water, data is needed to confirm that the topic is worthy

3. For an accessible synthesis of US-Cuba relations see DeYoung 2015.

of investigation and further study. To collect this data, our team embarked on interviewing travelers from Cuba using a survey instrument designed to evaluate their perceptions about drinking water, ambient water (e.g., rivers, lakes, and beaches), sources of contamination, and potential solutions. In order to qualify for the survey, travelers must have been in Cuba within a year of their conversations with our researchers. Travelers were interviewed at Miami International Airport and elsewhere in Miami through contacts of our team members with family, friends and co-workers. We chose this approach because we know it would be impossible to conduct interviews or carry out other independent research about any contentious issue in Cuba. Findings from the surveys we conducted have been complemented by the observations and personal interviews of individuals who visited the island and voluntarily collaborated with our project and by a three week visit to Cuba by one of the members of our team. This work is a first step in our data collection and we regard it as a precursor to technical talks with Cuba. We envision that several topics could be addressed in a neo-functional rapprochement plan. Preliminary data would be collected on each topic and conversations could then be initiated. The focus on water could be a test of whether the topic might serve as a starting point for the neo-functionalism process.

Our survey focused on water quality and availability. It consisted of 28 questions. In addition to demographic information and information about the places and purpose of travel, the survey asked about perceptions about the quality, cost, and availability of potable water, about the quality of bays, rivers, lakes and beaches, and about methods of mitigating the poor quality and availability of drinking water. Details about the survey are provided in Pumar et al. 2016. This paper focuses on demographics and on perceptions about water quality and availability.

### **SURVEY PARTICIPANTS AND DEMOGRAPHICS**

Of the 514 people our interviewers approached, 474 (92%) agreed to take part. Two of the people had not been to Cuba within the year and, thus, did not meet our inclusion criteria. One of the 474 people

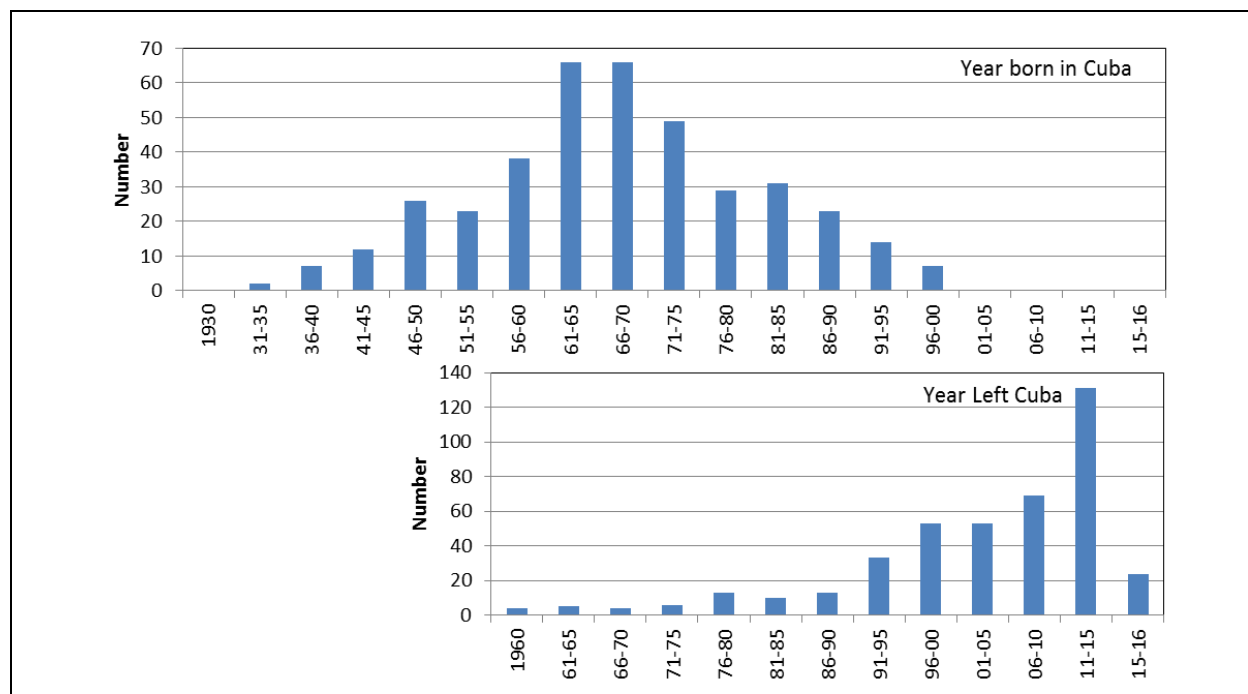
withdrew from our interview, saying that she was worried that she might not be permitted to return to Cuba if she continued speaking with us. In the end, we were able to complete 471 interviews from among the 514 people we approached.

