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Research Paper

Scaling up the practice of water operators' partnership (WOP) and its linkages with investment programmes

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ABSTRACT

Funding is limiting the extent to which water operators can engage in helping one another to increase access to water and sanitation services. Besides capacity development support, Water Operators' Partnerships are increasingly supporting mobilisation, implementation and sustainability of investment programmes. This paper aims to deepen the understanding of the current funding scenario for Water Operators` Partnerships, identify obstacles, and explore possibilities to promote the mobilisation of additional funds. It does so by analysing costs, sizes, sources of funding and the co-existence of WOPs with investment programmes. Some significant findings include the increasing recognition of the positive influence of WOPs not only by donors but also by development financial institutions, the emergence of WOP-dedicated programmes, the great potential of funds coming from decentralised development funding mechanisms, and the multiple scenarios in which WOPs and investment programmes co-exist. Salient challenges are the low reach of information related to WOP outcomes and the low feasibility of WOPs being funded by the technical assistance component of investment programmes. A remarkable highlight is the invitation from development financial institutions to WOP proponents to join forces in identifying ways to secure the best alignment and synergies between WOP support and investment programmes.

Key words: capacity development, investment programmes, leverage, sources of funding, water operators' partnerships, water utilities

HIGHLIGHTS

- There is increasing interest from water operators to engage in water operators' partnerships but limited funds limit the number of active projects.
- Poor sequencing of support to the soft and hard components directed to water operators (namely capacity development and investment programmes) have led to enormous waste of resources and limited sustainable impact.
- Water Operator Partnerships are more and more supporting both capacity development and the mobilisation and implementation of investment programmes on an ad hoc basis.
- There are no formal mechanisms established to ensure the best sequencing of these two types of interventions, but there is interest from key stakeholders.
- This paper explores the funding scenario for Water Operators` Partnerships, it identifies obstacles and presents possibilities to promote the mobilisation of additional funds.

INTRODUCTION

In 2022, approximately 2.2 billion people were still deprived of access to safely managed water services (UNICEF 2023b), while 3.5 billion lacked access to safely managed sanitation services (UNICEF 2023a). Central to addressing this critical issue and devising solutions within increasingly challenging conditions are the publicly mandated water and sanitation utilities operating in developing countries. However, the reality for many water utilities in emerging economies is that they suffer from weak institutional, organisational and individual capacity (Alaerts & Kaspersma 2009; Soppe *et al.* 2018). In addition to addressing capacity challenges, utilities must also allocate significant financial investments in both capital and operations to improve water services, especially in their efforts to achieve universal access (Soppe *et al.* 2018). A recent

World Bank study estimated that there is an annual spending shortfall of between USD 131.4 billion and USD 140.8 billion to achieve the SDG 6 targets. And yet, about one fourth of the available funds were not used due to limited absorptive capacity (Joseph *et al.* 2024). Moreover, the sector faces large inefficiencies with estimates of USD 21 million annually per utility (*idem*). While development interventions have targeted both the 'soft' and 'hard' components of the water sector, the lack of alignment and sequencing between capacity development initiatives and investment programmes has arguably led to significant resource wastage and limited sustainable impacts on water and sanitation service accessibility (Soppe *et al.* 2018). For instance, an estimated USD 300 million invested in water supply systems across Sub-Saharan Africa were later deemed dysfunctional due to organisational capacity deficiencies and weak governance structures (*idem*).

Often, the search for quick achievements in utility reform processes (e.g., through public–private partnerships) or, borrowing the words of Franceys (2008) 'taking a shortcut to development', has neglected to adequately consider the long-term sustainability of such interventions. This oversight often involves overlooking crucial factors such as the necessary duration of any transformative process, the pivotal role played by local stakeholders, and their capacity to embed lasting change. In 2006, the United Nations Secretary General's Advisory Board on Water and Sanitation introduced the incorporation of Water Operators' Partnerships (WOPs) as a developmental strategy aimed at fostering operational enhancements within utilities and enhancing access to improved water supply and sanitation, as outlined in the Hashimoto Action Plan (UNSGAB 2006). WOPs are any form of simple or structured partnership between water and sanitation operators aimed at peer-to-peer capacity development support on a not-for-profit basis. Partnerships can take many forms and have various technical, legal, and social dimensions, depending on individual circumstances (IWA *et al.* 2009). The main characteristics of WOPs align with the attributes for effective development aid, including leveraging existing local structures, fostering capacity development for enduring impacts, and prioritising local ownership (OECD 2011) An increasing body of evidence derived from WOP case studies, evaluations, and scholarly literature attests to the myriad positive outcomes achieved by WOPs for targeted operators. These outcomes span enhanced capacities at different organisational levels – individual, operational, and strategic – alongside tangible improvements in financial management, operational efficiency, cost reduction, resource mobilisation, and ultimately, the delivery of improved services (Patron-Coppel & Schwartz 2011; Ndirangu *et al.* 2013; Pascual-Sanz *et al.* 2013; Merme 2015a, 2015b; Merme 2016; Pascual-Sanz *et al.* 2018; Wright-Contreras *et al.* 2020; Blockland *et al.* 2021).

