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International capacity building to achieve SDG6: insights from longitudinal analysis of five water operator partnerships

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ABSTRACT

In pursuit of the United Nations' Sustainable Development Goal (SDG) 6, water operator partnerships (WOPs) have grown in popularity. However, the literature supporting their effectiveness is lacking. We conducted mid-term interviews and surveys with five participating utilities in a Viet Nam–Australia WOP, followed by post-programme interviews with two managing associations and 10 utilities. We found that while partnerships initially focused on technical training, the need for broader institutional learning emerged as participants gained experience. Communication and relationship-building were consistently reported as success factors for achieving desired outcomes. Expanding the scope to involve governance and policy organizations, together with funding to collaboratively implement upgrades, could enhance future programmes.

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international partnerships;
institutional learning;
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Introduction

Water operator partnerships (WOPs) in development

The United Nations' 2016 Sustainable Development Goals (SDGs), and the 2000 Millennium Development Goals (MDGs) before them, established targets for equitable access to safe and affordable drinking water, but global efforts are currently off-track (UNWATER, 2021). Starting in the 1990s, the dominant approach for improving water services was privatization and direct investment in infrastructure, for example, through establishing public–private partnerships (PPPs). This strategy aimed to increase the efficiency of water delivery and mitigate project risk (Goldman, 2007). However, it did not produce all the desired outcomes, with research indicating that the focus on profit generation sometimes conflicted with social equity goals (Beck, 2019; GWOPA & IWA, 2021). Additionally, a lack of support to strengthen the local authorities responsible for service delivery hampered progress (Dondeynaz et al., 2012). An alternative approach emerged in the

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mid-2000s, aiming to build local institutional capacity through WOPs in which organizations of comparable scale and mandate exchange knowledge (GWOPA & IWA, 2021). WOPs may be conducted between a higher income (Global North) country and a lower income (Global South) country (i.e., a North–South partnership), or between two countries with similar socio-economic backgrounds (e.g., a South–South partnership).

The strategic shift towards WOPs was formalized through the Hashimoto Action Plan (UNSGAB, 2006), which led to the formation of the Global Water Operators' Partnership Alliance (GWOPA) in 2009. GWOPA is an overarching body that supports WOPs through advocacy, communication of outcomes and providing knowledge sharing platforms for participants. The GWOPA database currently contains over 100 WOPs, most of which were set up by development banks and water associations (GWOPA & UNESCO-IHE Delft, 2021). WOPs are, by definition, not-for-profit, but the Hashimoto Action Plan specifically allows for private sector participation (UNSGAB, 2006). Consequently, some researchers have expressed concern that WOPs could become a 'marketing opportunity' for private companies or a mechanism for foreign governments to promote neoliberal water policies in the developing world (Beck, 2019; Boag & McDonald, 2010). However, Beck (2019) notes that there is little available evidence to either support or disprove these ideas. Therefore, it is unclear whether WOPs are subject to some of the same problems around equity and local capacity shortfalls encountered by the earlier strategies with a more explicit private-sector focus.

Furthermore, the primary goal of WOPs is somewhat contested between competing aims of improving technical skills (e.g., through mentoring individual employees) versus building broader institutional capacity (e.g., through influencing organizational policies). In support of a technically focused approach, research has found that operational advancements are generally easier to achieve and measure (Askvik, 1999; Jones, 2001; Pascual Sanz et al., 2013), particularly since participating utilities are selected based on operational similarity rather than expertise in organizational change (Jones, 2001). Technical learnings may also be more readily passed on to organizations outside the initial partnership, creating a 'virtuous cycle' of collaboration and learning in the region (Boag & McDonald, 2010). However, partnerships focusing on organizational change and 'soft skills' may better equip participating utilities for the wide range of complex challenges expected in the future (Jones & Blunt, 1999). Harris and Schlappa (2008) point to inherent struggles in organizational capacity-building, including the need to engage with existing institutional power structures that may differ from those of the partner (Breeveld et al., 2013), as well as the difficulty of diagnosing organizational learning needs from the outside. Institutional and strategic changes may meet resistance (Askvik, 1999), and there is no standard best practice approach for organizational management (Breeveld et al., 2013). In sum, there is limited agreement in the literature around what WOPs should aim to achieve at a practical level.

In light of substantial global investment in WOPs, it is important to establish which goals they can address most effectively, and the potential pitfalls to be avoided. Several past studies point to significant challenges in the implementation of WOPs. These include difficulties defining and agreeing upon goals (Wehn & Montalvo, 2018); maintaining commitment and enthusiasm over long time periods and/or in challenging circumstances (Tsibani, 2007); and assessing progress without enforcing overly rigid monitoring procedures (Pascual Sanz et al., 2013). In North–South partnerships, contrasting social

structures, policy environments, cultural practices and financial constraints can hinder knowledge exchange (Pigram, 2001), and national (as opposed to international) WOPs have been suggested as an option for avoiding these barriers. In one example, two short-term WOPs between Greek utilities were reportedly beneficial (Martin-Bordes, 2020). However, a case study in Indonesia found that national partnerships can be highly vulnerable to regional political factors (Tutusaus & Schwartz, 2016).