Of the 40 that declined to take part in the interview, 19 (47.5%) indicated that they did not have time, 7 (17.5%) indicated that they were too tired or did not feel well, 7 (17.5%) indicated that a conversation about Cuba's water has no practical purpose, and 4 (10%) indicated that they do not answer surveys. One person seemed offended. She said she wanted nothing to do with Cuba. One said, without explanation, that she did not want to participate. Another person declined any engagement with our interviewers, saying she was concerned that doing so would keep her from being able to return to Cuba.

The majority of the interviewees (n= 258) were people waiting at Miami International Airport (MIA) for family or friends to arrive from Cuba. Arrivals from Cuba were the second largest group (n=166). A total of 47 interviews occurred at places other than the airport. The interviews took place between November 21, 2015 and January 6, 2017. The people we interviewed told us they had been in Cuba between January 4, 2015 and December 30, 2016. The average number of days elapsed since the interviewees visited Cuba was 75. The median was 26.

Turning to the demographics of the 471 individuals completing the survey, the respondents were split 50/50 with respect to gender (male-female). The majority of those interviewed were born between 1955 and 1975 and left Cuba between 2006 and 2016 (Figure 2). Forty-eight interviewees (10.1%) were residents of Cuba and visiting the U.S. Sixty one percent identified themselves as Cuban, and 35% as Cuban-American. Twenty percent considered Cuba home, and 69% considered the U.S. as home. Of those that considered the U.S. as home, the majority lived in Miami (Table 1). The majority of those interviewed travel between Miami and Cuba multiple times a year (63%). A smaller fraction (19%) were first time travelers (n = 70 first time travelers to Cuba, n = 16 first time travelers to Miami). Spanish was the language spoken in 95% of the interviews. The remain-

**Figure 2. Birth year of those born in Cuba and year transitioned residence from Cuba**



**Table 1. Place of home residence of interviewees**

Considered Residence	Number	Percentage
Miami	359	76.2%
Cuba	45 <sup>a</sup>	9.6%
Both Miami and Cuba	2	0.4%
US but outside of Miami	56 (4 in Tampa, 3 in West Palm Beach, 3 in Naples, 1 in Sarasota, 1 Wellington, 3 in Atlanta, 3 New York, 1 Texas, 1 Kentucky, 1 Louisiana, 35 did not indicate)	11.9%
Outside of U.S.	6 (3 Spain, 1 Dominican Republic, 1 Mexico, 1 Isreal)	1.3%
No Answer	3	0.6%
<b>TOTAL</b>	<b>471</b>	

a. Of those interviewed, 45 consider Cuba home. Of the remaining 426 interviewees, the last time they traveled to Cuba was for a visit with the exception of 25 whose last visit in Cuba was when they transitioned their residence from Cuba to the U.S. They have not returned since that transition. Of the 25 that transitioned, all 25 transitioned their residence to Miami.

der of the interviews was administered in a mix of Spanish and English (3%) or in English only (2%).

The purpose of the visit to Cuba for the majority of those interviewed was to visit family (83%). Vacation