The global implementation of WOPs has witnessed substantial growth since 2007, with a current total of 475 WOPs registered by the Global Water Operators' Partnerships Alliance (GWOPA; UNHABITAT/GWOPA 2024). However, the expansion of this practice appears to be constrained, as the demand to engage in WOPs surpasses the current availability of funding through programmes. For instance, the call for proposals for the EU-WOP programme in 2021 attracted 142 applications involving over 300 stakeholders. Despite the considerable interest demonstrated through these applications, only 22 projects could be selected due to the limited availability of funding, totalling EUR 9 million. Furthermore, publicly available information regarding WOP costs, funding mechanisms, and their integration with investment programmes remains relatively scarce. This paper seeks to enhance understanding of the landscape surrounding WOP costs, funding, and their interconnections with investment programmes.

Initially, the paper delves into the diversity of WOP budget sizes and associated costs, as well as the primary sources of funding. Subsequently, it explores different scenarios wherein WOPs leverage additional funds. Later, the paper showcases the co-existence of WOP projects alongside investment programmes. Next, the paper includes a discussion on the main points raised by key informants on obstacles and recommendations to scaling up WOP practice. In the concluding section, the paper presents the most pertinent findings and proposes further areas for research.

METHODS

Both secondary and primary data were collected and analysed for this study. The main secondary sources included the GWOPA WOP database, recordings of sessions dedicated to WOPs funding and investment linkages at the fourth and fifth Global WOP Congress, WOP reports, case studies, evaluations, and scientific literature on WOPs. Secondary data sources were mostly used to inform about WOP costs, budgets, sources of funding, the type of funding leveraged by WOPs, and the interplay between WOPs and investment programmes. Primary data were collected through semi-structured interviews with key WOPs stakeholders to complement the secondary data. These interviews provided additional information on the interplay between WOPs and investments and the perspectives of different stakeholders. An interview protocol was

tailored to guide the interviews with each category of informants, which lasted for approximately one hour. The main areas addressed included how WOPs are featured and funded in various programmes, the perceived value of WOPs, the availability of funding for WOPs, and the perceived feasibility and likelihood of linkages between WOPs and investment programmes.

The pool of key informants comprised representatives from various organisations, including the African Development Bank (AfDB), Asian Development Bank (ADB), Agence Française de Développement (AFD), Bill & Melinda Gates Foundation (BMGF), Inter-American Development Bank (IADB), European Investment Bank (EIB), German Water Partnership, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Organisation for Economic Cooperation and Development (OECD), United Nations Children's Fund, Vitens Evides International (VEI), Empresa Metropolitana de Abastecimiento y Saneamiento de Aguas de Sevilla (EMASESA), World Bank (WB), Water Works (WWX), and WaterAid. A total of 18 interviews were conducted with key informants from these diverse organisations. Two rounds of interview were conducted: the first set at the end of 2021 and the second during 2024. Testimonies from the 4th and 5th Global WOPs Congresses provided by the same informants served to update the information collected during the first round.

Key informants were categorised into three groups: (i) Water operators and their associations, as well as WOP programme representatives, represented by five key informants (Code E1); (ii) Multilateral and bilateral development agencies, philanthropies, and NGOs, represented by six key informants (Code E2); and (iii) Development Financial Institutions (DFIs), represented by seven key informants (Code E3). All the interviews were transcribed and a deductive approach was applied to the analysis of the data through the pre-identified main categories of information. To preserve the anonymity of informants the paper includes codes for each of the three categories of informants (E1, E2, and E3).

