Water Service Provision and Peacebuilding in East Timor: Exploring the Socioecological Determinants for Sustaining Peace

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Water Service Provision and Peacebuilding in East Timor: Exploring the Socioecological Determinants for Sustaining Peace

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ABSTRACT

This article presents an examination of post-conflict water resource management in East Timor through the United Nations Transitional Administration in East Timor (UNTAET) with the aim of contributing to our understanding of the opportunities and challenges inherent to the sustainable management of water resources in post-conflict countries and of gaining insight into its potential long-term benefits for sustaining peace. The article contributes one of the first theory-centred, empirical analyses of post-conflict water resource management, in which the challenges and failures of UNTAET in East Timor shed light on the opportunities and risks inherent to post-conflict water service provision for peacebuilding.

KEYWORDS

statebuilding; legitimacy; service provision; water resource management; peacebuilding; East Timor

Introduction

The delivery of services in post-conflict countries is rarely, if ever, straightforward. Among the most challenging – yet least studied – is the necessity for international peacebuilding actors to repair and more often build up the infrastructure for basic water services from scratch. During civil wars existing infrastructure is often poorly managed, deteriorating, and at times even targeted (Sowers, Weinthal, and Zawahri 2017; Zeitoun et al. 2017). The resulting lack of access to safe water and adequate sanitation amplifies the vulnerability of post-conflict communities and inevitably prolongs the human costs of war (Gleick 1993), even affecting the legitimacy of United Nations (UN) peacebuilding missions (Freedman and Lemay-Hébert 2015).

The provision of basic infrastructure, such as access to water, is a key function of the state and a cornerstone of international development aid, especially in conflict-affected states – but can the construction of water supply infrastructure through international peacebuilding actors serve as an entry point for post-conflict peacebuilding? There is increasing interest in conflict-sensitive development and in understanding the broader benefits of such peacebuilding projects (Krampe 2017). For instance, the Environment Strategy of the UN Department of Field Support (DFS) published in April 2017 states that UN peace operations should aim ‘to seek a positive long-term legacy through the development of specific environment-related projects that may benefit..."
societies and ecosystems over the long term’ (UN DFS 2017). Such long-term legacies with regard to infrastructure development contribute to the consolidation of the post-conflict state’s legitimacy (OECD 2008) because such legacies aid society’s perception of the state as the right provider for their immediate needs (Krasner and Risse 2014; Rolandsen 2015).

This article presents an examination of post-conflict water resource management in East Timor through the United Nations Transitional Administration in East Timor (UNTAET) with the aim of contributing to our understanding of the opportunities and challenges inherent to the sustainable management of water resources in post-conflict countries and of gaining insight into its potential long-term benefits for sustaining peace. Using theory-centric process-tracing (Beach and Pedersen 2013; Bennett and Checkel 2014), we probe three causal mechanisms through which the reconstruction of water supply infrastructure could serve as an entry point for post-conflict peacebuilding. We show that UNTAET faced three key challenges. First, the community management model in the water sector surprisingly did not lead to more cooperation among community members and did not enhance the stability and cohesiveness of local communities. Second, a failure to include especially women in local water-user committees inhibited the diffusion of more progressive transnational norms that would have allowed progressive change in society and make the peace process more meaningful at the local level. Third, a difficult transition from short-term relief efforts to long-term planning and the uncoordinated work of too many actors during the emergency phase impacted the long-term perceptions of the state authority – in this case, UNTAET. With the above in mind, this article contributes one of the first theory-centred, empirical analyses of post-conflict water resource management, in which the challenges and failures of UNTAET in East Timor shed light on the opportunities and risks inherent to post-conflict water service provision for peacebuilding.

The article is structured in four parts, starting with an outline of the theoretical basis of the environmental peacebuilding argument and then providing an in-depth description of the water sector reconstruction in East Timor. Thereafter the article relates the empirical findings to the theoretical expectations in the analysis before lastly concluding with policy-relevant lessons learned.

**Post-conflict natural-resource management and sustaining peace**

As part of a critique of the research focus of the 1990s on environmental conflict, scholars began instead to study cooperative solutions in the face of natural-resource scarcity. These scholars suggested that ‘carefully designed initiatives for environmental cooperation’ could facilitate peace (Conca 2001), which in this case meant ‘several dependent variables that might be affected by environmental cooperation’, such as the perceptions of other actors, actors’ cost–benefit calculations, and broader societal changes (Conca 2001, 227). Empirical assessments of this relationship focused on two mechanisms that can affect these variables: ‘changing the strategic climate’, i.e. altering the cost–benefit calculations of states to make conflict less appealing, and ‘strengthening post-Westphalian governance’, i.e. impacting society broadly through the dissemination of new transnational norms (Conca and Dabelko 2002, 9). Like the studies that had come before, these case studies confirmed that environmental issues can provide an entry point for cooperation (Conca and Dabelko 2002).
Subsequent analyses, especially of water governance in fragile states, have focused on the quality of cooperation, linking it to power asymmetries and hegemony (Zeitoun and Mirumachi 2008). Studies of transboundary water management provide abundant examples of environmental cooperation prevailing between nations in the face of water scarcity (e.g. Jägerskog, Swain, and Öjendal 2014). In fact, disputes over water are frequently resolved through inter-state cooperation rather than becoming a cause of armed conflict (Delli Priscoli and Wolf 2009). In particular, the institutional design of treaties and joint river commissions determines the character of such dispute resolution (e.g. Mitchell and Zawahri 2015). The success of these positive examples has given rise to interlinked approaches between science and policy, offering water diplomacy as an approach to managing water issues (Islam and Susskind 2013).

While these studies focus solely on inter-state relations, others are increasingly focusing on water issues during and after internal armed conflict. Empirically rich, such studies highlight the potential of natural resources to support post-conflict recovery, yet they equally consider them as triggers of conflict livelihoods (Troell and Weinthal 2014). Ignoring water in peacebuilding can be counterproductive because the resultant socioeconomic effects impact community livelihoods (Troell and Weinthal 2014). But moreover, the sociopolitical factors – such as local discourses and identities – have recently been found to be critical ‘drivers of the Israeli–Palestinian water conflict’ (Ide and Fröhlich 2015, 668), offering new pathways to better understanding post-conflict water resource management.

