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THE ROLE OF INTERMEDIARIES TO FACILITATE WATER-RELATED INVESTMENT

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Abstract

A wide range of organisations operate at the interface between the demand for (e.g. water agencies or service providers) and the supply of finance (e.g. financing institutions and financiers at large) with the aim of bridging the substantial financing gap for water-related investments. These entities, referred to in this analysis as “intermediaries”, include those working upstream on the enabling environment for finance facilitation; transaction advisory supporting partnership development (of which financing is one component), private sector lending windows of donors and international financial institutions, and dedicated financing facilities. These intermediaries play multiple roles along the investment value chain, in various geographies and at various scales (international, national, regional, local). However a systematic assessment of these intermediaries, their role and the key functions performed has been lacking to date along with an assessment of the gaps, overlaps and misalignments compared with the existing bottlenecks to mobilise financing. The analysis presented in this Working Paper aims to fill this gap.

This paper identifies and analyses a diverse sample of 52 intermediaries active in deploying one or more key functions across the investment value chain for 3 specific sub-sectors: utilities, small scale water and sanitation service providers and nature-based solutions. The analysis assesses the extent to which the activities of these intermediaries is aligned with the critical functions needed to mobilise finance across the sub-sectors. It identifies gaps, redundancies and misalignments and calls for a shift from the current opportunistic approach to a more strategic approach in the design and activities of intermediaries, supported by governments and financial institutions.

The paper contributes to a forthcoming OECD report *Financing a Water Secure Future,* which distils key insights from the past several years of engagement via the Roundtable on Financing Water and related analytical work. It was jointly developed by the OECD and The World Bank Water Global Practice, in the context of our cooperation on the Roundtable on Financing Water.

Keywords: water security, water supply, sanitation, wastewater, flood protection, irrigation, infrastructure finance, investment

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Résumé

Un large éventail d'organisations opèrent à la jonction entre la demande de financement dans le domaine de l'eau (émanant par exemple des agences de bassin ou des opérateurs de services) et de l'offre de financement (issue par exemple des institutions financières et des financiers de manière générale). Ces organisations contribuent à combler le manque cruel de financements destinés aux investissements liés à l'eau. Parmi ces « intermédiaires » - appellation retenue dans ce document - figurent les entités qui agissent en amont pour instaurer un cadre proppice au financement ; les conseillers en transaction qui rendent plus facile l'établissement de nouveaux partenariats (dont le financement est l'un des piliers) ; les guichets consacrés au secteur privé par les donneurs et institutions financières internationales ; ainsi que des mécanismes de financement spécialisés. Par nature multiple, le rôle de ces intermédiaires varie d'un bout à l'autre de la chaîne de valeur de l'investissement, selon le contexte géographique et leur périmètre d'action (international, national, régional, local). Aucune étude n'a essayé d'inventorier et d'évaluer ces intermédiaires, leur rôle et leurs fonctions principales ; ni de souligner les lacunes, chevauchements et déséquilibres qui persistent quant à l'accès aux financements. Ce document de travail a pour ambition de pallier cette lacune.

L'étude porte sur un échantillon de 52 intermédiaires qui assurent une ou plusieurs fonctions essentielles dans la chaîne de valeur des investissements, dans trois sous-secteurs particuliers : les réseaux d'eau et d'assainissement, les petits services déconcentrés, et les solutions fondées sur la nature. Elle analyse dans quelle mesure les activités de ces intermédiaires est en phase avec les fonctions nécessaires pour mobiliser des financements dans ces sous-secteurs. Elle met aussi en évidence les lacunes, redondances et déséquilibres, et plaide pour une approche plus stratégique et moins *ad hoc* de la conception de ces intermédiaires et de leurs fonctions. Les gouvernements et les institutions financières ont un rôle à jouer.

Ce document contribue au rapport de l'OCDE qui paraîtra prochainement sous le titre *Financing a Water Secure Future*, synthèse des principaux enseignements issus des travaux de la Table ronde sur le financement de l'eau ces dernières années. Il a été élaboré conjointement par l'OCDE et le pôle Eau des Pratiques mondiales de la Banque mondiale, dans le cadre de notre coopération autour de la Table ronde sur le financement de l'eau.

Mots-clés : sécurité en eau, approvisionnement en eau, assainissement, eaux usées, protection contre les inondations, irrigation, financement des infrastructures, investissement

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1 Summary

Background: A significant financing gap for water-related investments

As of 2020, 2 billion people around the world do not have access to safely managed drinking water, while 3.6 billion people lack safely managed sanitation services and 2.3 billion lack basic hand washing facilities (UN-Water, 2021[1]). Pressures on water quality and quantity continue to mount, exacerbating the risks of "too much", "too little" and "too polluted" water.

Sustainable Development Goal (SDG) 6 aims to ensure the availability and sustainable management of water and sanitation for all. The world is not on track to meet the SDG 6 on water and sanitation largely due to insufficient levels of water-related investment. This is underscored by estimates of investment needs for SDG 6 at global level, as well as regional level analysis (in Europe and Asia-Pacific) (OECD, 2020[2]) (Leckie, Smythe and Leflaive, 2021[3]). A global estimate for a range of water infrastructure investment needs spans a wide range, from USD 6.7 trillion by 2030 to USD 22.6 trillion by 2050 (Winpenny, 2015[4]). To achieve universal and equitable access to safe and affordable drinking water for all by 2030, the present value of the additional investment needed is around USD 1.7 trillion (Hutton and Varughese, 2016[5]), which is about three times the current investment levels. This reflects only a partial estimate of the total investments needs to achieve SDG 6. Addressing the financing gap requires better use and targeting of existing resources and mobilization of additional financing.

At the regional level, recent OECD assessments of investment needs for water security also highlight a significant financing gap. For example, in Europe, current annual average expenditures on water supply and sanitation are estimated at a total of EUR 100 billion across EU member states, with large variations across countries. All EU member states with the exception of Germany will need to increase annual expenditures for water supply and sanitation by more than 25% in order to comply and maintain compliance with the current regulations (OECD, 2020[2]). In Asia, projections indicate that most countries in the Asia-Pacific region will need to allocate between 1% and 2% of GDP for water supply and sanitation infrastructure over the period 2015-2030 to achieve universal access to safely managed water supply and sanitation services for all[1] (Leckie, Smythe and Leflaive, 2021[3]).

A great deal of recent research has focused on facilitating the mobilisation of commercial finance for water and sanitation investments. The World Bank Water Group has led in-depth work about the transition of the sector towards commercial finance (Goksu et al., 2017[6]). The Roundtable on Financing Water[2] has proven the value and the importance of mobilising additional finance for water-related investments, including via

[1] The estimate is derived from the gap in access to services as of 2015 and the cost of connecting those without access as well as improving level of service for those with access to reach SDG 6.1 and SDG 6.2 targets. It includes capital, maintenance and operation costs.

[2] A joint initiative of the OECD, the World Water Council, the Government of the Netherlands and the World Bank. https://www.oecd.org/water/roundtable-on-financing-water.htm.

blended finance.[3] However, the financing gap for water-related investments remains substantial (OECD, 2018[7]) and commercial finance has not reached scale in the water and sanitation (WSS) sector (OECD, 2019[8]). OECD analysis of institutional investment holdings in "green" infrastructure underscore the limited role commercial finance plays in the water sector. The analysis shows that institutional investment in water supply infrastructure accounts for a mere 1.6% of all investment holdings mapped in the analysis (excluding listed stocks). Only USD 17 billion is currently invested in water supply-related assets (OECD, 2020[9]).