While there are several studies pointing to the negative aspects of WOPs, others advocate for their potential to improve water services under the right conditions (Ndirangu et al., 2013; Wright-Contreras et al., 2020). Gallego-Ayala et al. (2014) found utilities that had participated in WOPs had higher performance than others in Mozambique, and Coppel and Schwartz (2011) also showed positive effects of WOPs in the same region. GWOPA & IWA (2021) list a demand driven approach, an enabling environment, clearly defined targets, flexibility, and open communication as the most important aspects of good WOPs. Partnerships with strong relationships based on trust will be well positioned to achieve these conditions, so an introductory phase for relationship-building is beneficial (GWOPA & IWA, 2021). Under the right circumstances, WOPs have successfully enhanced water utility capacity across the world (GWOPA & UNESCO-IHE Delft, 2021). WOPs are also inherently aligned with SDG Target 6.a, which aims to 'expand international cooperation and capacity-building support to developing [Global South] countries in water- and sanitation-related activities [..]', and they may contribute to improved bilateral relations between countries.

While there is previous research studying effectiveness and potential downsides of WOPs, the variety of different circumstances surrounding their implementation means that they remain inadequately understood as a whole (Beck, 2019). Of particular interest are five key issues that have emerged from our reading of the literature concerning: (1) conflicts between commercial and public interests; (2) capacity for broader organizational – as well as technical – learning; (3) dependency on interpersonal relationships; (4) alignment of goals within the partnership; and (5) establishing appropriate and effective management structures, timeframes, and funding arrangements. Our study aims to address these questions through a longitudinal analysis of a WOP between Australian and Vietnamese water utilities, described below.

Case study

The WOPs included in this study were funded by the Australian government and managed by water sector associations from Australia and Viet Nam (herein referred to as the managers), with five participating water utilities from each country (herein referred to as the participants). The managers selected which utilities would participate, as well as matching each utility with a partner utility from the other country. The participants primarily worked with their individual partners, but some educational workshops and activities involving all participants were also included in the programme. All Australian participants were public utilities, and all Vietnamese participants were PPPs aiming to generate profit as well as serve their constituents. We do not provide further details about the individual organizations involved in order to preserve anonymity.

The WOP programme was launched at a meeting in Viet Nam in November 2016, attended by representatives from all 10 utilities. The managers arranged a goal-setting

workshop where participants were encouraged to discuss their needs and capabilities with their respective partners to identify suitable topics for the programme. Employees from the partnered utilities then travelled to visit each other's offices and treatment plants with the aim of sharing knowledge and ultimately improving water services. The managers were available to support the participants throughout the programme. They also arranged programme-specific workshops for all participants at three international conferences in Australia in 2017, 2018 and 2019, plus an additional two international conferences in Viet Nam in 2017 and 2018.

The initial timeframe for the programme was 18 months but, following a recommendation of the mid-term evaluation in November 2017, it was extended one additional year until May 2019. One Australian utility chose not to continue for the extra year, primarily because a key staff member had left the organization. This employee's new organization was brought in to work with the Vietnamese partner for the extension period. The total cost of the programme was just under A\$800,000 plus nearly A\$2,000,000 of in-kind contributions from the participants.

Methods

The WOP programme described above was ideal for our study because the five partnerships (each involving one Australian and one Vietnamese utility who primarily worked together) were conducted under broadly analogous conditions, including servicing peri-urban and regional service areas; using similar cost recovery and accounting models; sharing the same programme duration/timing; and being subject to common overarching programme management. Because these factors made the partnerships meaningfully comparable, the level of consensus between interviewees gave us some insight into the certainty and potential generalizability of our results.

Our data collection was separated into two phases. The first phase in 2017 was a mid-term evaluation (led by Susanne Schmeidl and Andrew Dansie) that included a quantitative online survey, as well as qualitative semi-structured interviews with all five Australian partners that were carried out during a workshop in Vietnam (Dansie et al., 2018). While the mid-term surveys and interviews were aimed primarily at programme evaluation, the questions were formulated with the secondary goal of producing research on WOPs. As such, the mid-term evaluation results formed part of this analysis. The responses from the partners allowed us to understand the programme's achievements and perceived success factors while the participants were still involved, and before the timeframe was extended. Vietnamese partners were not interviewed during the mid-term review at the request of the programme manager to avoid complicating the still-forming relationship between the partners. We obtained ethics approval for phase 1 from the UNSW HREA Panel H: Science and Engineering (approval number HC17906).

Phase 2 of this research was an independent post-programme analysis conducted in 2020/21. It involved semi-structured interviews using video conferencing software with five, out of a total six, Australian partners (interviewed by Clare Stephens), including the partner who did not participate in the extension and the utility who replaced them, and three of the Vietnamese partners (interviewed by Hung Pham). The remaining two Vietnamese partners opted to respond over email, and one Australian partner declined to participate. We interviewed between one and four employees from each organization,

with varying levels of seniority. We also interviewed the programme managers from Australia (interviewed by Clare Stephens and Susanne Schmeidl) and Viet Nam (interviewed by Hung Pham), both via videoconference. All interviewees provided either prior written consent or verbal consent at the commencement of the interview, and they were given the option of responding in writing or giving an unrecorded video interview (although none chose the latter option). We obtained ethics approval for phase 2 from the UNSW HREA Panel H: Science and Engineering (approval number HC200053). We also gained formal approval from the University of Da Nang Department of Science, Technology and International Cooperation, who deemed the project 'low risk'. The timing of the programme and our data collection phases is outlined in Figure 1.