RESULTS AND DISCUSSION

Spectrum of WOP budgets and costs

The WOPs framework, characterised by not-for-profit peer-to-peer support among water operators, facilitates a wide spectrum of projects, leading to diverse budget sizes. Several factors contribute to the variation in budget volume. These include the duration of the partnership, the composition of the partnership, the geographical distance between partners, the intensity of mentor support, the frequency of exchange visits, the allocation of funds for equipment and materials within the WOP budget, and the extent to which on-site support is combined with online guidance.

Initial budgets[1] for WOPs can range from a few thousand dollars to several million US dollars, showcasing a wide range of financial scales. Various examples illustrate this spectrum:

- In Indonesia, national WOPs receive approximately USD 2,500 from the National Water Association during their inception phase, solely covering travel and accommodation expenses. Additional funds required for collaboration enhancements, such as extra visits or pilot development, are typically provided by the partners themselves (Tutusaus & Schwartz 2016). A WOP between spatially close partners in Indonesia and Malaysia breaks down the USD 32,000 WOP value between the two partners, with additional contributions from the ADB (Martin 2023).
- WOPs supported by the ADB generally operate on a budget of USD 50,000, often for short-term projects lasting 1–2 years. These budgets cover the direct expenses associated with peer-to-peer activities and are linked to bank investment projects (Martin 2023). Similarly, a WOP between Aguas del Norte (AdN) in Salta province, Argentina, and Caesb in the federal district of Brasília, Brazil, with a 5-year duration, had a total cost of USD 47,200. Of this amount, USD 32,200 was financed by the IADB, with approximately USD 15,000 contributed jointly by Caesb and AdN (Merme 2015a, 2015b).
- Under the EU-WOP programme, 22 WOPs have an average budget of USD 659,000, with 57% being covered by grants (ranging from USD 250,000 to USD 450,000), and the remainder being counterpart contributions from partners over 3 years (UNHABITAT/GWOPA 2022).
- The WaterWorX Programme Phase 1 had an average project budget exceeding EUR 1 million for WOPs involving 39 partner utilities over a five-year duration (2017–2021), with a total programme volume of almost EUR 55 million (Blockland *et al.* 2021).

[1] The budgets above are provided to illustrate an overall diversity of magnitudes of WOPs but should not be used for close comparative purposes as the information was drawn from different sources that are likely to account for costs differently, i.e., some might be including only direct costs while others include both direct and indirect.

- A long-term WOP in Bangladesh between VEI and DAWSA, initiated in 2012, had a contracting value of EUR 6.9 million for its first phase spanning four years, and a budget of EUR 4.1 million for phase two, also 4 years in duration.

Typical expenditures in WOPs encompass partnering utilities' staff time costs, logistics and travel (international and local transportation, accommodation, site visits, meeting rooms), equipment, material, and operational investments (small hardware/software required for WOP activities), as well as communication expenses (including interpretation services, translation, and knowledge management) (Pascual-Sanz *et al.* 2018). Depending on the WOP framework, additional costs may arise, such as payments to supplementary partners providing substantial support to the partnership or administrative expenses, as seen in the EU-WOP Programme (UNHABITAT/GWOPA 2022).

Direct (in cash) and indirect (in-kind) costs

The financial coverage of WOP projects can be categorised into two primary forms: direct (in cash) and indirect (in-kind) contributions. The in-kind contributions from partners to these projects represent a notable feature of WOPs, often resulting in a significant augmentation of budgets and indicating a strong commitment from partners. For instance, in the EU-WOP programme, the grant amount was augmented by an additional 75%. Among the 22 projects, the lowest in-kind contribution was USD 109,000, while the highest reached USD 703,000 (UNHABITAT/GWOPA 2022). Water operators' in-kind contributions typically include staff time and resources dedicated to the project.

Regarding the coverage of direct (in cash) costs, three main scenarios are observed. The most common scenario involves the donor fully or partially covering all direct in-cash costs. A second scenario entails water operators utilising their resources to cover all direct in-cash costs, although this occurrence is infrequent. Even when water operators possess their own resources, they often utilise them as seed funding to leverage additional funds from donors, thereby enlarging the project budget. The third scenario involves donors covering a portion of the direct in-cash costs, with partners required to bring their own resources to cover the remainder. This was exemplified by the 23 WOP projects funded under the Africa Caribbean Pacific–European Union (EU) Water Facility in 2011 (Buhl-Nielsen 2017) where partners were mandated to contribute 25% of the total budget.