In the case of development finance mobilising commercial finance in the context of blended finance, OECD analysis estimates that only USD 2.1 billion out of USD 157.2 billion mobilised through official development finance from 2012-2017 globally went to the WSS sector (OECD, 2019[8]). Other major initiatives, such as the one USAID led in 2018 on financing facilities (USAID, 2018[10]), have strived towards mobilising additional finance for water supply, sanitation and hygiene. Yet, the challenge remains largely unmet and a substantial financing gap persists.

Why focus on the role of intermediaries?

The challenge of financing water-related investments is multifaceted. Innovative approaches for de-risking investments, enhancing their value and unlocking private capital are actively promoted. Some interesting initiatives have emerged to stimulate private investment at different scales and for different types of organisations with the aim of bridging the missing link between funding sources and needs, through direct or indirect interventions. This paper focuses on activities that mobilise additional finance for water-related investments[4] (including commercial finance) and improve the effectiveness of existing (mainly public) financing flows. The latter requires targeting the communities and investments where financing flows are needed most and can deliver the most benefits. This includes dealing with issues such as fragmentation and the small scale of many projects within the sector (e.g. for small and mid-sized communities).

A large number of organisations operate at the interface between demand for (e.g. water agencies or service providers) and the supply of finance (e.g. financing institutions and financiers at large). These entities, referred to in this analysis as "intermediaries"[5], include, but are not limited to, those working upstream on the enabling environment for finance facilitation; transaction advisory supporting partnership development (of which financing is one component), private sector lending windows of donors and international financial institutions, and dedicated financing facilities. There is a wide range of intermediaries that play multiple roles in facilitating water-related investments; however a systematic assessment of their role and the key functions performed has been lacking, along with an assessment of the gaps, overlaps and misalignments compared with the existing bottlenecks to mobilise financing.

[3] The OECD defines blended finance as the strategic use of development finance for the mobilisation of additional finance towards sustainable development in developing countries (OECD, 2018[11]).

[4] This analysis covers three sub-sectors: (1) water and sanitation utilities, (2) small-scale off-grid water and sanitation services and (3) nature-based solutions, for which the attention of the international community has dramatically risen in the recent years in the light of their potential to deliver multiple benefits. Multi-purpose water infrastructures were deemed less relevant for the purpose of our research as these investments tend to be much more easily financed due to their energy production component (e.g. dams and reservoirs), which makes projects bankable due to steady and predictable electricity revenues (OECD, 2019[8]).

[5] "Intermediaries" as defined in this analysis is not synonymous with "financial intermediaries" defined by the OECD as "units which incur liabilities on their own account on financial markets by borrowing funds which they lend on different terms and conditions to other institutional units."

The analysis presented in this Working Paper[6] aims to fill this gap by providing insights into the role of intermediaries in facilitating water-related investments and their key functions noted below, i.e. to:.

- Provide tailored financing throughout the investment life cycle,
- Help mobilise private capital investment throughout the project/investment cycle, and
- Enhance the characteristics of desirable water-related investment conducive ecosystems.

Key findings and recommendations

This analysis reviews the key functions of a diverse sample of intermediaries[7] and their relative importance for each of the three water sub-sectors covered in this paper (utilities, small-scale water and sanitation providers and nature-based solutions). The review of intermediaries highlights the existence of a value chain that, when well-served by intermediaries, can ultimately attract capital and secure investments. However, when examining the range of activities of intermediaries in light of the existing barriers to mobilise additional finance for the sector, a number of gaps, overlaps and misalignments can be observed. This points to a need for governments and responsible institutions to assert more leadership to focus intermediaries' activities on areas that would bring more catalytic support to facilitate water-related investments. The remainder of this section highlights key findings from the analysis. The detailed analysis can be found in Chapter 3.

A constellation of intermediaries playing various roles along the water investment value chain constitutes a striking feature of the water sector

The water sector is characterised by an abundance of players and intermediaries performing a diversity of functions. Understanding the roles and responsibilities of actors within the sector is made difficult by this extraordinary diversity of entities. This has clearly been to the sector's disadvantage when it comes to attracting investors who need to be provided with clarity and perspective, as well as certainty about the alliances needed to set up and manage bankable projects. This paper provides a structured review of a diverse sample of intermediaries as a means to better understand their scope of activities and their positioning along the investment value chain.

The sole provision of financial mechanisms is not sufficient to attract and facilitate water-related investments

This review of intermediaries shows that there is an abundance of organisations focused on providing financial mechanisms (e.g. grants, loans, equity, guarantees, collective investment vehicles, etc.) for water-related investments, revealing a strong concentration of activity at the transaction level. At the same time, there is a lack of bankable projects in the sector that can benefit from these financial mechanisms. The strong focus on the transaction level paradoxically leaves both the demand side (e.g. water agencies and service providers) and the supply side (e.g. financiers) underserved.

From the service providers' perspective, this can appear to be a highly fragmented market, resulting in significant transaction costs to identify the relevant intermediaries worth approaching. Moreover, most of the available financing mechanisms do not create incentives towards operational efficiency and improvement for service provides. Such incentives would support efforts to improve the creditworthiness of service providers and their capacity to access finance. Rather, interventions focus on providing viability

[6]The methodology used for this analysis is presented in Annex A.

[7] The list of intermediaries, mapped by functions performed and organisational type, is provided in the detailed analysis in the sections that follow.

gap funding and employing de-risking instruments at the transaction level but do not encourage the service providers to achieve higher operational standards. The proliferation of actors focused on providing financing mechanisms at the transaction level also increases competition to facilitate financing, in a context where the number of viable bankable projects remains limited.

A better alignment between the challenges specific to each water sub-sector and the key functions performed by intermediaries is needed

The design and implementation of public policies, investment preparation, and the development of human capital rank amongst priority functions needed to mobilise finance across all water sub-sectors. However, each sub-sector (e.g. utilities, small scale service providers, and NbS) differs in terms of the critical functions needed to facilitate financing due to their distinctive risk-return profiles and the relative maturity in terms of a dedicated track record to access finance. Water utilities are the most mature sub-sector in terms of access to finance, but still face deeply-rooted misperceptions that deter investors, and require strong efforts of business promotion. In contrast, small-scale service providers, and nature-based solutions require a different kind of support from the intermediaries: notably, ensuring conducive policies and regulation are in place, co-ordination amongst multiple local stakeholders and new types of innovative partnerships.

By mapping of the functions of intermediaries against the priority activities for each sub-sector, one can clearly observe that many activities identified as critical for a given sub-sector are among those which are rather neglected by the intermediaries reviewed in this sample (see detailed discussion in Chapter 3). This observation, combined with the considerable focus of intermediaries on the provision of financing mechanisms, further reinforces the finding that the focus on the transaction level is not well-aligned with the critical need to foster a more conducive business and policy environment to enable water-related investments.

Anchoring the role of intermediaries at the relevant geographic scale is a prerequisite to optimise their intervention

Several examples of intermediaries reviewed in this analysis illustrate how the articulation of functions performed and the geographical scale of intervention can reinforce the relevance of their intervention (see case examples of the Cities Development Initiative for Asia [CDIA] and WWF Bankable Water Solutions in Annex C). A key consideration is the importance of proximity to the local level to provide credibility to the actions of intermediaries who can thus offer solutions better adapted to the needs of the local players and to the characteristics of the local markets. Knowledge of specific local conditions and access to key decision makers is highly valued by investors and financiers.