We opted for semi-structured interviews in both phases so that interviewees could direct the discussion as appropriate, meaning that the listed questions (provided in Supplementary Information) acted as a general guide only. The interview questions in the second phase, which focused entirely on research questions as opposed to programme evaluation, were deliberately formulated to be relatively broad to avoid bias in the responses, and addressed the following topics:

- Programme management, resources and structure.
- Relationship-building within the partnerships.
- Challenges faced by the participating utilities during the programme.
- Outcomes and benefits of the WOP for both partners.
- Learnings that could inform future WOP programmes.

Many of these topics were also discussed in the first phase of data collection (the mid-term evaluation). The second-phase interviews with Australian stakeholders were conducted in English and transcribed. The second-phase interviews with Vietnamese stakeholders were conducted in Vietnamese, then transcribed and translated into English by an independent translator with a background in water engineering. Emailed responses in Vietnamese were also translated. The translator and transcriber were both required to sign confidentiality agreements in accordance with our ethics approvals. All interview data were summarized using Thematic Analysis (Ryan & Bernard, 2003) to distil key

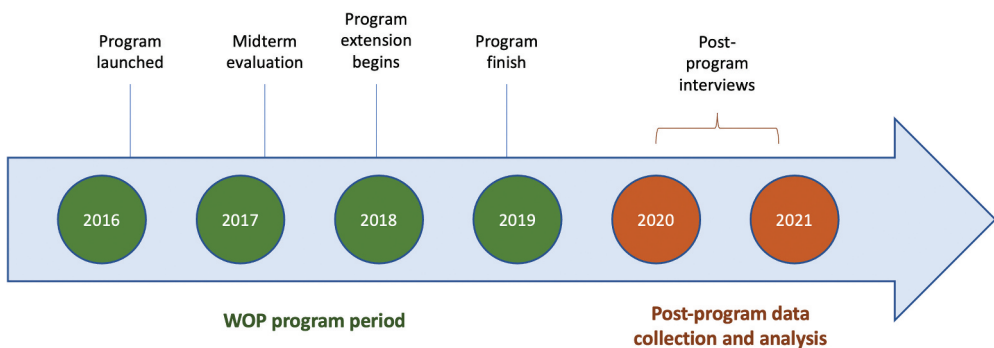


Figure 1. Water operator partnership (WOP) programme and interview timeline. Phase 1 of this project was part of the mid-term evaluation, while phase 2 was the post-programme analysis shown in orange.

learnings, as well as identify points of consensus and disagreement. Responses that offer insights into this WOP programme are summarized in the third section, and overarching findings relevant to WOPs in general are outlined in the fourth section.

Results and discussion

Operational findings

Programme design and management

The WOP programme was designed and managed by water associations representing the water sector in the two countries. The Australian manager was largely responsible for obtaining funding, along with the associated monitoring, evaluation, and reporting. Both the Australian and Vietnamese programme managers recruited and selected utilities from their own countries, then worked together to allocate them into partnerships. The Vietnamese manager selected relatively high performing utilities, hoping to limit the technology gap so that they could learn more quickly from their Australian partners. They hoped that these sector leaders would then be able to pass their learnings on to lower performing utilities in Viet Nam. They also noted that they could involve less developed utilities in future programmes, rather than the initial pilot, when the process would be smoother. To be compatible with this approach, the Australian manager also preferred relatively high-performing utilities, but also screened rigorously for individuals within the organizations who were culturally sensitive, open-minded, and flexible. There was some evidence of a lack of communication around the selection strategy, as some Australian partners perceived that high-performing Vietnamese utilities were selected out of a reluctance to expose the lower performance of other utilities.

Throughout the programme, both managers were involved in supporting the partners, advising on sensitive issues, and facilitating whole-of-programme workshops. The Vietnamese manager gave particular support before the programme to some of the relatively lower performing utilities, ensuring that they were well prepared to collaborate with their partner. Both managers used their networks to communicate information about the programme and its outcomes across the sector. This raised interest in potential future programmes and helped promote profile recognition for the utilities involved (which was seen as an incentive for the Australian utilities). Following this initial programme, the Australian manager reported much more widespread interest in WOPs from other Australian water utilities who had not previously applied to participate.

The Australian manager was responsible for liaising with and reporting to the funder. Some difficulties around shared expectations were reported here; for example, the Australian manager mentioned that gender targets were introduced after the programme had already commenced. Because the water industry (in both Australia and Viet Nam) is male dominated, it was not easy to meet ambitious gender equity targets without having explicitly planned for it. The Australian manager responded to this change by introducing a conference workshop on gender issues that was well received, as well as reporting on gender diversity across different aspects of the programme. The Vietnamese manager noted that gender issues generally receive limited attention in Viet Nam, and women are professionally vulnerable for several cultural and societal reasons. They felt that the gender workshop was highly valuable. Overall, it seems that making the monitoring

and evaluation targets clear and comprehensive from the start could have led to better outcomes and introducing a new indicator caused challenges for programme management, but the outcome was ultimately positive. Therefore, we conclude that the full scope of a WOP programme should ideally be developed and communicated prior to commencement, but if a worthwhile idea comes up during the programme, it could still be beneficial to respond flexibly to incorporate it.

The managers both indicated that funding for a longer programme would have been helpful, particularly for ensuring improvements achieved by the water utilities were measured and continued long-term. The Australian manager suggested that a four-year programme would be optimal; one year for relationship-building, two years for implementation and one year for assessment. The Vietnamese manager also felt that initial achievements would be better sustained by a longer programme, but given realistic funding constraints, noted that encouraging the partners to continue their connection beyond the formal programme could be a good alternative. This finding aligns with Coppel and Schwartz (2011) who quote a stakeholder stating that development agencies tend to want 'quick gains' from WOPs, whereas sustainable improvements are best achieved with longer term collaboration.