This current line of research on post-conflict natural-resource management has made important contributions. However, most research to date has failed to develop a thorough theoretical understanding of post-conflict natural-resource management and how it can facilitate peace (Krampe 2017). There are attempts that engage the lack of theory (e.g. Carius 2006; Ide 2018), but these works do not engage with post-conflict countries, or they lack empirical and theoretical evidence: ‘most research [is] focused too narrowly on natural resources, thereby ignoring the dynamics and challenges that stem from interactions of natural resource management with the very unique social and political processes in post-conflict countries’ (Krampe 2017, page 5). To address this gap and enrich our theoretical understanding of post-conflict natural-resource management, this article provides a novel, theory-centred, empirical analysis of the ecological foundations needed for a socially, economically, and politically resilient peace, advancing on previous works in three ways.

Firstly, the article focuses on the period after the most common type of armed conflict – namely, intra-state armed conflict (Pettersson and Wallensteen 2015). Secondly, in this article we understand peacebuilding as rooted in the relationship between politics, namely the state in particular, and the wider society (Migdal 2001). The various interactions between domestic state and non-state actors are therefore shaping the peace process. In the context of international peacebuilding interventions, such as Bosnia and Herzegovina, Kosovo, and East Timor, the domestic relationship between the state and society is shaped by the relational dynamics between different domestic and international actors (Mac Ginty 2010; Krampe and Ekman 2017). Ideally, local citizens perceive the involvement of foreign peacebuilders as not only necessary, but legitimate (Karlborg 2014). Nevertheless, we maintain that especially the perceived legitimacy of the relationship between the domestic state and society constitutes the foundation of the social and political post-conflict order (Themnér and Ohlson 2014). Thirdly, we derive three causal mechanisms from the
peace and conflict research literature that go beyond previous suggestions to explain why the sustainable management of natural resources can facilitate peace. These mechanisms allow a significant departure from previous research on post-conflict natural-resource management, as they facilitate a theory-driven study of the long-term interplay of social, political, and ecological processes in post-conflict countries (Krampe 2017). These three mechanisms are the contact hypothesis, the diffusion of transnational norms, and the service provision–extraction equilibrium:

1. **Contact Hypothesis and Cooperation**: We expect that the sustainable management of natural resources can facilitate peace because it enables contact and cooperation among adversaries, which according to the contact hypothesis has the ability to overcome prejudice and bring groups closer together. Even though the evidence is not unanimous, research has shown that especially intergroup cooperation has the ability to reduce prejudice between members of different groups (Pettigrew 1998). Investigations of the contact hypothesis in the context of post-conflict peacebuilding suggest that, in these complex circumstances, contact among belligerents also has the ability to reduce intergroup bias and facilitate reconciliation (Gibson 2004) because it can ‘transform member’s representations of the memberships from separate groups to one inclusive group’ (Dovidio et al. 2008, 235). Research shows that contact between adversaries can reduce prejudice, help overcome transgressions, and reduce intergroup fear and threat perceptions (Tausch et al. 2007). Yet, positive impact is conditional to equal status contact and voluntary intergroup cooperation (Pettigrew et al. 2011, 277). Observable implications of the contact hypothesis in peace-building contexts are changes in attitudes and perceptions in terms of – among other aspects – intergroup trust, past transgressions, social distances, and ethnic tolerance (Kostić 2007).

2. **Diffusion of Transnational Norms**: We expect that efforts to manage resources sustainably will provide opportunities for human empowerment and thereby have a cascading effect on society, challenging societal institutions – such as patriarchy – and overcoming societal stigmatization of women. Conca argues that ‘environmental collaboration might affect the institutionalization of new norms of cooperation, alter state and societal institutions, or create or affect trans-societal linkages’ (2001, 227). This is especially true in relation to water and sanitation after conflict (Tignino 2011). International peacebuilding actors – both governmental and non-governmental – expose local communities to new norms, expecting attachment through value-based identification (Lemay-Hébert and Kappler 2016). While this mechanism has often produced unintended outcomes (Björkdahl et al. 2016), global environmental governance has seen positive effects in terms of transnational norm diffusion (Roger and Dauvergne 2016). We expect water management to facilitate trans-societal linkages among different civil-society actors, which in turn has a positive effect on the formation of peace. This is, as Richmond argues, because a strengthening of civil society in post-conflict peacebuilding has ‘the potential to make a more locally resonant and sustainable form of peace’ (2013, 396). Observable implications of this are among others a visible civil society, as well as local expressions of transnational (as opposed to traditional) norms such as human rights and gender equality.
3. Service Provision–Extraction Equilibrium: Service provision, in this case the management of renewable natural resources through state authorities, addresses the instrumental needs of communities. The state in turn expects increased support from communities, because – as Lipset argues – service provision ‘maintains the belief that existing political institutions are the most appropriate or proper ones for the society’ (1959, page 86). In essence, service provision – if balanced with how much a state extracts from communities (Holsti 1996) – helps to mobilize people behind the state. Indeed, together with increased urbanization and literacy, infrastructure provision was a key policy of the initial postwar socialist statebuilding project in Yugoslavia (Sekulic, Massey, and Hodson 1994), across sub-Saharan Africa throughout the 1960s and 1970s (Chazan et al. 1992), and again today in new states such as South Sudan, although more in word than in action (Rolandsen 2015). We therefore expect that post-conflict natural-resource management through state actors should have a positive effect on the state–society relationship, and thus on the peace. Observable implications of this relationship are especially expressions by citizens in terms of the performance of, trust in, and interaction with governmental institutions, as well as political interest and participation (Weatherford 1992; Themnér and Ohlson 2014).