Intervention at the regional level has the potential to foster economies of scale, while maintaining proximity to activities on the ground. This analysis highlights that greater attention could be placed on interventions at the regional level, which only a small share of the intermediaries reviewed in this sample currently focus on.

Gaps and redundancies in the activities of intermediaries call for a shift to a more strategic approach

Intermediaries' activities are often driven by an opportunistic approach and political agendas, or are simply reflected by the dynamism of water entrepreneurs. There is a need to shift to a more strategic approach in order for intermediaries to address the full range of service providers' and financiers' needs along the investment value chain. The strikingly strong role played by the abundance of non-profit organisations raises the question of how to promote coordinated action in a sector with a highly diversified ecosystem of actors.

Consideration also needs to be given to ways to enhance the complementarity of intermediaries, the consistency of their interventions and their collective effectiveness to attract domestic and/or foreign finance. In some cases, integration with other intermediaries either horizontally or vertically may be considered. Identifying the missing links and overlaps of the value chain in the local and regional ecosystems is essential. Gaps may be more of a concern than redundancies and initiatives to fill those gaps should be encouraged.

Governments and financial institutions have a role to play

The results of this analysis imply a need to shift from the current opportunistic approach to a more strategic approach, under the direction of governments and in partnership with financial institutions, with primary efforts on transformative changes through strengthening the enabling environment for investment rather than transactional activities.

Key actions include:

- Strengthening the policy, regulation and institutional frameworks of the sector
- Generating demand for quality services
- Supporting initiatives to fill gaps in the investment value chain currently underserved by intermediaries
- Showcasing the water sector as an opportunity for the private sector to grow business
- Supporting and facilitating transactions with a focus on improving business fundamentals and innovative partnerships.

2 Brief description of the key functions of intermediaries

The development of water-related projects and investments is typically faced with multiple risks, bottlenecks and barriers. The key functions identified to tackle those barriers cover a large scope of interventions that can be performed by intermediaries.

Considering the risks, barriers and bottlenecks faced by water-related projects all along their lifecycle, **four main categories** of intervention were identified, each of them divided in three sub-categories. This resulted in the characterization of **46 key functions** needed to facilitate investments. Table 2.1 below lists the 46 key functions, with a breakdown by sub-category, linked to the key risks, barriers and bottlenecks they can mitigate.

Water and Resilience Policy Development

This category of key functions focuses on sectoral public policies, at all levels of intervention (sub-national, national, regional, global). It aims at highlighting the importance of a clear policy and regulatory framework to enable the development of water-related projects and to provide the long-term stability and visibility required to implement these projects and attract investments.

While governments are typically accountable for the provision of legal, policy and regulatory frameworks, intermediaries have a role to play in supporting the design of those frameworks and their implementation in the field. Key intermediaries active in this category include service providers, professional networks of service providers, not-for-profit entities and international institutions.

Customer Knowledge and Sectoral Cooperation

For this category, the key functions revolve around the need to connect the different non-financial stakeholders involved in water-related projects (consumers, service providers, regulators, etc.). This intends to ensure more predictable revenue streams due to confirmed demand from consumers and established project governance, and to improve productivity and efficiency of service providers through better coordination and knowledge sharing. This category mostly encompasses intermediaries such as not-for--profit entities, professional networks of service providers, and project preparation facilities.

Investment and Business Promotion

This category encompasses two key dimensions: (1) the promotion of a stable and attractive business environment in the country and its water sector in particular to reduce the risk perception of investors, and (2) the facilitation of transactions through the preparation of robust investment opportunities and the provision of relevant financial tools to enhance the viability and attractiveness of projects. This includes

funds and facilities, which can play an important role in pooling investment opportunities, mitigating credit risk and providing accessibility for (private) investors. Financiers, project preparation facilities, and international institutions are the main types of intermediaries active in this category, alongside some philanthropic entities facilitating investments.

Capacity-building and organisational strengthening

Another dimension of key functions facilitating investments consists of ensuring sufficient human and organisational capacity in the sector. This includes strengthening the internal capabilities of organisations (managerial, technical and operational) and optimising business models through support for innovation and experimentation. These functions have the added effect of improving the operational and financial performance of service providers, and of contributing to a track record of performance to reduce the risk perception of investors. Ensuring sufficient capacity in the sector includes improving transparency, as the market will not develop until there is sufficient information on risk-return characteristics of investments. Key intermediaries in this category includes academics, non-profit entities and professional networks of service providers.

Table 2.1 provides an overview of the 46 key functions identified, with a breakdown by sub-category, linked to the key risks, barriers and bottlenecks they can mitigate.

Table 2.1. Overview of the key functions and risks, barriers & bottlenecks addressed

Categories of functions	Description of risks / barriers / bottlenecks addressed	Key functions
Water and Resilience Policy development		
Monitor and channel financial flows via regulation and public policies	- More and better targeted investments towards more and better services - Need to tackle affordability and efficiency challenges	- Defining and implementing clear regulation framework - Designing adequate tariffs structures - Planning investments to serve water and resilience needs
Support policy design and influence national priorities	- Need to design policies in adapted to local conditions and the corresponding needs and challenges	- Assessing the dynamics of the water market ecosystem - Accompanying governments in the design of their public policies - Developing strategic planning and investment programming - Developing a technical business ecosystem
Influence global priorities and policies	- Water-related projects not always at the top of decision-makers' agenda, resulting in less visibility for the sector - Lack of recognition of sub-sectors, especially for nature-based solutions, resulting in unclear legal frameworks	- Advocating for the urgency of water cycle-related projects - Strengthening the case for emerging and innovative models through evidence generation - Creating and developing markets for social and environmental benefits - Influencing the non-profit and donor communities to think differently about value for money
Customer Knowledge and Sectoral Cooperation		
Generate demand for quality services through customer-centric approach	Low demand due to tariff issues or lack of awareness about the importance of quality services for health, resulting in lower performance levels	- Spurring awareness about the needs for and implications of improved and enlarged water-related quality services - Integrating consumers' behaviours

Categories of functions	Description of risks / barriers / bottlenecks addressed	Key functions
		throughout the design and delivery of services - Identifying levers to bring water services closer to consumers
Ensure operational coordination between the local, national and regional stakeholders	- High transaction costs resulting from the required mobilisation of all the local stakeholders - Performance risk due to lack of technical expertise or lack of continuity plan	- Setting up dedicated platforms to facilitate stakeholders' operational coordination - Aggregating small service providers into networks - Developing partnerships to complement local capabilities - Enhancing the value proposition of projects
Foster sectoral knowledge collaboration at regional and global levels	Low leverage of ongoing progresses in the sector in terms of technologies and practical know-how, resulting in low incorporation of this knowledge in the project design	- Building up a network of technical expertise and cooperation among local, regional and international players - Ensuring the dissemination of knowledge and technical know-how at local, regional and global levels - Documenting emerging technologies to foster their expansion
Investment and Business Promotion		
Build a positive image of the water sector and reduce the misperceptions on investments in water-related projects	Low demand due to tariff issues or lack of awareness about the importance of quality services for health, resulting in lower performance levels	- Characterizing the business environment of a given territory - Providing access to information on the water sector of a given territory and its upcoming evolutions - Positioning governments as public investment brokers and market coordinators - Showcasing and advertising the opportunities to invest in the water sector - Fostering meeting points for stakeholders interested in financing the water sector within regions
Prepare investment opportunities	- High transaction costs limiting efforts and resources placed in project preparation phase, which could result in non-optimized design - Lack of financial assessment of service providers, increasing the creditworthiness risk perceived by investors	- Assessing the financial efficiency of existing programs and service providers - Providing financial support for project development - Providing financial expertise to support service providers in preparing deals - Creating new and promoting existing opportunities in a given territory - Ensuring third-party evaluation of investment opportunities
Design 1) the financing framework and 2) financial incentives and tools	Low leverage of ongoing progresses in the sector, in terms of technologies and practical know-how, resulting in poor incorporation of this knowledge in the project design	- Ensuring the efficiency of the local capital markets - Designing adequate blended finance approaches - Catalysing the use of financial tools reducing lender's risk and borrower's constraints - Developing a common understanding of investment strategies and criteria
Capacity-building and organisational strengthening		
Develop people and leadership	The mid-term transformational plan of the water sector mainly relies on human capital, not only financial investments.	- Providing quality training and education to existing and future senior officials - Building a pool of external and internal