Primary funding sources

Since 2006, the primary funders of WOPs have typically been multilateral and bilateral donors, development finance institutions, and water operators (UNHABITAT/GWOPA 2024). In addition, funding may originate from sub-national public sector organisations through development funds, charities, philanthropies, and water associations. There is limited evidence of WOPs being funded by private water operators directly, although indirect funding may occur through NGOs, as observed in the case of WaterAid, which receives significant support from private water operators in the United Kingdom. More recently, other United Nations agencies have also become involved in funding WOPs (UNHABITAT/GWOPA 2024).

Bilateral and multilateral development agencies. Several development agencies have provided support to WOPs or WOP programmes. These agencies include the Australian Agency for International Development, the Dutch Development Cooperation (DIGS), the EU, the French Development Agency (AFD), the German Federal Ministry for Economic Cooperation and Development (BMZ), the Japan International Cooperation Agency, the Spanish Agency for International Development Cooperation (AECID), the United Kingdom's Department for International Development (DFID), and the United States Agency for International Development (USAID). In the past, WOPs were typically selected among various utility support options on a case-by-case basis. However, there is now a trend towards the establishment of WOP-dedicated programmes by several donors. Some notable past and ongoing WOP programmes include:

- *WaterWorX*: This WOP programme aims to increase access to sustainable water services for 10 million people between 2017 and 2030. It is co-funded and jointly implemented by the Dutch Ministry of Foreign Affairs, 10 Dutch water operators, and local water operators in Africa, Asia, and South America. The budget for WaterWorX Phase 1 amounts to EUR 54.0 million, with EUR 24.3 million contributed by the mentor and mentee utilities and EUR 29.7 million funded by DIGS (Blockland *et al.* 2021). WaterWorX was officially launched in 2017 and is currently implementing Phase 2 (2022–2026), with a total budget of EUR 71.49 million for this phase, including contributions from Dutch and partner utilities, as well as the Ministry of Foreign Affairs of The Netherlands (WaterWorX 2021).
- *The EU-WOP Programme*: This 4-year initiative, led by UN-Habitat/GWOPA and funded by the European Commission Directorate-General for International Partnerships (DG INTPA), supports 22 WOPs with a duration of 36 months and a

budget between USD 250,000 and USD 450,000 (UNHABITAT/GWOPA 2022). Phase 1 (2021–2025) is currently ongoing, with DG INTPA and GWOPA designing the second phase, which is expected to launch by the end of 2025.

- *Utility Platform for Strengthening Partnerships of Municipal*: Utilities Worldwide (2019–2024): Funded by the German Ministry for Economic Cooperation and Development (BMZ), this project began with four projects, each with an average budget of EUR 125,00 per year, operating under a grant agreement established with the Deutsche GIZ. By the end of the pilot phase, it had expanded to include 12 WOPs and 16 Solidarity Partnerships between German and Ukrainian operators[2].

Water operators or/and local water authorities. Water and sanitation operators and local water authorities represent another significant source of funding for WOPs. This funding primarily takes the form of in-kind contributions, often in the form of staff time, and occasionally direct financial support. Notably, operators in the Netherlands and France have been particularly active in funding direct costs within projects, facilitated by supportive legal frameworks. In France, local water authorities, operators, and river basin organisations are empowered to allocate 1% of their turnover to implement cooperation projects. These funds are frequently used as seed funding by operators to leverage additional resources for WOPs. For instance, in 2013, French authorities mobilised approximately EUR 28.3 million for nearly 400 water and sanitation projects, including several WOPs. If every French local authority and water agency committed the full 1%, this figure could potentially increase to between EUR 60 and EUR 120 million annually. Moreover, this approach in France has been effective in attracting support from the private sector and could align with funding from traditional donors (Doczi *et al.* 2015). Similarly, in the Netherlands, utilities can allocate 1% of their turnover, totalling around EUR 1,300 million annually, to international development cooperation, unlocking EUR 13 million for WOP funding each year. In addition, approximately EUR 6 million from social corporate responsibility funds in the Netherlands are currently dedicated to WOPs[3].