A challenge for the programme managers was how to communicate the overarching programme objectives, particularly around funding from the Australian government and the connection to soft diplomacy and trade. Here, there was some disagreement between the interviewees on what was necessary and appropriate. Two Australian partners felt that this should be discussed openly to give clarity on the programme's objectives and how it would benefit the two countries. However, another felt that openly discussing the international trade agenda associated with the programme funding could undermine trust between the partners. The Australian manager agreed that any suspicion of a covert trade agenda could have a negative impact on the programme, stating that the international relations benefits of WOP programmes are indirect and participants must be careful not to endorse any particular products. However, the Vietnamese manager seemed more comfortable with the connection to trade cooperation and would have been happy to undertake trade promotion activities as part of the programme. They saw increased trade as an important factor for improving water safety and sustainable development in Viet Nam.

The participants interviewed from Australia and Viet Nam were largely positive about the overall contributions of the managers, suggesting that externally managed programmes with multiple partnerships can offer benefits over individual, internally managed partnerships between water operators. One Australian partner described the role of both managers as 'pivotal to [the] success' of the programme, and all Australian and Vietnamese interviewees indicated that they were well matched with their partner. However, several interviewees noted some challenges for the Australian manager that impacted the programme. First, they were sometimes put in a difficult position due to unrealistic or poorly communicated expectations from the funder (such as the late introduction of gender equity targets noted above). Second, the managing organization was reportedly under resourced at times. Three Australian partners indicated a desire for more structure around (1) setting strategy, (2) obtaining feedback and (3) understanding expectations from the beginning of the programme. These improvements could potentially be achieved through a detailed scoping exercise at the programme outset, for

example, using the framework introduced by Breeveld et al. (2013). There was also a desire for more connection between the different Australian operators to share knowledge and/or maintain contact after the programme.

Relationship-building

The importance of strong interpersonal relationships and trust between individuals in the participating organizations is well documented in the WOP literature (Beck, 2019; Coppel & Schwartz, 2011; GWOPA & IWA, 2021; GWOPA & UNESCO-IHE Delft, 2021; Jones, 2001; Wehn & Montalvo, 2018) and further supported by our findings. The responses of programme managers from both countries demonstrated that they recognized the importance of relationship-building between the partners. For example, the Australian manager noted that the relationships were 'not transactional', and the Vietnamese manager reported that shared understanding was built through strong professional and social connections between participants. There was also evidence of a meaningful connection between the managers themselves that has been maintained beyond the initial WOP programme. For example, the Vietnamese association noted that the Australian association provided them with guidelines and an online seminar to help them distribute advice to their members at the beginning of the COVID-19 pandemic in 2020.

The responses of the WOP partners indicated both successes and challenges in relationship-building. The presence of a 'champion', an individual who advocated for and was heavily involved in the programme, seemed to be an important factor from the Australian side. All five of the companies we interviewed relied on one (or a few) particularly enthusiastic programme leader(s). Two interviewees noted that employees with a passion for altruistic work are common in the water sector, since many people enter the industry aiming to serve their communities. There was universal agreement among the Australian partners that an employee with a strong personal interest in the WOP could be a major driving force behind its success, and one interviewee noted a decline in the priority given to the partnership when a senior champion left the business. This response supported the conclusion of Pascual Sanz et al. (2013), who analysed two WOPs and found that that strong support from executive management was a key reason why one was more successful than the other. Wright-Contreras et al. (2020) also pointed to the good relationship between executives in prospective partner organizations as important for the establishment of a successful WOP between Vietnam and the Netherlands. While the importance of a champion in the business was less clear on the Vietnamese side, two interviewees from the Vietnamese partner organizations specifically mentioned the Australian partner's champion as an important driver of success. This was particularly the case when the Australian champion had prior experience working in Viet Nam.

The Australian partners also discussed peer-to-peer sharing from a position of mutual respect as an important factor for relationship-building. One interviewee described the importance of listening as well as talking, while another noted that they aimed to 'share knowledge' rather than 'teach'. In the two partnerships where these factors were emphasized, the Vietnamese partners were particularly positive when describing the Australian project leaders. One of these two Australian partners also made sure to emphasize that they had no underlying goal to market or sell products, noting that any perception of ulterior motives would undermine credibility and trust (an issue also highlighted in the

analysis of Coppel and Schwartz (2011) for a WOP between the Netherlands and Mozambique).

Programme timing was another important factor for relationship-building, with several interviewees noting that it takes substantial time to build successful relationships, and that they could discuss more complex topics as the programme progressed. A key finding from the mid-term evaluation, undertaken after the first year, was that a one-year extension (beyond the 18 months initially planned) was needed because of the significant time it took to build trust. One interviewee noted that it took three visits before nontechnical topics like customer and financial management could be comfortably discussed. Some participants felt that more challenging topics, such as ethical and political issues, still could not be broached even with the extended project period.