Categories of functions	Description of risks / barriers / bottlenecks addressed	Key functions
		talents at the right territorial level - Strengthening leadership and innovation capacities within governmental and service providers' organisations - Providing management assistance to public or public-private entities
Foster technical and operational excellence	-Limited political room to pass all water cycle costs - or their increase - to the customer - Need to maintain and improve the service provision	- Building the managerial capacities of future technical and operational leaders - Ensuring the availability of technical capabilities within the ecosystem - Developing standards that will incentivize service providers to reach technical and operational excellence - Leveraging digital technologies to enhance technical and operational performance
Facilitate partnerships for innovation	Innovation risk resulting in financial flows directed towards established models, and in low willingness to innovate within existing, renowned organisations	- Creating and developing hubs to incubate and demonstrate promising projects - Funding innovation and pilot projects

Source: Authors.

3 Analysis, discussion and recommendations

A constellation of intermediaries playing various roles along the water investment value chain constitutes a striking feature of the sector

Selection and description of the sample of intermediaries

The sample of 52 intermediaries reviewed in this analysis were selected in line with the objective to provide a broad review of the existing landscape of intermediaries engaged in facilitating water-related investment. These intermediaries are the organisations that operate at the interface between water agencies and service providers that need to secure capital and the financing institutions that supply it. These entities include, but are not limited to, those working upstream on the enabling environment for finance facilitation; transaction advisory supporting partnership development (of which financing is one component), private sector lending windows of donors and international financial institutions, and dedicated financing facilities.

The sample of intermediaries selected include organisations from a range of geographic contexts (in both OECD and non-OECD countries). Distinct challenges related to financing water-related investment can be observed in different contexts, notably:

- High funding needs in low to middle-income countries (LMICs).The shift from concessional/public finance to commercial finance for water-related investments has proven to be feasible but is still particularly challenging.
- A disconnect between the supply of and demand for finance in some OECD countries where intermediaries can play an important role.

The sample of intermediaries was built in coordination with the OECD and World Bank teams, drawing on case studies from previous reports as well as additional desk research to identify entities active in the full range of key functions along the investment value chain. The selected intermediaries were screened and categorised according to the following criteria:

- **Sub-sector** (Water utilities/Small-scale service providers/Nature-based solutions): indicating which sub-sector(s) the intermediary is active in supporting.
- **Level of intervention** (Transaction/Ecosystem): the transaction level refers to engage at the level of the specific investment opportunity, while the ecosystem level corresponds to the activities related to the enabling environment (policies, regulation and institutional arrangements).
- **Needs addressed** (Investors/Service providers): indicating a focus on the needs of actors on the supply side of finance (investors) or the demand side (service providers).
- **Project initiation** (Public/Private): this criterion highlights the nature of the entity or entities initiating projects that are supported by the intermediary. Some intermediaries are focused on working with public authorities initiating projects, others focused on private companies, or both.
- **Target countries** (OECD/LMICs): this criterion indicates the geographic focus of the intermediary.

Table 3.1. Characterisation of selected intermediaries

	Sector			Level		Needs		Project initiation		Target countries	
Intermediary	Water Utilities	Small-scale	NbS	Transaction	Ecosystem	Investors	Service Providers	Public	Private	OECD	LMICs
Acumen		x	x	x		x	x		x		x
AFD Cambodia		x		x	x	x	x		x		x
African Urban Sanitation Investment Fund	x	x		x	x	x	x	x			x
Agences de l'Eau	x	x	x	x	x		x	x	x	x	
AgroParis Tech "Water for All" Master	x				x		x	x			x
Aqua for All		x	x	x		x	x		x		x
Bangladesh Microfinance		x		x	x		x	x			x
BEWOP	x				x		x	x		x	x
Cardano Development	x	x	x	x	x	x	x	x	x		x
Cities Development Initiative for Asia (CDIA)	x			x	x		x	x		x	x
Climate Bonds Initiative			x	x		x			x	x	
Climate Resilient Infrastructure Development Facility		x	x	x	x		x	x	x		x
Columbia River Treaty			x	x	x	x		x		x	
Commission Nationale du Débat Public	x		x	x		x		x	x	x	
Container-Based Sanitation Alliance		x			x	x	x		x		x
Convergence Finance	x	x	x	x		x	x	x	x		x
CRPAOs in Peru	x		x	x	x	x			x		x
Dutch Fund for Climate and Development		x	x	x		x	x		x	x	x
DWM		x	x	x		x	x	x	x	x	x
FINDETER (Colombia)	x	x	x		x		x	x			x
FONADIN	x			x	x	x	x	x		x	x
Gold Standard for Global Goals	x	x	x	x	x	x	x	x	x	x	x
Grand Challenges Canada		x		x		x	x		x	x	x

	Sector			Level		Needs		Project initiation		Target countries	
International Fund for saving the Aral Sea (IFAS)			x	x	x	x	x	x			x
International Water Association	x	x	x		x		x	x	x	x	x
Kenya shadow credit ratings	x				x	x		x			x
Monterrey Metropolitan Water Fund (FAMM)			x	x	x	x			x	x	
Nexus for Development		x		x		x	x		x		x
Organisation de Mise en Valeur du Fleuve Sénégal			x	x	x	x		x			x
Philippines Revolving Fund	x			x		x	x	x			x
PIDG	x	x	x	x		x	x	x	x		x
Population Services International (PSI)		x		x	x	x	x		x		x
Scaling Solar programme (IFC)		x		x	x	x	x	x			x
Small Water Enterprise Alliance - India		x			x		x		x		x
Smart Power India		x		x			x		x		x
Solar Impulse	x	x	x	x		x			x	x	x
Suez Environnement	x				x		x	x		x	x
The Nature Conservancy / Water Funds Network			x	x	x	x	x	x	x	x	x
The Stone Family Foundation		x		x		x	x		x		x
Toilet Board Coalition		x		x	x		x		x	x	x
US Revolving funds for Water infrastructure	x	x	x	x			x	x	x	x	
Water Access Acceleration Fund		x		x		x	x		x		x
Water and Sanitation Pooled Fund (India)	x	x		x		x	x	x			x
Water as Leverage	x	x	x	x	x	x	x	x	x	x	x

	Sector			Level		Needs		Project initiation		Target countries	
Water Finance Facility	x			x	x	x	x	x			x
Water Resources Group - 2030	x		x		x		x	x	x		x
Water.org / WaterEquity		x		x		x	x		x		x
WaterAid	x	x			x		x	x	x		x
Waterpreneurs		x	x	x		x	x		x	x	x
WWF			x	x	x	x	x	x	x		x

Source: Authors.