Development finance institutions. For over a decade, two DFIs have been instrumental in funding relatively small WOPs, typically around USD 50,000, to enhance the capacity development of water operators. The IADB utilises a non-reimbursable technical cooperation mechanism to fund WOPs, with a portfolio of over 50 WOPs since 2008. In addition, the IADB supports the WOP-LAC Regional WOP platform, which serves as a facilitating platform for collaboration. Similarly, the ADB funds WOPs in coordination with investment programmes. ADB's Water Sector Group has sponsored approximately 85 WOPs since 2006 in 21 countries, supporting around USD 1.1 billion worth of ADB-supported investments in water supply and sanitation (Martin 2023). Other DFIs, such as the Islamic Development Bank, World Bank, and AfDB, have also funded WOPs on a case-by-case basis (UNHABITAT/GWOPA 2024). Other banks welcome the complementarity of WOPs with their investments but do not fund WOPs directly[4].

Charities and philanthropies. WaterAid, primarily funded by donations from the UK water companies and water utilities' staff, employs WOPs as a strategy to enhance the capacity of water operators as part of its institutional support initiatives. In addition, the BMGF plays an active role in supporting sanitation-focused WOPs, known as SWOPs, aimed at improving sanitation services. These SWOPs are frequently funded through the African regional WOP platform, hosted by the African Water and Sanitation Association.

WOP funding intermediaries. It is important to note that many WOPs receive funding not directly from donors but through intermediary organisations to which fund management is delegated. For example, regional WOP platforms have received funds from donors such as USAID, AfDB, IADB, and BMGF, utilising these funds primarily to facilitate and implement WOPs within their respective regions. Until recently, the ADB directly facilitated WOP projects; however, they have recently subcontracted these facilitation tasks to a third party. At the global level, the GWOPA Secretariat plays a similar role, with donors like the OPEC Fund for International Development (OFID) and the EU channelling funds through the Secretariat. These funds are used to coordinate the design, selection, and implementation of WOP projects.

[2] E2
[3] E1
[4] E3

Funds leveraged through WOPs

WOPs are recognised for their capacity to leverage additional funds beyond the initial grant. This leveraging can occur at various stages of the project, either from inception or during implementation. Four primary methods through which funds are leveraged in WOPs include:

(i) *In-kind contributions*: Partners frequently make in-kind contributions, as indicated above with the EU-WOP Programme. These contributions are usually committed at the beginning of the project and can grow during implementation.
(ii) *Additional external resource mobilisation*: Throughout the project lifecycle, additional resources are often mobilised. For example, Kahama Urban Water Supply and Sanitation Authority was selected as a pilot project of the Urban Water and Sanitation Initiative, with encouragement and support from its partner Hamburg Wasser[5].
(iii) *Cost savings*: Operational improvements achieved by partners often result in significant cost reductions. For instance, the implementation of energy-saving measures in a partnership between the Water Authority of Fiji and Hunter Water Australia resulted in cost savings exceeding USD 1.3 million between 2012 and 2014 (Merme 2015a, 2015b). In a WOP between Miyahuna Water Utility in Jordan and Hamburg Wasser the relocation of the polymer dosing point as part of the optimisation of water treatment led to monthly savings of approximately USD 33,000 (Bochmann *et al.* Forthcoming).
(iv) *Investment programme funding mobilisation*: WOPs can facilitate the mobilisation of funding for investment programmes (see next section).

The interplay between WOPs and investment programmes

When examining the relationship between WOPs and investment programmes, it becomes evident that WOPs primarily operate as independent grants, either preceding, accompanying, or following investment programmes. The linkage between these interventions remains largely informal and ad hoc, presenting challenges for cohesive collaboration. While the incorporation of WOPs into investment programmes' Technical Assistance (TA) components is theoretically appealing, practical constraints such as international bidding processes and rigid contractual forms often hinder their implementation. Nevertheless, there are several cases in which investment programmes and WOPs co-exist. Six cases are described to illustrate the different entry points for such co-existence.