Method
To assess the validity of the three mechanisms we conduct a theory-driven process-tracing (Beach and Pedersen 2013; Bennett and Checkel 2014) of the water infrastructure reconstruction in East Timor through UNTAET between 1999 and 2004. As a single case study the article is clearly limited in regard to generalizability (Brady and Collier 2010). We are therefore transparent about the scope of the conducted study (George and Bennett 2005). While we cannot provide a conclusive test of the environmental peacebuilding hypothesis, taking a deductive approach we are nevertheless able to ascertain the causal importance of the three mechanisms by providing a plausibility probe. As a theory-centred single case study the article provides new knowledge about the ‘complex social processes’ (Eisenhardt and Graebner 2007) that emerged in East Timor, but also leaves substantial leeway (George and Bennett 2005; Bennett and Checkel 2014) for advancing the theoretical understanding of post-conflict natural-resource management.

We provide new empirical insight into an important yet under-studied aspect of the peace process in East Timor that is based on ten unique in-depth interviews with diplomats and international as well as local staff members who were directly involved with designing and/or implementing the water sector reforms in East Timor between 1999 and 2004.1 The viewpoints of these elites provides an interpretation of people and events, as well as of decisions that have been taken. Moreover, these interviews provide information that is otherwise unattainable and unrecorded (Richards 1996). Interviews were conducted under the Chatham House Rule, allowing the use of received information without disclosing the identity or affiliation of the interviewee (unless with consent).

Following the procedure of ‘efficient process-tracing’ (Bennett and Checkel 2014), we secure the interview data against potential biases through gathering additional, diverse evidence such as reports and evaluations, as well through other scholarly work on East Timor. By combining the rich empirical data, we recreate the process surrounding water
sector reconstruction through UNTAET between 1999 and 2004, gaining — to our knowledge — the first comprehensive narrative of the post-conflict water service management in East Timor. Given the space limitations, we are presenting this data subsequently focused on three conspicuous arenas: the emergency response phase, the work of UNTAET’s water and sanitation unit, and lastly the work at the community level.

**Water service provision and peacebuilding in East Timor**

East Timor emerged in 1999 from 24 years of Indonesian occupation and a short but fiercely fought civil war. The case is especially interesting, as at the end of the civil war the most extensive peacebuilding mission, to that date, descended on East Timor. The mission took on all of the functions of the state, including sovereignty. In many instances UNTAET had to start from scratch, as key government and utility staff had left. This is especially true for the water sector, which was controlled and heavily subsidized by Indonesia. In the moment of secession in 1999 they left behind a water supply infrastructure that was factually inoperable. Subsequently we provide a detailed description of the process through which UNTAET managed the water supply infrastructure and the consequences of this management in terms of facilitating the peace process.

**From conflict to peacebuilding**

In October 1999, a significant UN peacebuilding mission was established to pacify the short but fiercely fought secessionist war in East Timor. After strong international pressure and the deployment of a UN-authorized, Australian-led security force — the International Force for East Timor (INTERFET) — the Indonesian parliament formally accepted the secession of East Timor, officially ending the Indonesian occupation of the territory (Martin 2001).

With the departure of the Indonesian authorities, INTERFET took responsibility for the territory’s security and the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) took the lead in the humanitarian emergency response (Martin 2001). Meanwhile, the United Nations Security Council (UNSC) was tasked with setting up a new mission in East Timor that would lead the transition to independence. UNTAET was established through Security Council Resolution 1272 on 25 October 1999 and gave unprecedented powers to the mission (Suhrke 2001). Under its broad mandate UNTAET was expected to: (1) provide security and maintain law and order throughout the territory of East Timor; (2) establish an effective administration; (3) assist in the development of civil and social services; (4) ensure the coordination and delivery of humanitarian assistance, rehabilitation, and development assistance; (5) support capacity-building for self-government; and (6) assist in the establishment of conditions for sustainable development (UNSC 1999). UNTAET was headed by Sérgio Vieira de Mello, a Brazilian diplomat appointed by Kofi Annan as Special Representative of the Secretary-General (SRSG) and Transitional Administrator of East Timor. Vieira de Mello officially took up his duties in East Timor on 17 November 1999.

Given the complexity of the humanitarian response, UNTAET was at first divided into three pillars: the governance and public administration (GPA), humanitarian assistance and emergency rehabilitation (HAER), and the peacekeeping force (PKF; UNSC 1999).
While the United Nations Department of Political Affairs had led UNAMET, responsibility for the new mission was assigned to the Department of Peacekeeping Operations (DPKO). Yet, the lack of country knowledge and expertise of the DPKO in statebuilding missions put significant constraints on UNTAET (Beauvais 2001). Furthermore, it suffered under a contradictory mandate: ‘UNTAET has confronted a fundamental tension between its short-term mandate to govern East Timor and the long-term strategic objective of preparing [the] East Timorese for democratic self-government’ (Beauvais 2001, 1105–6). As a result, many observers have argued that the East Timorese were alienated at the beginning of the peace process (Beauvais 2001; Tansey 2009).

In early 2000, the pressure on UNTAET to incorporate more East Timorese into the transition process increased to the point of a crisis of legitimacy (Smith and Dee 2003). In response, Vieira de Mello announced in April 2000 a process of ‘Timorization’, with the goal of achieving ‘a significant devolution of political authority to local actors’ (Tansey 2009, 79). In July 2000, the East Timor Transitional Administration (ETTA) replaced the three-pillar structure of UNTAET. Whereas the emergency response coordinated by the HAER pillar was phased out, the GPA pillar formed the new basis of UNTAET’s administrative structure. Nine cabinet portfolios were created, of which the East Timorese headed five and international staff headed the remaining four, while Vieira de Mello remained the head of the mission (Smith and Dee 2003). In 2001, as the country’s constitution was being drafted by the East Timorese, a ‘form of cohabitation’ between the UN mission and the locals was established (Tansey 2009, 77). In March 2002, the constitution was approved and came into force on 20 May 2002. The UN recognized the independence of what was now officially the Democratic Republic of Timor-Leste. UNTAET’s mission came to an end and was replaced with the United Nations Mission of Support in East Timor (UNMISET).