Observations

The selected intermediaries constitute a diversified and well-balanced sample.

- Ten main different types of entities acting as intermediaries were identified: civil society, philanthropy, field and academic research, professional water networks, service providers, financiers, financing facilities, development finance institutions, and governmental and intergovernmental bodies.[8]
- 57% of the intermediaries are active in one sub-sector only, 23% in two sub-sectors and 20% in the three sub-sectors.
- 43% of the intermediaries operate at both levels (ecosystem and transaction), while 39% of them are active at transaction level only and the remainder (18%) only active at ecosystem level.
- 45% support the needs of one category of stakeholders (16% for the investors, 29% for the service providers); 55% operate on both sides.
- For 39% of the entities, project initiation lies with the private sector, and 31% with governments. In 30% of the situations, project initiation can be triggered by both sides.
- 59% of the intermediaries intervene in LMICs, 29% operate in both LMICs and OECD countries, and 12% in OECD countries only.

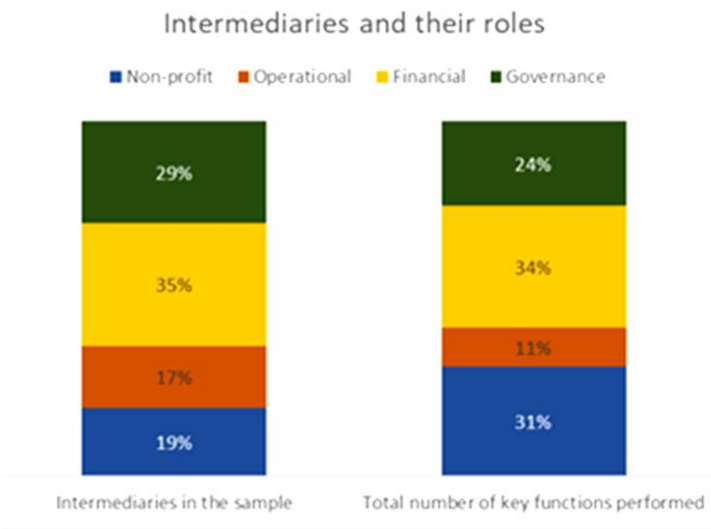
The sample brings to light the link between the type of intermediary and the key functions performed.

For the purpose of the analysis, the various types of intermediaries were grouped in 4 general categories. Figure 3.1 summarises the types of intermediaries in the sample and the functions performed.

- Non-profit (Blue): Civil society, Philanthropy, Field and academic research
- Operational (Orange): Professional water networks, Service providers
- Financial (Yellow): Financiers, Financing facilities, IFIs
- Governance (Green): Governmental and Intergovernmental bodies

[8] Governments are such are not considered as intermediaries

Figure 3.1. Type of intermediaries and key functions performed



Source: Authors.

When assessing the total number of key functions performed per type of intermediary, we see that financial intermediaries represent 35% of the sample and perform 34% of the key functions; thus their extent of activity across key functions along the value chain is proportional to their representation in the sample. In contrast, the Non-profit intermediaries represent only 19% of the intermediaries in the sample, but account for 31% of the key functions performed, highlighting their relatively prominent and diverse (in scope) contribution as intermediaries.

Discussion

The selection of intermediaries in our sample illustrates well the abundance and diversity of actors active in the water sector. Understanding the range of roles and responsibilities of intermediaries within the sector is made difficult by this extraordinary diversity of entities. Such a feature has clearly been to the sector's disadvantage when it comes to attracting investors who need to be provided with clarity and perspective. A better understanding of which intermediaries are active and performing which functions in specific countries could help provide more clarity for both service providers and water agencies seeking finance and investors and financiers seeking opportunities.

Recommendations

- Map the intermediaries that are active in a given country.
- Characterise the key functions they dispatch and identify potential gaps, overlaps and misalignments.
- Identify and compare their respective specificities.
  - How do they differ from one another?
  - To what extent is their action tailored to a situation or a country?
  - How could their effectiveness be enhanced?
  - How could the collective efficiency and effectiveness of the range of intermediaries be improved?

The sole provision of adequate financial mechanisms is not sufficient to attract and facilitate water-related investments.

Attribution of key functions to the selected intermediaries

The 52 intermediaries reviewed in this analysis were screened to identify the key functions they perform (in line with the framework of key functions described above). Figure 3.2 below highlights the sub-categories in which each intermediary is active, ranking them according to the number of sub-categories covered by their activities.

Figure 3.2. Intermediaries and key functions

			Water and resilience Policy development			Customer knowledge and Sectoral cooperation			Investment and Business Promotion			Capacity-building and organisational strengthening			
Name of intermediary	**Nature of intermediary**	**Level of intervention**	**Monitor and channel financial flows via regulation and public policies**	**Support the design and influence national priorities**	**Influence global priorities and policies**	**Generate demand for quality services through customer-centric approach**	**Ensure operational coordination between the local, national and regional stakeholders**	**Foster sectoral knowledge collaboration at regional and global levels**	**Build a positive image of the water sector and reduce the misperceptions on investments in water-related projects**	**Prepare investment opportunities**	**Design 1) financial framework and 2) financial incentives and derisking tools**	**Build people and leadership**	**Foster technical and operational excellence**	**Facilitate partnerships for innovation**	**Nb key functions per intermediary**
Agences de l'Eau	Governmental bodies	Regional	x	x				x	x	x	x		x	x	8
Cities Development Initiative for Asia (CDIA)	Financing facilities	Regional		x			x		x	x	x	x		x	7
WWF	Civil society	Global			x		x	x		x	x		x	x	7
The Nature Conservancy / Water Funds Network	Philanthropy	Global		x	x		x	x		x	x				6
Climate Resilient Infrastructure Development Facility	Financing facilities	Regional					x			x	x		x		4
International Fund for saving the Aral Sea (IFAS)	Intergovernmental bodies	Regional			x		x	x			x				4
AFD Cambodia	IFIs	National		x						x			x		3
BEWOP	Field and academic research	Global					x	x					x		3
Container-Based Sanitation Alliance	Professional water networks	Global			x			x						x	3
Philippines Revolving Fund	IFIs	National							x	x	x				3
Population Services International (PSI)	Civil society	Global				x	x			x					3
Smart Power India	Philanthropy	National				x							x	x	3
Toilet Board Coalition	Philanthropy	Global							x			x		x	3
Water.org	Philanthropy	Global				x	x				x				3
WaterAid	Civil society	Global		x	x									x	3
Water Resources Group - 2030	IFIs	Global		x	x								x		3
AgroParis Tech "Water for All" Master	Field and academic research	Global										x	x		2
Climate Bonds Initiative	Financing facilities	Global							x		x				2
Convergence Finance	Professional water networks	Global								x	x				2
Danone Communities	Financing facilities	Global						x			x				2
Dutch Fund for Climate and Development	Financing facilities	Global								x	x				2
Gold Standard for Global Goals	Service providers	Global			x						x				2
Monterrey Metropolitan Water Fund (FAMM)	Financing facilities	National					x				x				2
Output-based Aid (OBA) Sanitation Microfinance Program Bangladesh	Financing facilities	National								x	x				2
PIDG	Intergovernmental bodies	Global								x	x				2
Scaling Solar programme (IFC)	IFIs	Regional								x	x				2
Small Water Enterprise Alliance - India	Professional water networks	National		x			x								2