1. *DFI coordination and funding*: The ADB stands out as the one DFI that integrates WOPs systematically to support investment programmes. ADB coordinates and funds the implementation of WOPs, which may precede, accompany or follow the implementation of an investment programme. WOPs are included as part of ADB's knowledge development activities under the Sustainable Development Department, distinct from its investment operations. Officers managing investment programmes appreciate the value of WOPs and have often requested their inclusion into loan projects with the support of ADB's Sustainable Development Department[6].
2. *Formal integration as TA components of an investment programme*: Dutch water operators have actively advocated for the formal inclusion of WOPs in investment programme TA components[7]. While formal integration has not been achieved, significant strides have been made to bridge the gap between peer support and investment programmes. Notably, VEI successfully competed in an international bidding process for a service contract in 2008 to provide peer support, strengthening organisations alongside supporting the implementation of an investment programme funded by EIB (2009–2014). This case underscores the challenges of linking peer-to-peer support and investment programmes through international bidding processes and stringent contracting forms. The experience in Malawi revealed multiple challenges, including collaboration difficulties between partners and the absorptive capacity of the mentee to allocate staff to both WOP activities and the investment programme (Pascual-Sanz *et al.* 2013). Contract conditions, such as a strong contractual framework delineating separate responsibilities, performance-based payments, and penalties linked to timely deliverables, initially created distance between partners (*idem)*. During the fourth Global WOPs Congress Finance Session, a representative from the

[5] E1
[6] E3
[7] E1

EIB shared insights, emphasising the challenge of reconciling the added value of peers collaborating in a WOP with the characteristics of standard procurement processes and required contracting forms for loans.

3. *Investment risks reduction:* The presence of a WOP has been noted to mitigate perceived risks from DFIs when lending funds for investment programmes[8]. For instance, in 2021, the Blantyre Water Board (BWB) in Malawi approached VEI to express interest in initiating a WOP as part of the WaterWorX Programme[9]. BWB indicated that the WOP would enhance the World Bank's confidence in supporting BWB with an investment programme. Concurrently, the WB also contacted VEI to express interest in engaging in a WOP with the BWB. VEI commenced collaboration with BWB under a WOP arrangement funded by the WaterWorX Programme, after which the approval of the investment programme took place.

   One informant highlighted how the EIB expressed the value of having a WOP in place ahead of an investment programme; however, they faced challenges in identifying suitable funding mechanisms for such initiatives[10]. While this arrangement was made possible by the WaterWorX Programme's funding possibilities, it underscores a limitation in establishing a WOP before an investment programme. In addition, an informant from VEI cautioned that effective coordination between the investment programme and the WOP component should not be taken for granted, arguing that without strong efforts and commitment from the initial stages of investment programme design, both programmes risk being implemented with minimal synergies between them[11].
4. *WOPs catalysing access to investment funds*: Certain WOPs have played instrumental roles in facilitating utilities' access to investment programmes. In some instances, this objective is explicitly integrated into the WOP's agenda, aiming to support peer operators in identifying investment needs, formulating project proposals, and liaising with potential financiers. Two illustrative cases are presented herein:
   (i) In a WOP between AdN of Argentina (mentee) and Caesb of Brazil (mentor), Caesb proposed restructuring and optimising a wastewater treatment plant constructed by AdN in 1981. Leveraging this suggestion, AdN secured approximately EUR 1.4 million in funding from their provincial government to implement the upgrades. Caesb continued to offer guidance to AdN throughout the upgrade process, thereby bolstering the long-term sustainability of the investment (Merme 2015a, 2015b).
   (ii) The WaterWorX Programme has set an ambitious goal of providing safe drinking water to 10 million people by 2030. Alongside peer-to-peer support for operational enhancements, the programme established a dedicated working group to assist WOP projects in mobilising investment funding. By 2022, the WaterWorX investment pipeline would feature 13 projects deemed highly likely to achieve financial closure. To bridge the gap between project ideas and available financiers' requirements, WaterWorX Phase 2 introduced the Pre-Investment Fund, funded by DGIS. This fund aimed to finance pre-feasibility studies, energy audits, and investment master plans necessary for securing investment. In the inaugural round, 19 proposals from nine countries were submitted, with 10 ultimately selected for funding, depleting the EUR 950,000 budget (WaterWorX 2023). An early success of this proactive approach is evident in a WOP between PDAM Tirta Moedal Kota Semarang, Indonesia, and VEI. This WOP facilitated PDAM in accessing the matching grant of USD 5 million under the National Urban Water Supply Project.
5. *Infrastructure operations and maintenance support*: In the small towns of Magu and Misungwi, Tanzania, a collaborative effort between the Government of Tanzania, the EIB, and the AFD resulted in the establishment of essential infrastructure, including a new water treatment plant, a wastewater stabilisation pond, and a distribution network. Despite lacking formal linkage to the investment programme, a WOP between MWAWASA in Tanzania and VEI, alongside Hamburg Wasser and Finnish Mondial, funded under the EU-WOP Programme (2022–2025), has actively supported the water operators in Tanzania with the operation and maintenance of the newly constructed infrastructure (VEI 2023).
6. *Integrated grants and loans funding mechanism*: The Urban Water Catalyst Initiative (UWCI) represents an emerging funding mechanism led by Germany, the Netherlands, the EU, KfW Development Bank, and other international partners (UWCI 2023). Providing a comprehensive support package including technical assistance, operational finance, and infrastructure lending, UWCI requires operators to commit to predefined improvements within a specified timeframe. Initially, operators access grant funds to enhance operational and financial performance, paving the way for subsequent loan access