On the Vietnamese side, there was stronger emphasis on perceived openness, sincerity and friendliness as success factors for relationship-building. Socializing outside work hours was seen as an important part of progressing a partnership. The work-related drinking culture in Viet Nam was described as a challenge by two of the Australian interviewees due to different cultural expectations and an inability to provide similar hospitality in Australia, where public utility funds for social events are restricted. Continuity of participating staff was key for the Vietnamese partners, but this conflicted with the goals of some Australian partners, who saw the primary benefit of the programme as staff development (see the third section) and hence wanted to involve as many different employees as possible. One Vietnamese interviewee noted some confusion early in the programme due to cultural differences, particularly among employees who had not worked with foreign partners before, but said these issues were resolved quickly. Based on the interview responses, it seems that all partnerships were able to build largely successful, positive relationships.

One measure of the inter-organizational relationships built is whether participants have been supported by their organizations to keep in touch with their partners after the WOP programme. In this case, one partnership is set to continue independent of the formal programme (with financial support from the Australian partner organization) and another Australian interviewee reported that they are applying to their board for a funded continuation. In a third case, an Australian employee obtained funding to work with their partner in Viet Nam for six months after the programme closed, and ad hoc communication still continues between the organizations. For the final two partnerships, the interviewees report little or no ongoing contact. In one case, the loss of contact occurred because a key staff member left one of the organizations.

Challenges for the programme

One of the key challenges reported by the participants was the language barrier between Australian and Vietnamese participants, a finding also noted in previous analyses (e.g., Coppel & Schwartz, 2011). The importance of a good translator was emphasized in most interviews, with the Australian manager noting that this was a major factor determining success of the relationship. They added that the best translators were those who had relevant technical knowledge and vocabulary, and it was important to create a pool of translators who knew each other and could carry on each other's conversations. Three of the Australian participants highlighted the importance of translators with technical skills, especially if they could contribute by asking relevant questions and adding to the overall

discussion. One of these respondents also stressed the benefit of having one consistent translator throughout the programme. The Vietnamese participants were reportedly comfortable informing the programme managers when a translator was not meeting their needs, and the managers aimed to have back-up translators available in case of any issues. Additionally, the Vietnamese manager noted that participants often worked to improve their English language skills, which lessened the impact of language barriers. For one Vietnamese partner, the most significant problems with language occurred when they tried to communicate over email with digital translation between face-to-face visits. Low accuracy of digital translation systems could be a significant barrier to conducting WOPs virtually.

Some issues were reported around communicating expectations between partners. One Australian partner noted a tendency for 'scope creep' due to requests from their Vietnamese counterpart that were outside the agreed action plan. Another Australian partner said that the relationship began to feel more like consulting than a partnership, perhaps suggesting they also felt there was some overreach. One of the Vietnamese partners said that they would have liked more preliminary discussion to properly explore the focus of the partnership, and that there was some confusion around expectations early in the programme. Some expectations were set but not met; for example, an asset management software programme for the Vietnamese partners had been discussed between the programme managers but was not ultimately provided. However, the knowledge sharing focus of the WOP programme seemed to be communicated clearly in general, which helped set shared expectations of capacity-building as opposed to providing new systems or equipment. Previous work has suggested that the legacy of water sector privatization and PPPs caused misunderstandings around the purpose of WOPs (Pascual Sanz et al., 2013), but we did not see evidence of this problem in our case study.

Staff turnover was another problem noted by several interviewees. This was perceived to reduce the effectiveness of the programme, as staff leave the organization and take the new knowledge with them. Of course, it could also cause problems for relationships and capacity-building during the programme. Several of the partnerships were negatively impacted at some point by the loss of a key employee, and one Vietnamese partner suggested that efforts should be made to select participants who are not expected to leave within the WOP timeframe. While it would be difficult to prevent staff turnover within the programme entirely, the comments highlight the importance of contingency planning and careful resourcing to minimize the resulting discontinuity. The loss of well-qualified staff members who may have enhanced their skills through a WOP has previously been highlighted as a problem, especially for the long-term sustainability of WOP programme impact (Coppel & Schwartz, 2011).

Another challenge identified in the interviews was external limitations not necessarily under the control of anyone involved in the WOP. For example, one Vietnamese partner noted that funding for providing support to rural areas is a significant challenge, since the utilities operate as PPPs and receive less government support than, for example, the public utilities in Australia. Supplying remote areas can be difficult under a profit-driven model because the associated revenue is low and may not even cover costs. An Australian participant reported that this funding model sometimes prevented ideas being taken up. Since this problem is inherent to the funding model of the utilities, it could not be easily

solved by the WOP. Another Vietnamese interviewee noted that large-scale issues require involvement of administration and management authorities, which was not a feature of the WOP programme studied here.

Outcomes reported by participants

The interviewees from the Vietnamese partner utilities reported a wide range of operational and organizational benefits from the programme. Examples of operational achievements included improving asset management systems; automating processes at water treatment plants; reducing non-revenue water; developing a water safety programme; adopting better technology (e.g., asset management software that can be used on a mobile device); adjusting quality control procedures; undertaking additional monitoring; developing a 'failure record' to record any problems in the system, and improving customer service protocols. At the organizational level, one Vietnamese partner discussed working through the WOP programme to improve human resources (HR) assessment, training and development. The same interviewee noted that their staff were inspired to aim higher, have greater foresight, and work towards a broad vision when they saw the standards reached by their Australian partner. Another interviewee from a Vietnamese utility said that their staff noticed and learned from the level of collaboration between departments in the Australian partner utility. A third Vietnamese interviewee said that, through interactions with their partner, they recognized the need for better people management to improve productivity. Two partners also reported expanding their external networks to collaborate with government departments and committees towards improving codes, policies, and broad-scale water management practices.