**Water sector reconstruction**

When UNTAET took over effective administrative responsibility of East Timor in February 2000 it faced significant challenges in the water sector. According to the World Bank’s world development indicators only 53% of the Timorese population had access to improved water sources in 1999 (Table 1). Those who had access were however not receiving a water supply 24 hours per day, and the whole system suffered from significant leakages and a general lack of maintenance. The history of external involvement in East Timor had resulted in the existence of two different types of water network in some areas – established during either the Portuguese colonial times or the Indonesian occupation – and this caused difficulties in maintaining a working infrastructure. In the capital, Dili, the old Portuguese water infrastructure – which was mostly installed in the old town – could not be repaired because the required parts were no longer

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<th>Table 1. Access to improved water sources.</th>
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<td><strong>1999</strong></td>
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<td>Improved water source (% of population with access)</td>
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<td>Improved water source, rural (% of rural population with access)</td>
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<td>Improved water source, urban (% of urban population with access)</td>
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being produced, so replacement was the only option (Japan International Cooperation Agency 2001).

Overall, Dili’s water supply was still good compared to most parts of the country. In urban areas, at least 66% of the Timorese population had access to improved water sources (Table 1). However, the operation of the necessary water infrastructure had been highly dependent on financial support from the Indonesian government. Even though water tariffs were collected in Dili, water access was essentially free for the rest of the country (Japan International Cooperation Agency 2001). With the secession from Indonesia following the 1999 referendum, the financial support for the water sector fell away.

Adding to the problematic state of the water sector in East Timor was the physical destruction of the infrastructure during the war. About 70% of all private residences, public buildings, and essential utilities had been destroyed during the fighting (OCHA 1999). In addition, the separation from Indonesia led to a gap in the personnel running the country’s administration and infrastructure, because the staff managing the water infrastructure – who were predominantly Indonesian elites – left East Timor in September 1999. This gap in capacity could not easily be compensated for, as there were few people available either locally or internationally with the necessary skills and experience. The situation aggravated the stress on the population’s problems with water access even further.2

Emergency response

Faced with these and other challenges, the OCHA was the first UN agency to take charge of the humanitarian emergency in September 1999. Under the leadership of Ross Mountain, the OCHA’s task was in particular to coordinate the humanitarian relief efforts of international non-governmental organizations (NGOs) such as Oxfam and the International Committee of the Red Cross (ICRC), as well as liaising with local NGOs (Hurford and Wahlstrom 2001). On 27 October 1999, two days after the UNSC established UNTAET, the OCHA launched the UN Consolidated Inter-Agency Appeal (CAP) – prepared in cooperation with various UN agencies and international NGOs – to address the emergency needs of the East Timorese until UNTAET was fully deployed and functioning. As UN Secretary-General Kofi Annan emphasized in his address to the UNSC in January 2000, the post-referendum humanitarian disaster was ‘the most pressing crisis facing UNTAET’ (UNSC 2000, page 7).

In parallel to the UN efforts, the World Bank deployed a joint assessment mission (JAM) on 29 October 1999 to identify the emergency and development needs of the East Timorese population. The resulting pledges for the CAP fund and the World Bank’s Trust Fund for East Timor (TFET) were jointly presented at a donors’ meeting in December 1999 in Tokyo. Funded through the donor pledges, the OCHA and the CAP were able to fill the vacuum left by the departure of the Indonesian authorities and provide ‘basic services to people while a new civil administration [was] established under the auspices of the United Nations Transitional Administration for East Timor (UNTAET)’ (OCHA 1999, 10). Yet, despite these assessments, there were many unknowns regarding the post-conflict humanitarian situation in East Timor because most of the humanitarian agencies had left during the violence. Moreover, data – for instance on the state of the water sector – was withheld by the Indonesian authorities, making it difficult for the international
responders to adequately prepare. Furthermore, important infrastructure and equipment had been systematically destroyed during the fighting.

In Dili, the OCHA continued an ‘on-the-spot allocation of tasks’ (JIU 2002). In the water and sanitation sector, priority was given to providing access to safe and adequate water (OCHA 1999, 85), yet the OCHA and UNTAET were only able to get the water supply—especially in Dili—running again. Even then, the water was not safe to drink because the necessary treatment was insufficient due to the lack of essential chemicals. Additionally, the challenge during the emergency response was to coordinate the work of all of the international and local actors involved. To facilitate this process, sectorial groups worked on specific tasks and were led by different UN agencies. The United Nations International Children’s Fund (UNICEF) coordinated the work of over 15 different UN agencies and international NGOs in the water and sanitation sector. Among others, the United Nations Development Programme (UNDP) and the ICRC focused on the rehabilitation of the water and sanitation services in Dili, especially the repair of piped water systems and the overall infrastructure. The United Nations High Commissioner for Refugees (UNHCR) and Oxfam focused on the emergency response for displaced persons, especially those who had returned from West Timor, while UNICEF—with the help of other NGOs—focused on the repairs of peri-urban and rural water systems, especially in schools and health centres (OCHA 1999).

One of the critical challenges of rehabilitating the water supply was repairing the power supply for the water pumps. Fearing that a system of diesel-powered water pumps would be too vulnerable to misuse, Bob Churcher—who was in charge of infrastructure reconstruction first for the United Kingdom (UK) Department for International Development (DFID) in the emergency phase and then for UNTAET—focused his attention on the rehabilitation of the power sector. Again, this process was difficult because the staff running the power facilities had left, and the water supply—especially in Dili—was highly dependent on electricity. As Jean Christian Cady, former Deputy Special Representative of the Secretary-General in UNTAET, recalls:

‘The water in Dili had to be pumped and was dependent on the electricity supply, which was extremely unreliable. No power, no water. The diesel-powered generator in Comoro to the west of Dili could not meet the demand. Every day for many hours, sectors of Dili were off-loaded. Neither the pumping stations nor the water treatment plant were equipped with standby generators.’

While some businesses in Dili had their own generators and were able to pump water from private boreholes, many people had to get their water resources from open, freshwater sources that had been contaminated during the conflict and to a large extent were carrying off wastewater.