[8] E1,E3
[9] E1
[10] E1
[11] E1

for investment programmes. To facilitate early-stage improvements, operators may consider a grant facility offering managerial and technical support, potentially sourced from peer water operators through WOPs. Currently, UWCI is in its pilot phase, with six projects recently selected to explore and refine this innovative funding model.

Discussions with key stakeholders

The three groups of key informants emphasised the imperative for enhanced efforts to analyse and disseminate information and the results achieved by WOPs to mobilise additional funding. This includes detailing WOPs' main characteristics, costs, partner organisations, active projects, and the type of capacity and performance outcomes that WOPs contribute to. Despite the growing body of evidence from WOP case studies, programme evaluations, and scientific literature, the limited reach and visibility of results persist as a barrier to mobilising funds for WOPs. An informant from DFIs shared that positive WOP cases are often regarded as anecdotal, hindering broader recognition of their cost-effectiveness in advancing the SDGs[12]. Among other stakeholders, proposals were made to categorise WOPs and analyse their impact accordingly, examining results in the short, medium, and long term. As part of these efforts, the recommendation was given to intensify research and analysis efforts to estimate the cost savings derived from operational improvements resulting from enhanced capacity in the short and medium term[13], as well as to document the benefits and implications of WOPs and investments' co-existence.

Several stakeholders from financial institutions and development agencies highlighted the scarcity of experienced mentors as a deterrent to integrating WOPs into standard water sector support approaches. For instance, the Spanish AECID is exploring ways to systematically include WOPs in its institutional strengthening efforts from the outset of programmes. However, the limited availability of water operators active in WOPs poses a challenge. Stakeholders from several development agencies emphasised the importance of raising awareness and advocating for the involvement of proficient water operators, both in the Global North and South, as mentors[14]. As part of these efforts, informants from water operators stressed the importance of promoting conducive institutional and legal frameworks that facilitate water operators' engagement in international cooperation projects. They also emphasised the need to keep possible financial contributions from mentors (in-kind or in cash) as voluntary and not compulsory, arguing that otherwise, their involvement would be subject to volatile political scenarios[15]. On the specific point of whether grants cover the cost of the mentor's staff time, an informant from DFIs argued against it, stating that such a relationship would blur the line between partners and paid consultants. This informant stressed that the in-kind contribution from partners is seen as a crucial element that differentiates WOPs from consultancy contracts.

Bilateral and multilateral development agencies, along with corporate social responsibilty (CSR) funding from water operators, have been the main funding sources for WOPs. To augment funding levels, stakeholders propose intensified advocacy efforts aimed at engaging new development agencies and further involving existing ones by integrating WOP programmes as a structural component of their broader water programmes. In addition, informants underscored the relevance of advocacy efforts to promote supportive legal and institutional frameworks that allow and promote public authorities and water operators to allocate their funds to cover the cost of WOPs (e.g., the 1% allocation in the Netherlands and France). As part of the Boosting Effectiveness of WOPs project funded by DGIS, GWOPA is leading several advocacy meetings between European stakeholders to support the exchange of experiences and promote enabling country frameworks for WOPs. Stakeholders from Germany and the Netherlands exemplify active and productive bilateral exchanges with the design of an innovative funding mechanism for utilities that can involve WOPs (see UWCI).

Informants also encourage the exploration of alternative grant funding sources to support peer-to-peer WOP activities and related operational investments. These sources could include thematic-oriented funds such as climate adaptation funds, funds designated for Human Rights to Water and Sanitation for vulnerable populations, funds collected through voluntary donations or special levies from water utility customers (e.g., Water For Life in the Netherlands), as well as other funds coming from philanthropic donations and CSR funds from industries outside the water sector.