Water and Sanitation Pooled Fund (India)	Governmental bodies	National								x	x				2
Water as Leverage	Intergovernmental bodies	Global					x			x					2
Water Finance Facility	Financing facilities	Global								x	x				2
Waterpreneurs	Professional water networks	Global							x	x					2
Organisation de Mise en Valeur du Fleuve Sénégal	Intergovernmental bodies	Regional	x				x								2
Myanmar Information Management Unit	Governmental bodies	National					x		x						2
Acumen	Financiers	Global									x				1
African Urban Sanitation Investment Fund	Financing facilities	Regional								x					1
Aqua for All	Philanthropy	Global									x				1
Cardano Development	Financing facilities	Global									x				1
Columbia River Treaty	Intergovernmental bodies	Regional					x								1
Commission Nationale du Débat Public	Governmental bodies	National					x								1
CRPAOs in Peru	Governmental bodies	National									x				1
Developing World Markets	Financiers	Global									x				1
FINDETER (Colombia)	Governmental bodies	National									x				1
FONADIN	Governmental bodies	National									x				1
Grand Challenges Canada	Governmental bodies	Global									x				1
International Water Association	Professional water networks	Global						x							1
Kenya shadow credit ratings	Governmental bodies	National								x					1
Nexus for Development	Financing facilities	Global									x				1
Solar Impulse Foundation	Philanthropy	Global								x					1
Suez Environnement	Service providers	Global											x		1
The Stone Family Foundation	Philanthropy	Global									x				1
US Revolving funds for Water infrastructure	Governmental bodies	National									x				1
Water Access Acceleration Fund	Financing facilities	Global									x				1
			2	**7**	**7**	**3**	**15**	**8**	**7**	**20**	**31**	**3**	**9**	**7**	

Source: Authors.

Observations

83% of the intermediaries active only in 1 or 2 sub-categories are involved in the financial aspects of investment facilitation

This observation indicates that many intermediaries are narrowly focused on the provision of financial mechanisms and the preparation of investment opportunities. It reflects a pattern of creating funds and financing facilities in an effort to attract additional finance for water-related investments, without giving due consideration to the other barriers and bottlenecks that need to be addressed in order to facilitate investments. This notably includes a lack of consideration for strengthening the enabling environment. The proliferation of actors focused on financial facilitation also increases competition to finance a limited number of viable bankable projects.

A high number of intermediaries is concentrated in three sub-categories of key functions.

Building upon the previous observation, it appears that (1) the operational coordination of stakeholders, (2) the preparation of investment opportunities, and (3) the design of financial tools and frameworks are areas where many existing intermediaries are active. However, this does not mean that every territory is covered uniformly and every project can benefit from their activities, it highlights the existence of examples of mechanisms and actions that can be documented and adapted to new contexts.

In contrast, 75% of the sub-categories are quite neglected by intermediaries.

These 9 sub-categories (out of 12) count between 2 and 8 intermediaries performing the key functions identified (out of the 52 intermediaries in the sample).

- The sub-categories concerned include all the functions categorised under "Water and resilience policy development" and "Capacity-building and organization strengthening". This implies that these two categories have not yet been acknowledged as decisive for the sector (or partially handled by governments directly).
- The sub-category "Demand generation for quality services" is also underserved, whereas improved service quality, operational performance and demand generation remain a major challenge and bottleneck to mobilising financing.
- Finally, the promotion of the water sector itself and its characteristics seems to be a missing link of the strategies to attract and facilitate investments, which at present focus more on the specific opportunities rather than on strengthening the sector as a whole.

Acknowledging that the sample reviewed in this analysis, though well-balanced, does not provide a fully comprehensive overview of the existing intermediaries, it is difficult to assert that almost no entity is actively involved in these sub-categories. However, entities that may be active in those sub-categories were not easily identifiable.

Discussion

The abundance of intermediaries providing financial mechanisms is not necessarily a positive situation for water-related projects.

With 31 intermediaries identified to be active in the provision of financial mechanisms and 20 active in the preparation of investment opportunities, these sub-categories have a wide range of players.

- From the service providers' perspective this range of actors and activities may not be beneficial, as they are confronted with a highly fragmented market, resulting in significant transaction costs to identify the relevant mechanisms and the entities worth approaching.
- Moreover, from our research, we understand that most of these financing mechanisms rarely create an incentive towards operational efficiency and improvement. Rather, they focus on providing viability gap funding or de-risking instruments at the transaction level but do not clearly encourage the service providers to achieve higher operational standards. This may contribute to the relatively high reliance on de-risking instruments (guarantees) in financing water (compared to other sectors), documented in previous work on blended finance.
- A multiplicity of intermediaries thus raises questions about potential market distortion and the unfair competition that their presence could sometimes induce. This fragmented landscape results in the prevalence of rather small entities, which often lack skills and leverage, and hence focus on mechanisms that are easy to implement in order to facilitate the investments in the sector. As a result, provided they can afford the searching time, service providers might often be able to find non-commercial money, thus lowering their efforts and incentives to enhance the service's financial viability.
- The proliferation of actors focused on those activities also increases competition to facilitate financing, whereas the number of viable bankable projects remains limited.

This unbalanced situation shows a lack of understanding of investors' expectations, and should be address through further awareness raising

The identification of the broad range of key functions required to facilitate investment in the water sector highlights that the attractiveness of the sector to investors is based on interventions whose nature goes far beyond financing mechanisms *stricto sensu*. This reflects the fact that investors look at the fundamentals of the business (vision, culture, teams, data, customers, marketing, and cost management), at least as much as they look for financing tools that allow them to de-risk their investment.

Intermediaries' lack of focus on the other dimensions identified to facilitate investment in water-related projects is most probably due to a low awareness of investors' expectations and/or service providers' weaknesses and challenges. Thus, there is a clear need to sensitise governments and institutions involved in sectoral regulation and policy recommendations, and to make them aware of the importance of tackling all the barriers and bottlenecks if they are to attract additional private capital for the sector. At the same time, there are remaining efforts to raise awareness among development partners and other actors managing intermediaries or developing new ones where important bottlenecks and gaps arise.

Recommendations

- Reconsider the intensity of the effort put into developing financing mechanisms in the absence of greater efforts to strengthen the enabling environment.
- Redirect or expand the functions of intermediaries to address key bottlenecks in the enabling environment upstream of investment opportunities. Such conditions could be written into the investment agreement of donors on specific projects.
- Ensure the existence of a favourable enabling environment, in terms of public policies, regulation and institutional arrangements.
- Work more specifically on demand generation for quality services.
- Promote the industry and investment opportunities in line with investors' expectations.
- Continue strengthening the fundamentals of business activities and capacity development.

A better alignment between the challenges specific to each water-sub-sector and the key functions performed by intermediaries is needed

Analysis

As presented in Figure 3.3 below, the key functions along the investment value chain were ranked according to their priority to facilitate financing in each of the three sub-sectors considered in this analysis. This assess was made considering the distinctive features of each sub-sector, maturity in terms of accessing to finance and specific bottlenecks (building on, *inter alia*, the findings in (OECD, 2019[8])).