The Australian partners did not report any direct operational improvements related to the programme, although one interviewee noted that they were considering obtaining a new limewater treatment system based on what they saw in Viet Nam. However, all Australian interviewees recognized benefits for staff development. This included giving employees a more rounded skillset and a broader perspective on water management globally, as well as improving their communication skills. All the participants we interviewed reported a positive experience and felt that they grew personally and professionally through the programme. They also noted high staff engagement and interest across their organizations. One interviewee felt that, while there were reputational benefits for their company, it would be valuable to consider how further incentives could be provided to Australian water utilities to participate in future programmes. They implied that staff from some Australian partner organizations (not necessarily the programme participants) may have felt that there were not enough direct benefits to justify their investment. Overall, it seems that further consideration is needed around whether North–South WOP programmes should aim to provide equal benefits to organizations in both countries and, if so, how this can be achieved.

Learnings and opportunities

Participant and manager suggested ideas for future WOPs

The interview respondents raised several new ideas for improving future programmes and the overall effectiveness of WOPs. One idea focused on improving funding management. The Australian manager suggested creating a central pool of

donations that could be accessed to catalyse future partnerships, streamlining the funding process. A Vietnamese partner suggested that funding to implement upgrades based on advice from their partner would add value. This could also be achieved through a centralized funding pool, to be accessed on an as-needed basis throughout the programme.

The Vietnamese manager suggested that future collaborations could focus on a specified 'hot topic', allowing a larger number of organizations to be involved. This could expand the reach of the programme beyond the initial five Vietnamese companies, while also leveraging the relationships already built through the WOP programme. They suggested water source protection through community education and gender issues as two topics of broad concern. A combination of face-to-face workshops and digital collaboration could be used to reach water utility employees across Australia and Viet Nam. Similarly, one Vietnamese partner suggested that it would be beneficial for the different partnerships to come together to work on topics such as asset management, which all five partnerships addressed separately during the WOP programme.

The idea of partnering with a similar organization (i.e., a South–South or North–North partnership) was brought up by both Vietnamese and Australian interviewees. Two Australian interviewees said that a North–North partnership with a similar utility might help their utility achieve more tangible outcomes. The Vietnamese interviewee felt that both North–South and South–South partnerships could benefit them, stating 'there is always something for us to learn'.

A Vietnamese partner suggested that future WOPs could expand their scope to include relevant local authorities (in Viet Nam, the Province's People Committee). This would allow the programme to address broader water issues such as source management strategies, climate change response, managing population growth, and improving service delivery for the industrial and agricultural sectors. Another Vietnamese partner suggested that a WOP focused specifically on HR and strategic vision would be beneficial, noting that the training provided by universities on these topics is not sufficient in Viet Nam. This suggests that the Vietnamese participants would be interested in WOPs with a specific focus on institutional learning (see the fourth section).

While the idea of digital partnerships without a face-to-face component was discussed, the Australian manager suggested that this would not be optimal and could diminish enthusiasm. The importance of face-to-face interactions was also noted by interviewees from both Australian and Vietnamese partner organizations, with several references to the importance of socializing outside work hours. Interviewees also described site visits to see each other's infrastructure as highly valuable. Therefore, although purely digital programmes would require less funding, our results do not support a shift in this direction. Since the programme has ended, the rapid acceptance of online video meetings due to COVID-19 lockdowns worldwide would suggest that improved interaction between physical visits is now possible. However, this must not replace the critical in-person components of WOP partnership development and relationship-building.

Operational versus institutional learning in WOPs

As part of the mid-term evaluation online survey, all five Australian respondents were asked which priorities they had identified with their partner at the outset of the programme. Initially, nine technical and four non-technical priorities were set across all

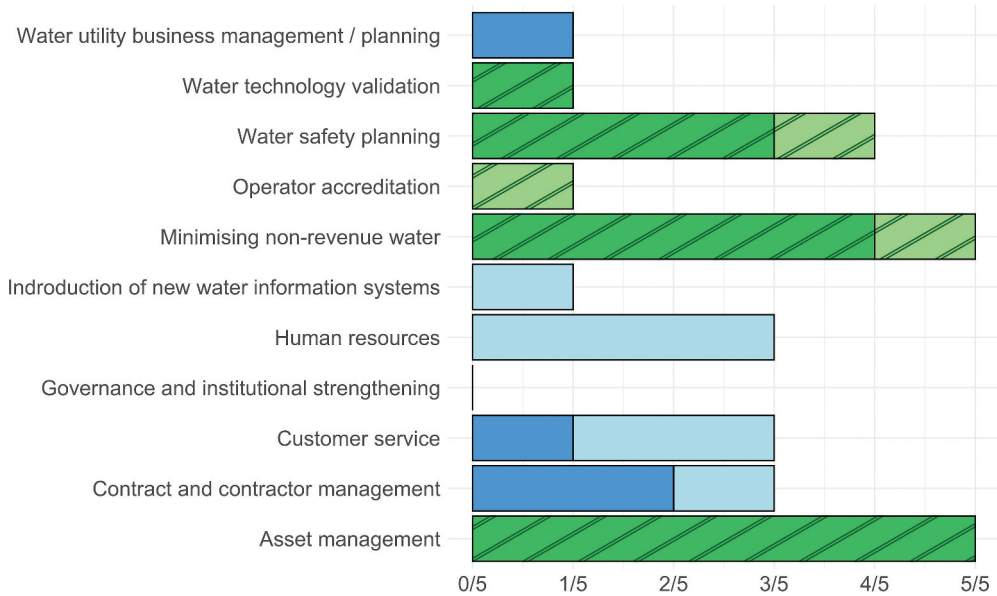


Figure 2. Priorities identified by the partners at the outset of the programme (lined green for technical and blue for non-technical) and priorities added subsequently (lined pale green for technical and pale blue for non-technical), up until the time of the mid-term evaluation. Readers of the print article can view the figures in colour online at <https://doi.org/10.1080/07900627.2022.2109604>.

