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MITIGATING TRANSBOUNDARY WASTEWATER CONFLICTS: BUILDING PARTNERSHIPS AND TRUST THROUGH COLLABORATIVE DIALOGUE

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Introduction

The effects of the seemingly intractable conflict between Israel and Palestine extend well beyond the political sphere into daily life. Wrangling over the use and management of limited resources, particularly water, gives everyday activities a political weight of their own. Dealing with the political, economic and social complexity of transboundary watersheds shared by Israel and Palestine requires much more than government mandated water and wastewater management. The ever-present potential for water conflict stands in the way of constructive progress — and makes dialogue and cooperation over these issues crucial to building durable peace in the region.

A component of water management, wastewater treatment in the West Bank differs sharply from wastewater treatment in Israel. With a stable government and economy, Israel has connected over 90% of the population to centralised wastewater treatment facilities (Al-Sa'ed & Al-Hindi 2010, 204). Palestinian Authority (PA) wastewater treatment measures are inadequate to treat most of the sewage in the West Bank, and inefficient storage methods like cesspits can contaminate transboundary groundwater sources with harmful pathogens (Al-Sa'ed 2010, 938). The result is that nearly 60 million cubic metres (MCM) of raw sewage is discharged into the West Bank environment each year. Much of this sewage enters streams and flows downstream into Israel. Israel applies the 'polluter pays principle', charging the PA for the cost of the cleanup (Lipchin 2014, 41). Tension and recriminations over the unilateral treatment and use of this wastewater by Israel, as well as over the difficulty of creating or expanding wastewater facilities in the West Bank, add to the distrust between Israel and the Palestinians.

Project Background and Objectives

To help develop tangible progress on transboundary wastewater issues between Israel and Palestine, the Arava Institute for Environmental Studies (AIES) launched the Mitigating Transboundary Wastewater Conflicts (MTWC) project in the autumn of 2012. The first aspect of the project saw the installation of small-scale greywater treatment and reuse systems[1] at seven sites in Israel and the West Bank, for rural families not reached by the Israeli or Palestinian centralised wastewater treatment grids. These low-energy and low-tech systems help families and

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municipalities treat and ultimately reuse much of their wastewater to irrigate farms and gardens, saving money and resources. The systems also help to protect the environment by minimising the infiltration of sewage into the groundwater table.

The second aspect of the MTWC project, designed to address some of the roots of the water conflict, addressed technical, political and environmental issues and possibilities in the region. It aimed to chip away at the mistrust and animosity that currently exists, doing so through facilitating constructive dialogue. Supported by a grant from the United States Agency for International Development (USAID) Conflict Management and Mitigation (CMM) programme[2] — AIES held 11 cross-cultural and multinational workshops for decision-makers, technicians and students in the region. Led by the Institute's Center for Transboundary Water Management (CTWM), these workshops focused on topics ranging from eco-industry to resource management and wastewater treatment, and took place in Israel and the West Bank. Workshops generally included lectures from Israeli, Palestinian and other experts and entrepreneurs in the wastewater sector as well as government officials, visits to wastewater and greywater treatment facilities and group discussions. Based on the hypothesis that relationships yield partnerships and partnerships yield trust, the workshops brought together students, technicians and emerging leaders in the region in an effort to build trust through shared learning and discussion.

Over three years, these workshops hosted over 350 Israelis, Palestinians and internationals drawn from a wide range of technical, professional and cultural backgrounds. Israelis made up a third of all workshop attendees, Palestinians from the West Bank made up around a quarter of the participants, and Americans constituted nearly 20% of the workshops' participants. International participants filled the remaining quarter, with Jordanians making up the largest part of this group. Nearly 34% were women and over 40% of all participants were under 30 years old.

MTWC's 11 workshops targeted three distinct 'stakeholder' groups and focused on engendering dialogue about cooperation over wastewater issues. The stakeholder groups and the number of workshops targeted were the following: decision-makers (three), technicians (three), students (four), and combined workshops (one). While the initial project goals called for four workshops per stakeholder group, the Institute ultimately replaced several with a multi-group workshop that gave participants a broader insight into wastewater management. By integrating the three stakeholder groups, this workshop provided a space for all the groups to learn from each other and further delve into wastewater issues in the region.