Four key functions appear to be of major importance for all subsectors (Utilities, Small-scale solutions and Nature-based solutions) with a focus on Policy Development:

- 1.1. "Monitor and channel financial flows via regulations and public policies"
- 1.2 "Support the design of and influence national policies"
- 3.2 "Prepare investment opportunities"
- 4.1 "Develop people and leadership"

In addition to these key functions, some of them are critical for specific subsectors

This is the case for ***nature-based solutions,*** a sub-sector less mature than utilities, where three critical key functions have been identified:

- 1.3 “Influence global policies and priorities”
- 2.2 “Ensure operational coordination amongst local, national and regional stakeholders”
- 4.3 “Facilitate partnerships for innovation”

For ***Utilities***, “building a positive image of the water sector and reducing the misperceptions on investments in water-related projects” (key function 3.1) ranks first among the set of conditions conducive to attracting water-related investments. Demonstrating the contributions of water-related investments to climate action (adaptation, resilience, mitigation) and broader environmental and social goals could help attract funding targeting such objectives.

Some key functions require less additional effort

This is either because they are already well addressed by a large diversity of stakeholders or because water sector attractiveness is less dependent on them. They may also be less rewarding for intermediaries, or less accessible for small, *ad hoc* entities. These include:

- 2.3 “Foster sectoral knowledge at regional and global level”
- 3.3 “Design 1) the financing framework and 2) financing incentives and tools”
- 4.2 “Foster technical and operational excellence”

Figure 3.3. Sectorial priorities and importance for categories of functions

Nb.	Categories of functions	Sectorial priorities & importance		
		Utilities	Small scale	Nature-based solutions
1.	Water and Resilience Policy development			
1.1	Monitor and channel financial flows via regulation and public policies	High	High	High
1.2	Support the design and influence national priorities	High	Critical	Critical
1.3	Influence global priorities and policies	Low	Medium	Critical
2.	Customer Knowledge and Sectoral Cooperation			
2.1	Generate demand for quality services through customer-centric approach	Medium	High	High
2.2	Ensure operational coordination between the local, national and regional stakeholders	Medium	Medium	Critical
2.3	Foster sectoral knowledge collaboration at regional and global levels	Low	Medium	Medium
3.	Investment and Business Promotion			
3.1	Build a positive image of the water sector and reduce the misperceptions on investments in water-related projects	Critical	Medium	Medium
3.2	Prepare investment opportunities	High	High	Critical
3.3	Design 1) the financing framework and 2) financial incentives and tools	Medium	Medium	Medium
4.	Capacity-building and organisational strengthening			
4.1	Develop people and leadership	High	High	High
4.2	Foster technical and operational excellence	Medium	Medium	Medium
4.3	Facilitate partnerships for innovation	Low	High	Critical

Note: This assessment derives from the literature review undertaken for this analysis and the expert judgement of the authors.
Source: Authors

Discussion

The difference in priorities for each sub-sector are due to their heterogeneous features and maturity

Policy development, investment preparation and human capital development rank as priority functions to make all water sub-sectors appealing to investors. The integration of water policy objectives in national

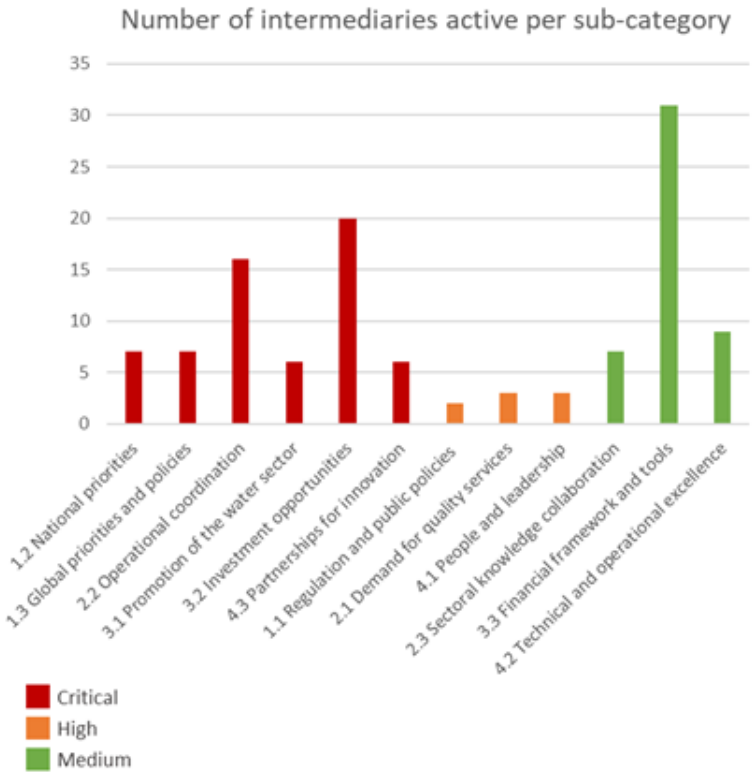
priorities is even more critical for small-scale projects and nature-based solutions, which often suffer from the absence of a conducive policy and regulatory framework.

Water utilities are the most mature sub-sector in terms of a track record to access to finance, but still face deeply-rooted misperceptions that deter investors, and require strong efforts of business promotion. In comparison to utilities and small-scale service providers, NbS require specific types of support from intermediaries: notably to develop conducive policies and regulations, enhance coordination amongst local stakeholders, and explore new types of innovative partnerships. As priorities are different for each sub-sector, there is also a need to improve the understanding of the distinctive challenges for each in order to design intermediaries that perform the necessary function(s).

The intensity of intermediaries' action in the different key function sub-categories is not aligned with the level of importance of these sub-categories for the sector.

When comparing Figure 3.3 with the mapping of intermediaries, one can clearly observe that many sub-categories identified as critical for the sector are among the ones that are quite neglected by the intermediaries in the sample: out of the six sub-categories that are identified as critical and the three that are identified to be of high importance, only two are well-covered by the intermediaries:. These are: the preparation of investment opportunities and the operational coordination of stakeholders. Combined with the high concentration of activity related to the provision of financing mechanisms, this underscores that current focus of a majority of intermediaries is on support at the transaction level, rather than the broader enabling environment. Figure 3.4 shows the number of intermediaries active per sub-category and ranked by their level of importance.

Figure 3.4. Number of intermediaries active per sub-category, ranked by their level of importance



Source: Authors.

Recommendations

- Raise awareness of the critical bottlenecks for each sub-sector and encourage alignment of intermediaries' activities to address these gaps.
- At a territorial level, characterize the type of water-related investments needs and the strengths and weaknesses of the enabling environment in order to identify the key functions to be dispatched.
- Encourage intermediaries to take up the most critical key functions depending on the needs of service providers in a given context.

Anchoring the role of intermediaries in territories is a prerequisite to optimise their intervention

Depending on the nature of key functions performed, the relevant level of territorial intervention differs between local, national, regional and global scales. As the most relevant governance level for each key function (National/Regional/Global) had been identified as a meaningful parameter, the corresponding analysis was also carried out.

Recommended levels of territorial intervention

For each of the 12 sub-categories of key functions, the Table 3.2 below highlights the most relevant level(s) of territorial intervention, in order to optimise the intermediaries' action and credibility.