According to the UN Joint Inspection Unit (JIU) report and the international staff that were in East Timor at the time, the emergency response of the OCHA was overall effective and successful, and is often credited especially to the expertise and leadership of Ross Mountain (JIU 2002, 12). An external review of the UN humanitarian response to the crisis commissioned by UNTAET’s HAER pillar claimed: ‘The overall performance and achievements of the humanitarian response in East Timor have been very positive and timely. It has likely contributed to cover the most urgent needs of the population’ (UNTAET 2000). Nonetheless, the emergency reconstruction under the CAP suffered
from several gaps. Moreover, a crucial problem became the ineffective support of the transition from relief to development because it lacked follow-up by the OCHA (JIU 2002, 12).

**UNTAET and the water and sanitation sector**

UNTAET was only fully staffed and able to perform its administrative tasks from February 2000 onwards. However, the transition from the emergency phase to the rehabilitation and reconstruction efforts had already begun, which meant integrating the operations of the OCHA into the newly established administration. The process started in mid-November 1999, at which time the OCHA handed over more and more of its tasks to UNTAET’s HAER pillar. Given the complexity and severity of the emergency response this process was far from easy. Several factors were especially problematic, including the confusion triggered by the difficult transition in leadership from the Department of Political Affairs to the DPKO, various planning and staffing deficiencies in UNTAET, and the lack of inclusion of the various UN agencies’ expertise coupled with the lack of expertise in the HAER and GPA pillars, which triggered a lack of efficiency in some infrastructure projects (JIU 2002).

Despite all efforts, the lack of coordination between the various actors in the water sector and a rapidly changing institutional context was of great concern for UNTAET. To address this problem, Jean-Christian Cady – the Deputy Head of UNTAET – held monthly meetings with multilateral institutions such as the World Health Organization (WHO), UNICEF, the World Bank, and the Asian Development Bank (ADB). However, the work of many government agencies from Australia, Japan, the United States (US), and the UK was in need of coordination to prevent the duplication of programmes and oversight. Cady recalls these agencies’ participation in these meetings:

> their response was very cautious, as some organizations felt, wrongly, that it was an attempt to limit their freedom of action and decision. After a while they accepted the fact that these meetings were useful not only for UNTAET but also for themselves, as it enabled them to have a broader view.9

Lastly, there were many NGOs in the water sector like AQUAPOR from Portugal and Engineers Without Borders who specialized in providing people with safe water.

UNTAET established the Water and Sanitation Service Unit in November 1999 as part of the infrastructure section of the HAER pillar. The departure of Indonesian officials had created a void that was hard to compensate for, meaning that in most areas UNTAET had to essentially start from scratch. Graham Costin, a water engineer from Australia, headed the unit from February 2000 and was tasked with the difficult challenge of water sector reconstruction, which also meant continuously coordinating with the many actors involved. In addition, Costin and the Water and Sanitation Service Unit faced strong constraints regarding human resources, infrastructure, and finance. Bob Churcher gave priority to the reconstruction of the power sector; as a national water network did not exist in East Timor, his reasoning was that providing electricity would allow locals to use their pumps at individual boreholes. Re-establishing the electricity and water supply, especially in Dili, would moreover address a problem caused by the humanitarian response, as such: the influx of the peacekeeping forces and international aid agencies, NGOs, and the UN had caused an increased demand on the local resources, especially in the new capital. As the local infrastructure could not cope, priority was given to
re-establishing the water supply in Dili, which again meant a focus on power provision, as the pumping stations and water treatment plants needed electricity. In addition, UNTAET had to airlift bottled drinking water to the peacekeeping troops that were dispersed across the country.\textsuperscript{10}

Given these challenges and the limited resources available,\textsuperscript{11} UNTAET’s Water and Sanitation Service Unit focused on urban water supply services, with sanitation and rural water supply left aside.\textsuperscript{12} At the time, the WHO wrote the following in one of their assessments:

> Even in the urban water supply sector, most of the resources and manpower is for Dili and 12 major district towns. During the Indonesian period, they used to provide services in 69 towns. Of the 153 staff in position in WSS during 2000/01, 143 are for urban water supply in Dili and 12 main towns, five on sanitation (mostly for solid waste management of Dili) two for drainage and three for CWSS.\textsuperscript{13}

The focus on Dili is reflected in UNTAET’s approach at the time. According to Cady, UNTAET focused on (a) eliminating or alleviating water pollution, (b) building dams in order to guarantee water supply all year round, (c) running a programme of pipe repairs to limit leakage, and (d) providing pumps to be used in boreholes in villages, along with diesel fuel to run them, this being financed by the TFET and the ADB.\textsuperscript{14}

The consequence of this strategy is visible in the Millennium Development Goals indicator data for East Timor; while access to improved drinking-water sources in urban areas increased by 11% between 1999 and 2004, it only increased by 4% in rural areas. More startling though is the effect regarding access to improved sanitation facilities: five years after the intervention access had improved in urban areas by 7%, but it had continuously dropped in rural areas to $-2\%$.\textsuperscript{15}

UNTAET clearly struggled to get the infrastructure for the rural water supply on track. One of the problems that emerged after the initial distribution of diesel-powered pumps in some villages echoed the initial concerns of Bob Churcher; even though the misuse was limited, local communities were not able to sustain the diesel supply by themselves, as they did not collect fees for water use. Moreover, did local actors expect UNTAET to continuously provide fuel? Some of the pumps had been provided by NGOs and other agencies, and UNTAET’s Water and Sanitation Service Unit did not have the resources to endlessly supply them with fuel. Interview with an UNTAET senior official in the Water and Sanitation Service Unit, 21 November 2016.

**Community water supply**

Overall, rural areas created substantive problems for UNTAET’s work on water and sanitation. Given the limited funding available for the Water and Sanitation Service Unit, Graham Costin only had enough staff to manage the urban water supply. However, important funding to address water and sanitation in at least some communities came in late 2000 through a grant administered by the ADB. The ‘Water Supply and Sanitation Rehabilitation Project’ was intended to improve the water supply at the community level. Based on the World Bank’s Community Empowerment Program and funded through the TFET, ‘the program aimed to create a bottom-up system of local government based on development councils to promote rural and community development and rehabilitation’ (Schoeffel 2006, 1–2). ADB provided technical assistance and training to this project, while Oxfam was in charge of implementation. The project had three essential
components: the establishment of institutions in the water and sanitation sector, the building of local capacity, and the repair of infrastructure (ADB 2004).