[12] E3
[13] E1
[14] E2
[15] E1, E2

When looking at DFIs as a source of funding for WOPs, most informants agreed on the positive benefits of WOPs. They praised the operational support of a peer operator in utilities that they are entering with an investment programme as opposed to a one-time TA from an engineering consulting firm with limited operational experience. In addition, other aspects highlighted as very valuable for the DFIs were the trust built between peer operators that allows for easier communication with the DFIs[16], and the more reliable data and knowledge on the state and performance of the systems[17]. Despite the positive perception of WOPs by DFIs, they do not see the WOP as a TA component of the investment programme without an international competitive process, as they would be incurring in sole sourcing, an illegal practice[18]. Furthermore, most public utilities lack the resources and expertise to pre-finance the inputs required for international competitive bidding processes, making it unlikely for this avenue to proliferate as a funding mechanism for WOP costs linked to investment programmes.

Although some WOPs co-exist with investment programmes, this is far from being a mainstreamed approach. There is a need to further promote the necessary synergies between WOPs and investment programmes to more actively contribute to universal access to improved water and sanitation services. Some specific recommendations in this direction are: to continue building and disseminating evidence of the value provided by WOPs before, during or after an investment programme; to further explore the possibility for DFIs to allocate grant funding to WOPs through different bank (or partner organisations) funding sources than the loan for investment (e.g., case of the ADB); to include explicit objectives and resources for mobilising investment funding as part of WOP ambitions; to promote greater coordination between key stakeholders to promote effective sequencing and integration of interventions in the beneficiary water utilities and more specifically, between DFIs and WOP donors to maximise the number of cases in which these two type of interventions co-exist (e.g., the EU and GWOPA planning to organise dedicated talks with financiers like the EIB to screen for possibilities of maximising synergies between WOPs and investment programmes for next phase of the EU-WOP Programme)[19]; Key informants from DFIs express readiness to support these initiatives and encourage early communication between WOP partners, donors, and banks to align interventions effectively.

CONCLUSIONS

This study illuminates the current landscape surrounding WOPs, dissecting their costs, sizes, funding flows, sources of funding, and their co-existence with investment programmes while delving into key stakeholders' perspectives on the matter. Through this analysis, valuable insights have been gained, leading to recommendations aimed at bolstering the availability of funding for WOPs.

First, WOPs demonstrate a remarkable capacity to leverage funds through diverse mechanisms such as in-kind contributions, additional resource mobilisation, cost savings, and investment programme funding mobilisation. These avenues not only enhance the financial sustainability of WOP projects but also contribute to the long-term viability of water infrastructure and services. Second, the interplay between WOPs and investment programmes highlights both challenges and opportunities for collaboration. While formal integration within investment programme TA components remains a goal, practical constraints such as international bidding processes and contractual forms present obstacles. However, each of the presented cases of the co-existence of WOPs and investments offers insights into new directions to further promote these synergies. For example, proactive involvement of the ADB or the innovative funding programme combining grant funding for operational support that can later connect to access to investment funding (see, e.g., UWCI). Third, WOPs play a pivotal role in mitigating perceived risks for DFIs when lending funds for investment programmes. By facilitating utilities' access to investment funding and providing operational support, WOPs contribute to enhancing the financial viability and sustainability of water infrastructure projects.

Finally, to maximise the impact of WOPs and promote synergies with investment programmes, concerted efforts are needed to enhance visibility, advocate for conducive institutional frameworks, and diversify funding sources. Stakeholders emphasised the importance of systematically documenting WOP outcomes, raising awareness among proficient water

[16] E1, E3
[17] E1, E3
[18] E3
[19] E2

operators, and advocating for decentralised funding mechanisms. In addition, exploring alternative grant funding sources and promoting coordinated funding mechanisms between grant and loan funders can further support long-term WOP initiatives.

In conclusion, while this study has provided valuable insights into the dynamics between WOPs and investment programmes in the water sector, it is essential to acknowledge certain limitations. The WOP and investment programme cases presented herein are not the culmination of an exhaustive mapping exercise. Consequently, further research, through a more systematic review of ongoing and past cases, is warranted. Such an investigation should delve into the enabling factors that facilitated their co-existence, the level of coordination between these interventions, and the extent to which synergies were realised and reflected in impact.

DATA AVAILABILITY STATEMENT

All relevant data are included in the paper or its Supplementary Information.

CONFLICT OF INTEREST

The authors declare there is no conflict.

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