partnerships (Figure 2), suggesting a focus on operational learning. However, as the partners began working together, there was greater recognition of the need to build non-technical skills. Between the initial goal-setting workshop in 2016 and the mid-term evaluation in 2017 (Figure 1), seven non-technical priorities were added as opposed to three technical (Figure 2, where pale blue and pale green indicate topics added after the initial goal-setting process). This suggests that there is a tendency for new WOP participants to focus on operational skills, but that the importance of ‘soft’ skills becomes clearer as they gain experience working in partnership.

The mid-term evaluation interviews also highlighted concerns among the Australian partners about organizational management problems in their partner utilities. These included:

- Reactive (rather than proactive) management strategies.
- Lack of formal decision-making procedures.
- Inefficient management structure.
- Lack of connection between different parts of the business.
- Inadequate incentives for maintenance.

In the post-programme interviews, the balance between operational and institutional learning was also discussed. One Australian interviewee noted that they began the programme focused on technical topics of non-revenue water, asset management and water safety, but later the focus moved towards non-technical topics of contract, financial, data and staff management. A second Australian participant said that they started

working on asset management, water quality and engineering design, then added a focus on HR later in the programme. The Australian manager noted that, in this partnership, HR policies were transferred from the Australian to the Vietnamese partner. As a result, employees at the Vietnamese utility now have improved access to annual leave, sick leave and parental leave. One Vietnamese interviewee suggested that future WOP programmes should place people at the centre and focus on strategic vision. They felt that inadequate management and professional training was a key factor limiting performance across the Vietnamese water sector.

Overall, our analysis suggests that both operational and institutional learning can be achieved through WOP programmes. This aligns with the findings of Ndirangu et al. (2013), who reported that effective management and strong organizational support facilitated capacity-building at multiple levels for a WOP partner in Kenya. Pascual Sanz et al. (2013) also pointed to progress in less tangible aspects of utility performance like management, coordination and internal communication for a WOP between the Netherlands and Malawi. For a particularly successful WOP between the Netherlands and Vietnam, Wright-Contreras et al. (2020) noted a strong focus on institutional development with nearly half of the total project budget going to HR. In our study, although most of the partnerships initially focused on technical learning, several interviewees also reported successful outcomes in non-technical areas. However, one interviewee in the mid-term evaluation did note that it can be challenging to address people and management issues, particularly across cultures. Future WOP programmes should consider the need for institutional, as opposed to operational, learning and ensure that adequate time and resources are allocated to building the strong relationships required to address these topics.

Aligning WOP programmes with emerging problems

In future, the water sector is likely to face new pressures due to factors such as globalization, climate change, population growth and changing community expectations (US Agency for International Development & US Department of State, 2007). Of course, these developments will impact different countries and utilities to varying degrees. We asked interviewees to discuss whether these (or other) challenges could impact their utility, or their partner, and whether WOPs could be well placed to address them. None of the respondents indicated that they had specifically aimed to build resilience to future change, although long-term planning was discussed in detail in one partnership. One Australian interviewee noted that their partner first needs to solve current problems, and another said that their partner was not thinking about future issues because their primary focus is still on providing basic services to their customers.

The Vietnamese participants pointed to climate change, population growth and changing community expectations around potable water as upcoming challenges for their utilities. One said that the business managers had improved vision to cope with future change because of the WOP. However, an interviewee pointed out that these large-scale problems require input from policymakers and management authorities, so they cannot be adequately addressed by utilities alone. Another interviewee also noted that broader management is needed, especially in cases where water resources have multiple users.

The Australian participants pointed to climate change as the most significant future challenge for their organizations, with population growth, geopolitical issues (e.g.,

Table 1. Summary of learnings from the water operator partnership (WOP) programme interviews.