However, the rehabilitation and improvement of the water supply and sanitation in these communities could hardly be classified as successful, even though it emphasized a community participatory approach. The locals who received new equipment such as diesel-powered pumps did not have the resources to maintain it. This created tensions with the transitional administration, which subsequently needed to mitigate the consequences of projects that had been badly implemented during the emergency phase. More substantial though was the failure to account for the sociocultural context.

International actors misperceived what constitutes a community in East Timor. The social structure on islands in this region are typically based on ancestral inheritance (patrilineal and matrilineal) and kinship (Schoeffel 1995; Thu, Scott, and Van Niel 2007), thus ‘named localities identified on maps and in census-counting units as “villages” are in reality collections of hamlets containing a group of related people living in one or more family households, who co-operate in day-to-day matters’ (Schoeffel 1995, 158). The absence of a spatially bound community obstructed, for example, community participation through water-user committees. Even though it is theoretically expected that such participation would enable cooperation among local actors and thereby increase trust and overcome often-unresolved conflicts over land and leadership, the opposite occurred. Both Several officials note local disputes over the access and sharing of water resources that were caused by local corruption and the ways in which local elites had benefited from these disputes, in one way or another. Adding to the problem were tensions between on the one hand traditional Timorese practices that had gained popularity as part of the nationalization process and the newly established independence, and on the other hand modern methods of water resource management (Costin and Powell 2006; Palmer 2015). In particular, the traditional practice of tara bandu (i.e. ritual prohibitions) constituted an obstacle to installing and/or modernizing the water supply at the community level:

water sources were often protected by lulic prohibitions that prevented clearing of vegetation around the springs. More recently, community support for spring capture and pipe distribution systems are often dependent on the agreement of key local custodians to permit disturbance and development of the spring resource. The nature of the custodial claim to natural springs is typically one of ritual interdependence founded on forms of ancestrally constituted rights and emplaced authority over the water resource. (Costin and Powell 2006, 15)

However, it is short-sighted to attribute the failure of implementing community water supply to local customs – an attribution of blame frequently found among NGO actors in this case (Schoeffel 2006, 6). Rather, there is an indication that the model is the real cause of the problem. The biggest failure at the community level has been the lack of capacity-building among the local population – and while some attribute this failure to engage in capacity-building to a lack of motivation among the people, the ADB (2004) concludes that the project design is the problem: in the rural projects, water-user committees were never active and no water fees were being paid or collected. The failure is due to the lack of suitable institutions that are ‘empowered by the state to manage them; carry out repairs and maintenance, collect user fees, and impose regulations on use and sanctions on abuse’ (Schoeffel 2006, 15). Although the community participation model has been internationally endorsed since 1992, the the Asian Development Bank’s (ADB) Operations Evaluation
Mission (2004) remarks that it could not apply to East Timor, as the relationships are not community-based but rather household- and kin-based. Secondly, the Operations Evaluation Mission found that ‘people were not unaware but were unwilling to act collectively because of a lack of effective incentives and sanctions’ (the Asian Development Bank’s (ADB) 2004, 40), which underlines a problem in the adopted model.

Analysis

The case study of East Timor clearly shows that the delivery of water services in post-conflict countries is hardly straightforward. The modest progress made in relation to access to improved water sources and sanitation facilities in the first five years post-conflict illustrate the case in point (Table 2). Nonetheless, the water sector reconstruction in East Timor was partially successful. Especially in Dili, UNTEAT managed to reconstruct the water supply infrastructure despite difficulties. In addition, lack of access to the water supply did not incite direct violence or a deterioration in the overall security situation. However, this study aims to investigate whether or not the reconstruction of water supply infrastructure can serve as an entry point for post-conflict peacebuilding. Building on three theoretically plausible mechanisms, the analysis shows that UNTAET was not able to generate peace-enhancing effects through its water sector reconstruction efforts, and we propose that this is because of three specific shortcomings. First, the community management model in the water sector surprisingly did not lead to more cooperation among community members and did not enhance the stability and cohesiveness of the local communities. Second, a failure to include especially women in the local water-user committees inhibited the diffusion of more progressive transnational norms that would have allowed progressive changes in society and made the peace process more meaningful at the local level. Third, a difficult transition from short-term relief efforts to long-term planning and the uncoordinated work of too many actors during the emergency phase impacted the long-term perceptions of the state authority – in this case, UNTAET.

Contact but no cooperation

Theoretically we expected that contact and cooperation among community members would be able to overcome prejudice and bring communities closer together. In the

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<th>Table 2. Overview of water and sanitation performance in East Timor between 1999 and 2004.</th>
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<td>Proportion of population using an improved drinking-water source (MDGs)</td>
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<td>Proportion of population using an improved sanitation facility (MDGs)</td>
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case of East Timor, we do not find evidence to suggest that the implementation of water supply facilities in communities had such a positive effect. There is indication that this is because of the way in which the international actors implemented the community management model, which is based on Western ideas of water management in the context of a neoliberal peacebuilding process (Richmond and Franks 2008). UNTAET only had limited control of this process, especially during the emergency phase when many other actors were involved, and coordination was lacking. Yet, UNTAET subsequently continued to follow the former Indonesian administrative structures. While on the one hand practical, this did not consider the sociocultural realities of rural communities and the people’s newly gained independence (Palmer and de Carvalho 2008).

Contact theory offers pathways to overcome the ideational division of villages because the exposure of members of rival groups and communities to one another in a meaningful way has the ability to build relationships and cohesion. Yet, contact will only have a positive impact under the condition of equal status contact and voluntary intergroup cooperation (Pettigrew et al. 2011). In East Timor, the implementation of community-level water supply development lacked effective supervision by the local NGOs and international actors, which could have facilitated cooperation by anchoring ideationally Western models of water management to customary identities.