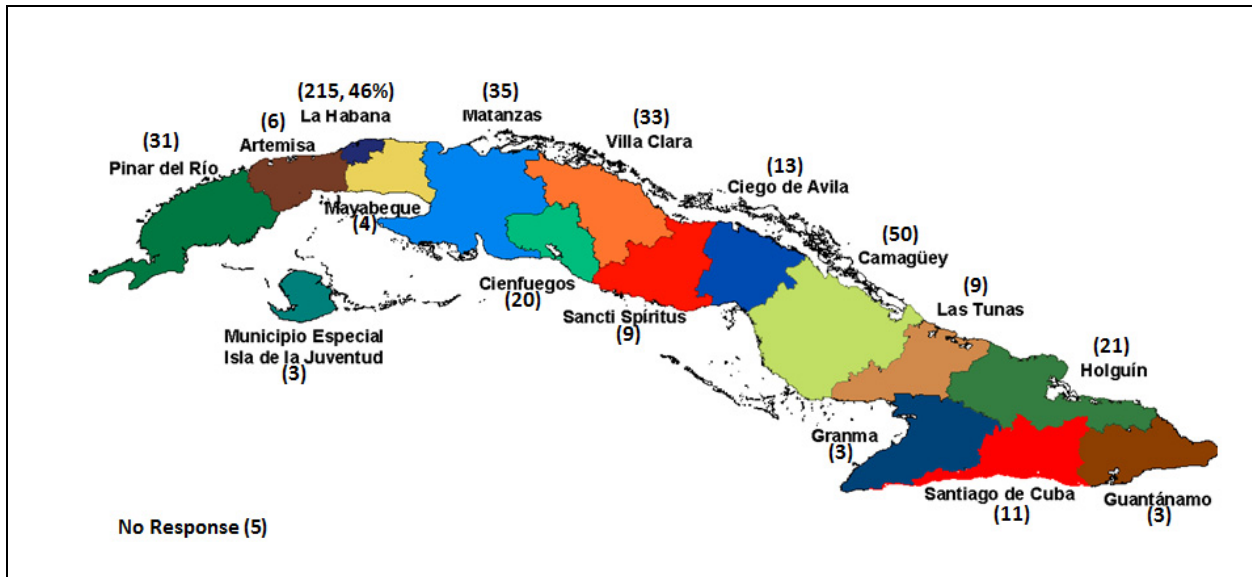
was the purpose for 12% and much smaller proportions was for other purposes (study and educational programs n=6, business n=5, religious mission n = 4, to reconnect with their heritage n = 2, and cultural programs n = 1). Of the 48 interviewees visiting Miami from Cuba, the vast majority came to visit family (94%), with much smaller proportions traveling for Miami for vacation (n = 2) and for a religious mission (n = 1).

The people we interviewed were asked where they stayed during their visit to Cuba. The majority stayed at a family member’s house (87%) or apartment (1.7%). A smaller proportion (6.2%, n = 29) stayed in a hotel and or in a rented apartment (1.5%, n=7). The primary city of residence in Cuba of those interviewed was Havana (46%) (Figure 3). However, visitors resided in all of the providences of Cuba, with the next most popular provinces as Camagüey, Matanzas, Villa Clara, and Pinar del Río.

**PERCEPTIONS ABOUT POTABLE WATER**

Of those completing the survey, 44% said that they never drink tap water in Cuba (Figure 4). Twenty-one percent said they routinely drink untreated tap water in Cuba. Thirty-four percent said they drink tap water after it is boiled, filtered or treated with

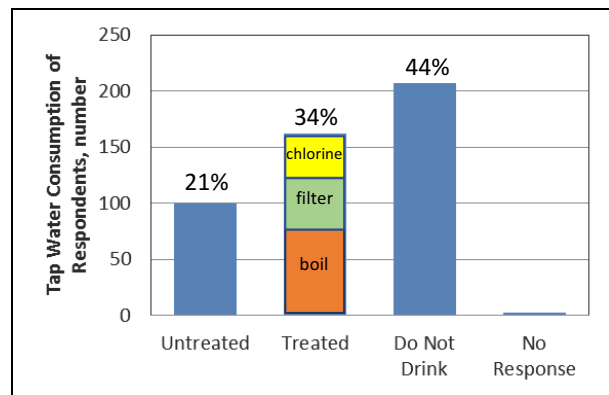
**Figure 3. Interviewee primary location of residence during last visit to Cuba**



chlorine tablets. The most common treatment was boiling (42% of those reporting drinking treated tap water). Thirty-one percent said they filtered tap water before drinking it. Twenty-seven percent said they treated their tap water with chlorine tablets. We evaluated whether there were statistical differences in tap water consumption based upon place of stay. Specifically, the question evaluated was, “Is the proportion of those drinking untreated tap water greater for those who stayed in a family member’s house versus those who stayed in a hotel?” The proportion drinking untreated tap water at a family member’s house (22%) was higher than the proportion of those drinking untreated tap water at a hotel (6.8%). This difference in the proportion was significant at the 75% confidence limit but not at the 95% confidence limit (chi-squared, 2 degrees of freedom).