The workshops were designed to facilitate communication and cooperation between various parties involved in the water and wastewater sectors in Israel and Palestine in order to provide a solid foundation for the reduction of cross-border wastewater conflicts and maximise the opportunity of using treated wastewater in irrigation. This remainder of this briefing aims to discuss the efficacy of these workshops as a means of peacebuilding, as well as the challenges experienced in attempting to quantify the extent to which such facilitated dialogue led to long-term changes in perceptions of wastewater issues and of the 'other' across cultures.

Measuring the Effectiveness of the Workshops

As part of the workshop process, intake and outtake questionnaires were collected from each participant. These questionnaires aimed to quantify the effectiveness of the workshops by collecting 'before and after' responses. The Institute was looking at two metrics — changes in understanding of wastewater issues, and changes in

perceptions of the 'other' in the conflict. By comparing the changes in responses between intake and outtake questionnaires, we expected to quantify changes in perception of the aforementioned metrics. Most of the intake questionnaires included iterations of the following statements, requiring answers ranging from strongly disagree to strongly agree:

1. Israelis and Palestinians should share both the costs and the benefits of water and wastewater treatment.
2. It is in the best interest of Palestinians and Israelis to cooperate on shared environmental issues like water and wastewater management.
3. How important are the following positive outcomes that could arise from Israeli-Palestinian cooperation on wastewater management? (Rank in order of effectiveness):
    a. Improvement in human health
    b. Improvement in environmental health
    c. Reuse of treated wastewater in irrigation
    d. Improvement in the overall quality of streams and groundwater
    e. Strengthened partnerships and cooperative projects

Most outtake questionnaires included an iteration of the following statements and required an answer ranging from strongly disagree to strongly agree:

1. After this workshop, I have a better understanding of wastewater issues.
2. Israelis and Palestinians should cooperate on wastewater management.
3. After this workshop, I have a better understanding of the 'other'.

Changes in responses between intake and outtake questionnaires were analysed. For example, if on an intake questionnaire a participant disagreed that Palestinians and Israelis should cooperate on wastewater management but changed his or her answer to 'agree' on the outtake questionnaire, this would count as a positive change. To calculate the change in the perception of the 'other', the positive responses to the outtake questionnaire statement, 'After this workshop I have a better understanding of the "other"', 'agree' and 'strongly agree' were counted as a positive change in perception. The negative responses, 'disagree' and 'strongly disagree' were counted as a negative change in perception. 'Neither' was counted as no change.

Workshop Outcomes

The central goal of the MTWC workshop programme was to foster constructive dialogue between stakeholders involved in the transboundary water and wastewater conflict between Israel and Palestine. To achieve this goal, the first objective was to ensure that participants left the workshops with an improved understanding of wastewater issues in Israel and the West Bank.

Questionnaire results showed an average 76% increase in appreciation and improved understanding of transboundary wastewater issues. Additionally, intake and outtake questionnaires in four of the workshops asked whether Israelis and Palestinians should cooperate on water issues. Participants from all three stakeholder groups showed a high level of agreement with this statement in both the intake and outtake questionnaires. On this point, we did not find a significant difference between the intake and outtake questionnaires, leading us to suspect a certain degree of self-selection by participants agreeing to attend these workshops.

The second objective was to determine whether a more positive perception of the 'other' was created. Responses based on the intake and outtake questionnaires produced, on average, a 56% increase in positive perception of the 'other' from all of the workshops. These results support one of the main premises of the workshops, that bringing people together to engage around common problems improves people's perception of the 'other' in the immediate aftermath of such contact.

Qualitative data from outtake questionnaires and group discussions also suggest that participants developed an increased interest in cooperating with the 'other' based on an increase in shared benefits from wastewater management learnt at the workshops. For example, after a decision-makers' workshop in June 2014, a Jordanian participant noted that he was surprised by 'the willingness to cooperate despite the current political conditions'. Following a technicians' workshop in January 2014, a Palestinian participant commented that 'reuse of wastewater and cooperation between parties is a must'. At a student workshop in April 2015, an American participant was surprised by 'how much Palestinians are doing to advance wastewater treatment and wastewater reuse'. Additionally, at the end of the kick-off workshop, which did not include questionnaires but instead incorporated a discussion session at the end, participants reported that a lack of cooperation, trust and interaction between governments was the largest impediment to progress on common wastewater issues. At this workshop an Israeli participant commented, 'I was happy to discover people who share the same thoughts, and have a strong will like me to make a change.'