This example constitutes an important lesson for the sustainable management of water resources in post-conflict countries, because community-based infrastructure projects – such as those in implemented in East Timor – rely heavily on communal participation and ownership. Yet, the intergroup cooperation within the communities was limited. More than that, contrary to enabling cooperation, several practitioners who were working in the field at the time have made reference to intergroup conflicts arising at the community level, which took the form of sabotaging communal water systems and refusing to share the water resources equally. This finding is congruent with research on the contact hypothesis which suggests that if ‘participants feel threatened and did not choose to have the contact’ it can in fact enhance prejudice between groups and increase social distance rather than bringing people together (Pettigrew et al. 2011, 277).

Granted, it is not new that peacebuilding practitioners need to pay more attention to the social–ideational dynamics in post-conflict countries; as Ide argues, scholars and practitioners treat ‘individuals and social groups as utility maximizers which act in an instrumental rationalist manner toward a bio-physical and socio-economic surrounding’ (2016, 13). Instead, scholars and practitioners need to acknowledge and gain more insight into domestic institutional foundations and ‘how specific local experiences and inter subjectivities are related to forces and processes that connect actors, agencies, and institutions across multiple social and political arenas’ (Kashwan 2017, 25). Traditional types of water management in East Timor would in fact lend themselves to facilitating contact among communities:

Across the wider region, water is understood as a communicator, a cleanser, and the purveyor of life and health … In this way water is viewed through the prism of relationship (for example, relations between the visible and invisible, life and death, water custodians and water users), not as a possessory form of individuated property. (Jackson and Palmer 2012, 6)

Building on strong local agency surrounding local resource management, as was the case in East Timor (Palmer and de Carvalho 2008), designing institutions to facilitate local collective action for the management of natural resources may help overcome such
difficulties (Varughese and Ostrom 2001; Adhikari 2005). This would allow peacebuilding actors to reduce the risk of inadvertently enhancing community divisions through their intervention, and moreover would open the pathway to harvesting the potential that well-coordinated intergroup cooperation holds.

**Transferring global norms to local contexts**

The provision of water services and the implementation of these projects within communities and in collaboration and consultation with local actors was expected to yield new norms diffused in the interactions between local and international actors. Given the emphasis on the involvement of women in the peace process in East Timor (Olsson 2009), as well as in the management of the community water systems, we expected these efforts to potentially defuse progressive international norms regarding gender equality – especially since women are the main water-users. However, the empirics show that in the water sector the cascading effect of norm diffusion failed because it was not backed up by an effective educational follow-up.

Gender issues progressively gained importance within UN peacebuilding missions during this period, and UNTAET was one of the first UN missions to have a specifically dedicated gender affairs unit (GAU) tasked with mainstreaming a gender perspective within UNTAET (Ospina 2006). Interestingly in this case, UNTAET officials were at first reluctant to create such a unit – but under the pressure of other UN bodies, as well as East Timorese women’s groups, the unit was eventually established in April 2000 (Ospina 2006; Olsson 2009). However, ‘U.N. policy of mainstreaming gender into its peace and security operations is being implemented in a rather superficial and inadequate manner’ (Charlesworth 2001, 314); as such, it is not surprising that within the water sector a similar expression of transnational norms and civil-society action was absent. Local NGOs in charge of promoting the involvement of women with the water-user committees claimed that the cultural patriarchal barriers were too difficult to overcome (ADB 2004). However, the ADB evaluation team remarked: ‘No effort seems to have been made [by national NGOs] to find alternative ways to involve women’ (ADB 2004, 37). Examples from other countries, however, show that engaging women and increasing participation is possible and can indeed yield transformation of traditional gender norms (Swain and Wallentin 2009).

In East Timor the failure to involve women in the local water-user committees illustrates that the diffusion of more progressive norms often depends on the ability of international actors to navigate the sociocultural realities. East Timor has both ‘patrilineal’ and ‘matrilineal’ customs, and it is for instance possible for women to acquire land-tenure rights (Thu, Scott, and Van Niel 2007). Yet, the insufficient training of the staff of national NGOs tasked with implementing the reforms and facilitating the inclusion of women pre-empted the potential to counter a return to more traditional gender roles (Niner 2011), and this produced incoherent outcomes regarding the sustainability of the water systems provided through UNTAET and other international actors. Of course, this is easier said than done; in many instances women will not speak on issues of water (Palmer 2015), and there is a rural–urban divide wherein more internationally progressive gender norms are present in the capital compared to the peripheral areas of East Timor (Niner 2011). However, female involvement in the planning and implementation of water systems is crucial, and the reason for
this appears to be the fact that women are the primary water-users (Australian Red Cross 2011). As the primary stakeholders in the local water supply, women are more interested than other groups in functioning water systems; indeed, in cases where women’s involvement is high, ‘water is more likely to be continually available with a shorter distance from homes’ (ADB 2004, 45).

The involvement of women in water-user committees is crucial for making the provision of water services sustainable, and can also be a pathway to helping peacebuilding efforts to resonate with local communities. However, the route to achieving this is less than straightforward. The objective of involving women in East Timor’s water sector was destined to fail, given the time and resource constraints as well as the lack of sociocultural adaptation made on the part of the international actors. More capacity-building of local actors, especially women, as well as the training of local and national NGOs to implement gender issues, is critical.

Service provision coordination failure

The provision of water supply infrastructure is one of the key functions of the state and a cornerstone of international development aid, so we expect this provision to consolidate the perception of the state as an adequate provider for its citizens’ basic needs. Empirically we find significant evidence of the accuracy of this mechanism and that it catches important dynamics – yet, again the empirical analysis of East Timor does not show a consolidation of the state as the legitimate actor that can provide basic services. Nonetheless, important lessons can be learned on how to improve the sustainable management of water supply in post-conflict countries.

The reconstruction of the water sector in East Timor shows both the need for and challenging complexity of international involvement in post-conflict countries, with dozens of actors and multiple layers of responsibility. Fifteen external agencies were involved in the water and sanitation projects alone. In addition, the OCHA had to coordinate its projects with the World Bank’s parallel projects. Many layers of actors also characterized the Water Supply and Sanitation Rehabilitation Project (WSSRP). The ADB prepared and managed the, while UNTAET was the executing agency. Other agencies, mostly international NGOs, were contracted to implement the project in rural communities, and it was common for these international NGOs to subcontract work to local NGOs.