Bottled water is available in Cuba. Fifty-eight percent of those interviewed indicated that it was not difficult to find bottled water and this finding is corroborated by the visitors to Cuba we interviewed for our project. Twenty-three percent indicated that bottled water was difficult or sometimes difficult to find. The remaining 9 percent (n=42) did not respond to this question. For those who did not respond, many indicated that they did not buy bottled water because it was too expensive. Bottled water was typically purchased in bottle sizes from 0.5 to 20 L (mean of 5.3L,

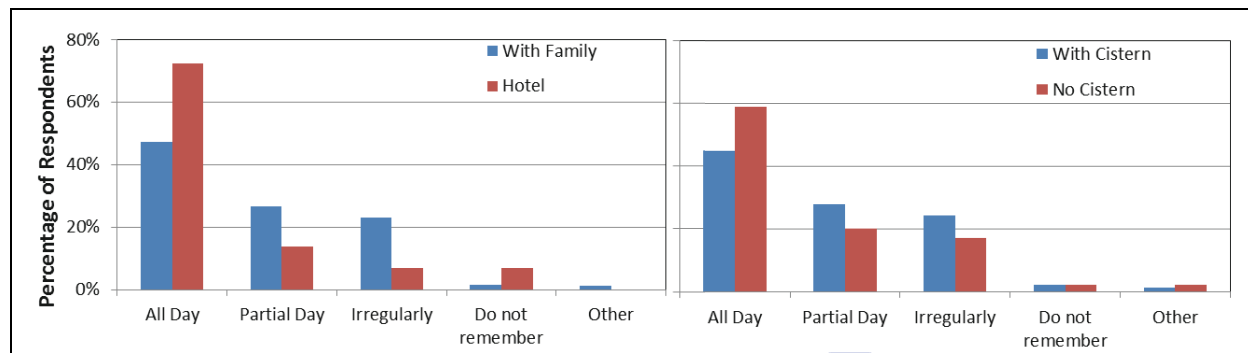
**Figure 4. Tap water consumption in terms of untreated tap water, treated tap water, and a refusal to drink any tap water**



median 1L). The cost per liter of water purchased ranged from 0.05 to 4 CUC. The average amount paid was 1.2 CUC per liter. The median was 1 CUC per liter.

Of those interviewed, 72% considered the water they drank to be safe, 22% considered it not safe, and 6% responded that they did not know. These results were then stratified based upon whether bottled, treated or untreated tap water was consumed. Ninety percent of respondents that did *not* drink tap water consider their water safe (significant at 90% confidence, chi-squared, 3 degrees of freedom), whereas

**Figure 5. Percentage of respondents with different levels of water availability. Results are stratified by interviewee place of stay and by presence of a cistern**



68% of those that drank treated tap water consider their water safe (not significant), whereas only 54% of respondents that drank untreated tap water consider their water safe (significant at 75% confidence, chi-squared, 3 degrees of freedom). Thus the perception of the safety of water depends (although weakly) upon the source of the water (bottled, treated tap, and untreated tap water). The reason the majority of the people considered their water unhealthy was because it tasted bad (36%) or because they heard of people getting sick from the water (21%). Of those interviewed, 42% have heard of people getting sick from the water. The seriousness of the illnesses ranged from hospitalization (28%), to visiting the local clinic (18%), to staying home (28%). The most common symptoms were stomach ache and diarrhea (62%) and vomiting (24%).