Issues	Results
Conflicts between commercial and public interests	<ul style="list-style-type: none"> ● No evidence that the involvement of public-private partnerships (PPPs) on the Vietnamese side or a trade organization on the Australian side (the funder) in the WOP undermined public good principles ● No consensus on whether the indirect trade benefits should be discussed explicitly. The Vietnamese manager and some Australian partners seemed comfortable with this, while the Australian manager and other Australian partners felt it could undermine trust ● The for-profit motives of the Vietnamese PPPs reportedly impeded the take-up of certain new ideas that could benefit the public. However, this was outside the control of WOP participants
Capacity for broader organizational – as well as technical – learning	<ul style="list-style-type: none"> ● While the partnerships initially focused mainly on technical topics, non-technical topics were more frequently added later in the programme. This suggests that the importance of organizational learning became clear as the participants gained more experience working together ● Reported outcomes for the Vietnamese partners were skewed towards operational improvements, but there were also notable achievements around organizational management, such as the adoption of more progressive human resources (HR) policies ● Several Vietnamese partners implied that they were inspired by their partners to improve organizational capacity. Examples include thinking more strategically and improving collaboration between departments ● To address emerging challenges, WOPs will need to extend their scope to involve policy organizations, as well as providing access to funding for resilience-based upgrades
Dependency on interpersonal relationships	<ul style="list-style-type: none"> ● As per the previous literature, interpersonal relationships and trust were found to be vital for successful WOPs ● The time required for relationship-building was initially underestimated, so the programme was extended based on the mid-term evaluation ● On the Australian side, the presence of a ‘champion’ with a deep personal commitment to the programme was the key to building strong relationships. The Australian partners also emphasized the importance of showing humility and respect ● The Vietnamese interviewees placed greater emphasis on openness and friendliness for relationship-building. They seemed to view relationships as being between individuals rather than organizations and were concerned by staffing changes. They also saw socializing outside work as a key component of building positive relationships
Alignment of goals within the partnership	<ul style="list-style-type: none"> ● Overall, the partners seemed able to agree on objectives for the programme. The initial goal-setting workshop organized by the managers may have helped clarify expectations early ● The goals evolved over time, with evidence of a shift towards organizational (as opposed to technical) learning. This suggests that while setting shared expectations at the outset is important, the partners also need to be flexible and communicate through any changes in direction ● Both the Australian and the Vietnamese interviewees emphasized operational and management improvements in the Vietnamese utilities as key programme achievements. ● The Australian partners were also concerned with staff professional development and reputational benefits for the utility. This may have conflicted slightly with operational development goals if staff were selected for their own development (or as a reward) rather than for their ability to contribute to operational improvements. However, this did not seem to cause substantial problems for the programme
Establishing appropriate and effective management structures, timeframes and funding arrangements	<ul style="list-style-type: none"> ● Overall, our research suggests that this WOP was effective in building capacity for the Vietnamese utilities, as well as providing staff engagement and professional development for the Australian utilities ● The initial timeframe of 18 months was too short to allow adequate relationship-building and collaboration. The extension of one year recommended in the mid-term evaluation was therefore needed, highlighting the importance of progress reporting during WOPs. Some partnerships would have benefited from more time again, but this needs to be balanced with the willingness of utilities to commit to a long-term programme ● The participants benefited from the programme structure, which involved five parallel WOPs, with some interviewees requesting more engagement at a whole-of-programme level. This suggests that externally managed programmes with multiple WOPs have advantages over standalone WOPs

transboundary river management between two or more countries) and changing community expectations (especially around operational safety) also important for their Vietnamese partners. Two Australian participants indicated that they could add value helping their partner with long-term water security planning. Another pointed to a specific infrastructure solution that they would recommend to their partner to manage the impacts of sea level rise, but noted that additional funding rather than mentorship alone would be needed. Two Australian partners indicated a desire to work together on shared future challenges, with one saying, 'the more we collaborate, the better prepared we will be for all of [the future challenges]'. However, they also said that reluctance to discuss and learn from past failures was a barrier to such collaborations.

Overall, our results suggest that WOPs have potential for advancing the broader development landscape and addressing future risks provided there is sufficient buy-in from multiple stakeholders and suitable funding pools to progress ideas from the partnerships. Our interviews have provided demonstrable evidence for the ability of these programmes to facilitate both knowledge sharing and physical infrastructure development provided programme goals are sufficiently identified and set.

Summary of key learnings

We identified above five key issues for WOPs that required further investigation. Through our analysis, we were able to extract learnings related to these topics (Table 1).

Conclusions

This study used survey results and semi-structured interview data collected during and after a North–South WOP programme to better understand how WOPs can contribute to improved water services. We find evidence for trust and relationship-building as key success factors, and our results highlight the important role that water associations (or other programme managers) can play in achieving positive outcomes. Participants reported that both technical and institutional learning were achieved, with notable positive outcomes for the Vietnamese partners and their capacity to serve their constituents. However, extending these benefits to improve water management in Viet Nam in the face of future challenges would require additional investment to implement suitable upgrades and involve political actors outside the utilities themselves. The Australian partners had different goals, often related to staff engagement as opposed to service delivery, and the programme was generally successful from their perspective as well. However, there were challenges associated with language barriers and staff turnover, which made it more difficult to build and maintain the interpersonal relationships considered vital to a successful partnership. Because relationship-building was a key success factor and tends to require substantial time investment, the initial timeframe (18 months) was too short, and all interviewees agreed that the one-year extension was needed. Our results suggest that, ideally, WOP programmes should be implemented over several years and participants should plan to focus on goal-setting and relationship-building for the first year at least. Some of our research participants reported difficulties communicating expectations, which may have been alleviated if more time was explicitly included for programme planning at the outset. From

a funding perspective, it seems likely that a smaller number of multi-year partnerships would be more productive than a larger number of partnerships that achieve little because participants are unable to both build trust and complete their operational goals within the timeframe. Ensuring that proper monitoring and evaluation forms part of the initial programme design is also important, including interviews with utility partners conducted by an independent third party. This should take place both during and well after the formal completion of the programme, as in this study, to assess the meaningful and persisting impacts of the programme. Overall, our results support the potential effectiveness of WOPs to meet a wide variety of water utility needs provided strong relationship-building is facilitated and open, culturally sensitive communication is emphasized. Ensuring effective WOP design and implementation will play an important role in meeting SDG 6 (via target 6.a) through improvements in both technical and soft skills.

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