This multitude of actors, which was unquestionably necessary to provide emergency relief to the civilian population in the first place, complicated the consolidation of the newly formed state institutions in the eyes of the population. This becomes especially clear when looking at the long-term effects. Costin, who oversaw the Water and Sanitation Service Unit of UNTAET, reports the difficulties that arose after some aid organizations provided water pumps to communities. Upon the exit of these organizations, people had neither the know-how to maintain these pumps nor the money to buy fuel for them. Consequently, people came to UNTAET asking for help, but these pumps were not part of UNTAET’s strategy for providing a water supply (in anticipation of difficulties) and UNTAET did not have the resources to maintain or fuel them. The effect, as Costin reports, was that people were increasingly unhappy with UNTAET, challenging the legitimacy of the newly established institutional framework. Moreover, due to the multiplicity of projects in the water sector, not all funding sources were integrated into the national...
budget, thus eventually undermining national ownership of this sector (Rohland and Cliffe 2002).

The transition from the emergency phase – in which dozens of actors were involved and partially competing for access to and resources in the water sector – to the long-term single state actor approach is a critical challenge. Regarding water supply as well as health and food distribution, NGOs are a critical provider. Yet, the absence of a clear exit strategy for these international actors – one which included the coordinated handover of responsibilities to an accountable state administration – challenged the public’s belief in the newly established political institutions.

Political legitimacy is a complex phenomenon, as it is a product of historical and contemporary political contexts. Even so, because of the high salience of natural resources like water, control over resources often constitutes an important means of asserting, affirming, and/or strengthening the legitimacy of social and political power (Le Billon 2001). The outcomes of state–society engagements therefore depend heavily on the type of political intermediation mechanisms that exist in a society (Kashwan 2017). As Kashwan (2017) shows, a variety of civil-society groups can serve as aggregators and organizers of group interests if they engage with political and policymaking processes: if the state is yet to secure full legitimacy in post-conflict situations, like in East Timor, politically engaged social movements and mobilizations are likely to play an important role in the representation of social interest. However, as in the case of many other international peacebuilding interventions, East Timor suffered from a lack of local ownership (partially justified by a lack of local capacity due to Indonesian oppression). This is especially true in the water sector, the reconstruction of which shows the potential negative impacts of infrastructure interventions in a post-conflict context when they are poorly coordinated and lack ownership. Yet, it also shows that these problems are not deterministic. State and non-state agencies, including international agencies, can foster and reinforce the state–society relationship by strengthening the skills of social groups and civil-society organizations to play the dual role of anchoring political negotiation over resource rights (Kashwan 2017) while also facilitating collective actions around the goals of resource management and governance (Krampe 2016). This demands the coordination of a large number of emergency relief groups and a willingness on the part of these groups to engage with the local civil society and people. Indeed, local agency was strong and local people were ‘making and remaking their own laws, mobilizing their customary practices and, increasingly, “performing” their traditions in public demonstrations of their extant capacities’ (Palmer and de Carvalho 2008, 1321). This is congruent with findings from other peacebuilding missions (Kappler 2012), emphasizing that local agency exists and locally anchored peace processes are possible.

Conclusion

The aim of this article has been to provide an in-depth examination of the post-conflict water service provision in East Timor in order to ascertain the causal importance of the three theory-derived mechanisms that explain how the delivery of basic services in post-conflict countries can contribute to building peace. As one of the first theory-centred empirical analyses of post-conflict water resource management, we find that the three mechanisms of the contact hypothesis, the diffusion of transnational norms,
and the service provision–extraction equilibrium provide substantial new insight into the ways in which the post-conflict governance of water supply infrastructure has affected the peace process in East Timor.

While generally successful in terms of preventing conflict relapse, UNTAET could not benefit from the hypothesized potential of providing water services. Instead the UN mission suffered from three shortcomings. First, the community management model in the water sector surprisingly did not lead to more cooperation among community members and did not enhance the stability and cohesiveness of local communities. Second, the failure to include especially women in local water-user committees inhibited the diffusion of more progressive transnational norms that would have allowed progressive changes in society and made the peace process more meaningful at the local level. Third, a difficult transition from short-term relief efforts to long-term planning and the uncoordinated work of too many actors during the emergency phase impacted the long-term perceptions of the state authority – in this case, UNTAET. Further development of this theory is critical to achieving the sustainable management of water resources in post-conflict countries and thus gaining important insight into the potential long-term benefits to the process of building peace.

The theory presented herein offers a better understanding of the complex landscape of post-conflict resource management and the many linkages between social, political, and ecological processes. As the indirect, long-term effects of internal armed conflict amplify the challenges of peacebuilding, more research is needed in order to systematically assess and thus theorize the dynamics and processes relating to natural-resource management in peacebuilding.

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Notes

1. Interviews with local actors are limited to those directly linked to the peacebuilding mission. I acknowledge the increasing interest in disaggregating local actors (e.g. Mac Ginty and Richmond 2013; Kostić 2017). Interviews with local actors external to the mission lay beyond the scope of this study, but reference to relevant studies investigating these local perceptions have been provided if appropriate. Interviews not explicitly referenced: Paolo Spantigati, country director, ADB Timor Leste Resident Mission, 8 September 2017; Tiago Ribeiro, water specialist, ADB Timor Leste Resident Mission, 8 September 2017; Ian Martin, Special Representative of the UN Secretary-General for the East Timor Popular Consultation, 4 January 2018. Interviews were conducted via Skype or phone.
2. Interview with an UNTAET senior official in the Water and Sanitation Service Unit, 21 November 2016; interview with an UNTAET senior official, December 2016; interview with an UNTAET senior official in infrastructure management, 9 December 2016.
3. Interview with an UNTAET senior official in the Water and Sanitation Service Unit, 21 November 2016.
4. Interview with an UNTAET senior official, December 2016.
5. Ibid.
Disclosure statement

No potential conflict of interest was reported by the author.

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