Discussion and Recommendations

Despite efforts, data collection was not consistent across the workshops, mostly because of the difficulty encountered in getting all participants to reliably fill out both the intake and outtake questionnaires. Also, questionnaires sometimes differed workshop by workshop in phrasing, content and response styles. Some questionnaires relied heavily on written responses while others incorporated a standard Likert scale. The inconsistency of questionnaires between workshops makes quantifying the data to generalisations beyond the workshops problematic. The Institute therefore often relied on qualitative, and therefore subjective, analyses of question responses to determine what constituted a positive or negative change. In order to best analyse the efficacy of the approach beyond the workshops, the same intake and outtake questionnaires for each workshop would need to be used.

From some of the participants, we discovered that wording of questions at times made the data analysis unnecessarily complicated. For example, for the questions 'Do you now have a better understanding of wastewater issues?' and 'Do you have a better understanding of the "other"?' participants could choose between five options ranging from strongly disagree to strongly agree. The following questions could be asked instead: 'Do you now have a better or worse understanding of wastewater issues compared to the beginning?' and 'Do you now have a more positive or negative perception of the "other" side of the conflict compared to your perception at the beginning?' The options for answers would be 'Better/Positive' and 'Worse/Negative'. This would make the data analysis simpler and eliminate the need for complicated qualitative analysis to determine what constitute positive and negative responses.

Despite the Institute's best efforts, not all participants completed the questionnaires — whether through participants' reluctance, lack of interest or as a by-product of a stressful day. This detracted from the data's veracity. One possible strategy for future workshops is to include the

intake questionnaire in the initial email invitation, and note that participants will not be submitted for funding approval until the questionnaire is completed. At the workshop, organisers might schedule the completion of the outtake questionnaire before the last meal, or after a field trip, and collect them as participants leave for food or disembark from the bus, ensuring complete participation in filling out the questionnaires. Collecting and analysing data robustly are important for understanding the effects of such workshops on perceptions both of wastewater issues and of the 'other'.

Conclusion

Through the MTWC programme, participants heard from numerous distinguished speakers from the Israeli, Palestinian and Jordanian governments as well as leading environmental researchers and scholars from around the world. They engaged in constructive discussions on environmental, political and technological issues and solutions to wastewater management. They also visited industrial and technological sites — as well as newly built, USAID-funded greywater treatment systems — across Israel and the West Bank.

Of course, the project was not completely without occasional setbacks. Political and permitting disputes at times prevented some prospective participants from attending. Participants often forgot or were openly reluctant to complete questionnaires or attach their names to these questionnaires. The Institute is working to rephrase and refine the questionnaires for 'before and after' joint workshops based on the experiences and lessons learned from the 11 workshops held as part of this project.

Despite these issues, the institute was successful in facilitating constructive interaction between over 300 Israelis and Palestinians — and many of these participants reported gaining a better perception of the 'other' as well as an increased understanding of managing transboundary wastewater issues — as a result of the workshops. Nevertheless, with this data, it is not possible to draw generalisations of a broader perception change from these 11 workshops. Our experience has shown that data collection via questionnaires must be consistent across workshops so that comparisons among workshops can be undertaken. Only then can broader generalisations be made robustly.

From across borders and across societies, the project was successful in bringing together men and women who are playing an integral part in mitigating transboundary wastewater issues into the future. Yet further refinement of the questionnaire methodology is required if larger-scale perception changes are to be identified from such joint workshops.

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Disclosure Statement

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Endnotes

[1] Greywater is defined as all wastewater that does not include toilet sources, and sometimes includes kitchen sources (Jokerst et al. 2012, 3).

[2] Founded in 2002, the USAID Office of Conflict Management and Mitigation '… analyzes the causes and consequences of violent conflict, supports early warning and early response to violent conflict, and integrates conflict mitigation and analysis into USAID's analysis, strategies and programs' (USAID 2012). CMM promotes training, outreach and technical assistance in conflict areas including the West Bank and Gaza.

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