Only 49% of those interviewed reported having running water available all day. Those who stayed in a hotel had greater water availability relative to those who stayed with family (Figure 5); however this difference was not significant due to the small number of interviewees that stayed at a hotel ( $n=29$ ). The majority of those interviewed said they used cisterns to store water so that it was available when they needed it (78%). Results of cistern availability were stratified by the continuous availability of water. Interestingly interviewees at residences without cisterns had a higher proportion of continuous water (59%) relative to those with cisterns (45%) (Figure 5). This difference in proportion was not statistically significant. Among all respondents to the cistern question ( $n=446$ ) 13% reported a continuous availability of water

without a cistern, suggesting that there may be a proportion of the population that receives continuous water through the public distribution network. From discussions with the interviewees whose residences did not have cisterns, the availability of water appeared to be dependent upon how far the residence was from the source of the public water supply, and whether or not the residence was supplied by a supplemental well. Thus, the proportion of the population served by a continuous supply from the public distribution system appears to be at 13% at best.

We conducted open-ended narratives with people in our survey. These narratives underscored the urgency to address the limitations of water quality and quantity in Cuba.

Here are some examples:

- “Corran con eso que se necesita la ayuda urgente.” (run with this because help is urgently needed)
- “Ojalá que se mejore la situación del agua para que los niños no se enfermen.” (hopefully the water situation will improve so the children do not get sick)
- “Tiene poca o mala calidad, ya que el sistema de alcantarillado, presas, y cisternas es bien antiguo, y no han dado suficiente mantenimiento y reparaciones.” (water quality is low or bad, since the sewer system, reservoirs, and cisterns are old and they have not been given sufficient maintenance and repairs)
- “Para el visitante el agua es un problema! Incluso, el hielo resulta un peligro pues lo hacen con

agua de la pila.” (for visitors the water is a problem! Even ice is dangerous, because it is made from tap water)

## DISCUSSION AND CONCLUSION

The results of the survey overwhelmingly speak to the perceived need to improve water quality and availability in Cuba. Some potential solutions are straightforward. When asked, for example, how to fix the water problem in Cuba, the overwhelming majority of participants in our survey suggested that the government consider importing filtration equipment for the general public at an affordable cost. On a broader level, our study indicates widespread support for diplomatic discussions on improving the daily supply of drinking water.

In properly operated water distribution systems, water should be available all day, every day and under positive pressure 100% of the time. When water distribution ceases, water pressure drops to zero and leaves the water in the distribution pipes vulnerable to contamination. Given the results of our survey, we estimate that about 13% of the Cuban population receives a continuous supply of water from the public water system. This suggests that more than 87% of the population is served by public water supplies that can be contaminated from frequent low or zero pressures in the water distribution network. The perceptions expressed by the respondents to the survey about poor water quality are consistent with the responses about the lack of continuous water availability. The majority of the residences have cisterns (78%) due to the lack of continuous water availability in the public distribution network. Overall it appears that addressing water needs in Cuba could represent a potential starting point for possible rapprochement. There is a clearly a need identified among recent travelers. Addressing this need could have significant public health benefits for the Cuban people.

In a nutshell, Haas, in his now classic paper “Why Collaborate? Issue-Linkages and International Regimes” (Haas 1980), envisions bilateral collaboration

among adversaries as follows. When nations distrust each other, they negotiate incrementally. They do not always progress linearly but sometimes default to a muddle through approach. Talks usually center around technical issues of common concerns. The recognition that such an essential basic human need as clean water is in need of improvement should spark enough interest to reverse the recent cooling of relations between the U.S. and Cuba and should provide enough political will to continue diplomatic discussions over time given the complex economic, political, and technical considerations necessary to provide a healthy and adequate potable water supply. We expect that as these discussions deepen over time, both sides would realize that to resolve non-political, quality of life issues, related problems also need to be on the agenda. Eventually, the issue-linkages can build trust and snowball into wide ranging collaboration.

As our research shows, water conditions in Cuba are worrisome. Tourism, the leading sector in Cuba’s economy, may be contributing to a decline in water quality. The tourists represent an added demand on a failing water system. We suggest that one way for the U.S. to start a conversation with Cuba would be to focus on the need to improve the water system. Some of the improvements might consist of upgrades in infrastructure or in making available water filters for Cuban homes and offices. These improvements would require trade in construction equipment and materials. Dealing with the question of who would sell water filters and other things intended to purify water for drinking, could lead to broader talks on the participation of individual Cubans in the country’s economy.

We have shown in this paper that throughout history, limited, technical discussions on critical issues like clean drinking water, have often led to broader engagement and more productive relationships between countries. We think that beginning bilateral talks between the United States and Cuba on clean drinking water could produce similar results.



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