Table 3.2. Territorial level of application for each sub-category

Nb.	Categories of functions	Level of application	Rationale
1.	**Water and Resilience Policy development**		
1.1	Monitor and channel financial flows via regulation and public policies	National	Country-level policies to be defined
1.2	Support the design and influence national priorities	National	Country-level policies to be defined
1.3	Influence global priorities and policies	Global	Actions to be conducted at international level to influence decision-makers at the international level
2.	**Customer Knowledge and Sectoral Cooperation**		
2.1	Generate demand for quality services through customer-centric approach	National	Need for local strategies to take into account context, culture and habits
2.2	Ensure operational coordination between the local, national and regional stakeholders	National / Regional	Geographical proximity as key factor for operational coordination
2.3	Foster sectoral knowledge collaboration at regional and global levels	Regional / Global	Learnings and good practices valuable to every stakeholder, independently from geography of action
3.	**Investment and Business Promotion**		
3.1	Build a positive image of the water sector and reduce the misperceptions on investments in water-related projects	Regional	Opportunity for economies of scale by promoting the water sector towards investors at regional level
3.2	Prepare investment opportunities	National	Need for local support to develop an array of relevant opportunities for investors, with field knowledge as key success factor
3.3	Design 1) the financing framework and 2) financial incentives and tools	National / Regional	Efficiency of financial tools and mechanisms optimized when tailored to a given context
4.	**Capacity-building and organisational strengthening**		
4.1	Develop people and leadership	National	Need for qualified leaders in every territory of intervention
4.2	Foster technical and operational excellence	National	Need for qualified technical manpower in every territory of intervention
4.3	Facilitate partnerships for innovation	National / Regional	Capacity to innovate in the sector to foster through collaboration between stakeholders being geographically close to each other

Note: This assessment derives from the literature review undertaken for this analysis and the expert judgement of the authors.
Source: Authors.

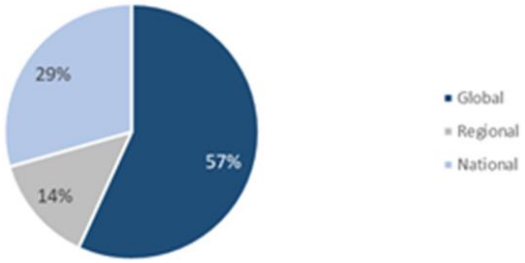
A key consideration in this analysis was the importance of proximity with the local level to provide credibility to the action of intermediaries who can thus offer solutions better adapted to the needs of the local players and to the characteristics of the local markets. This already responds in part to the concerns of investors, as knowledge of the field is a strong guarantee for the latter when looking at the business fundamentals of analysed water-related projects.

Discussion

The regional level of intervention is underserved by intermediaries

Figure 3.5 below shows the territorial level of intervention of the intermediaries analysed in the sample.

Figure 3.5. Level of territorial intervention of intermediaries



Source: Authors.

The regional level presents interesting features to achieve economies of scale while maintaining proximity to the field. This explains why it was often presented as a preferable level of intervention in Table 3.2, while the global level appeared mostly relevant for two specific sub-categories of key functions: *1.3 Influence global priorities and policies*, and *2.3 Foster sectoral knowledge collaboration at regional and global levels*. As such, the prevalence of the global level for territorial intervention in the analysed sample is not in line with these recommendations, and may result in a significant distance from the needs of water-related service providers.

Combining different territorial levels of intervention could be an efficient way to play an integrative role

- Out of the 52 analysed entities, only 6 are active in more than 4 sub-categories. Interestingly, they have in common the capacity to anchor their action in the territories: 3 act at regional level, and one at national level, and the two with a global presence actually utilise the local level for operational actions, and the global one when it comes to advocacy.
- Another common point is that all 6 intermediaries work on ensuring the operational coordination between stakeholders and on the design of relevant financial tools and frameworks, and 5 of them in the preparation of investment opportunities.

These two points highlight the importance of being connected to local stakeholders in order to provide them with relevant instruments and help them design projects that will match investors' expectations.

Two case studies (on the CDIA and the WWF Bankable Water Solutions initiative) are detailed in Annex C. They are the only two entities of the sample active in 7 sub-categories out of 12, and provide interesting illustrations of effective combination of key functions.

Recommendations

- Reflect the relevant level of territorial intervention during the process of creating a new intermediary
- Support a shift towards regional intervention of national and local activities to foster economies of scale and disseminate knowledge, where appropriate.

Gaps and redundancies in the value chain call for a shift to a more strategic approach

"Who does what?"

Two dimensions were considered to characterise the positioning of intermediaries along the water investment value chain: (1) their roles and responsibilities, and (2) the entity type in relation to the key functions performed.

Responsibilities were assessed using a responsibility assignment matrix approach.

The RAC matrix method (Responsible/Accountable/Contributor) was chosen to highlight the various roles and responsibilities borne by the types of actors active in the water sector. A role and responsibility matrix is a simple, effective way to define and document roles and responsibilities.

- The entities who do the work are responsible. This includes anyone who must complete a task or make a decision. Several entities can be jointly "Responsible".
- The entity that must sign off or approve when the task, objective or decision is complete is accountable. Only one entity can be "Accountable" in a given territory.
- Anyone who needs to give input before the work can be done and signed off on is consulted. These are active participants who considered as "Contributors".

Table 3.3 below provides a mapping of the roles and responsibilities of actors across the range of key functions identified across the water investment value chain.

- Unsurprisingly, for the vast majority of key functions, accountability lies with national and/or local governments, but responsibilities are carried out by other stakeholders, who in turn can be supported by a large diversity of contributors.
- Also, intermediaries involved in facilitating water-related investments do not play a single role. It appears that actors who are responsible for certain functions are also contributors for other key functions. This might introduce further confusion in deciphering the role of players active on the ground.

Table 3.3. Roles and responsibilities of actors across the range of key functions identified

Categories of functions	Level of application	Rationale	Expected role of key actors		
			Accountable	Responsible	Contributor
Water and Resilience Policy development					
Monitor and channel financial flows via regulation and public policies	National	Country-level policies to be defined	Governments	Regulators/Service providers	IFIs
Support the design and influence national priorities	National	Country-level policies to be defined	Governments	Regulators/Service providers	IFIs/Civil society/Field and academic research/Professional water networks
Influence global priorities and policies	Global	Actions to be conducted at international level to influence global decision-makers	Service providers/IFIs/Civil society/Field and academic research	Service providers/IFIs/Civil society	Intergovernmental bodies/Professional water networks
Customer Knowledge and Sectoral Cooperation					
Generate demand for quality services through customer-centric approach	National	Need for local strategies to take into account context, culture and habits	Service providers	Service providers	Governments/IFIs/Civil society/Philanthropy/Field and academic research
Ensure operational coordination between the local, national and regional stakeholders	National/ Regional	Geographical proximity as key factor for operational coordination	Governments	Regulators/Intergovernmental bodies/Professional water networks	Service providers/IFIs/Field and academic research
Foster sectoral knowledge collaboration at regional and global levels	Regional/ Global	Learnings and good practices valuable to every stakeholder, independently from geography of action	Governments/ IFIs/ Intergovernmental bodies	Professional water networks /Field and academic research	Service providers/Civil society
Investment and Business Promotion					
Build a positive image of the water sector and reduce the misperceptions on investments in water-related projects	Regional	Opportunity for economies of scale by promoting the water sector towards investors at regional level	Governments/ IFIs	Governmental bodies/intergovernmental bodies/IFIs/Professional water networks	Service providers
Prepare investment opportunities	National	Need for local support to build a pipeline of relevant opportunities for investors, with field knowledge as key success factor	Governments	Service providers/Financing facilities	IFIs/Financiers/Intergovernmental bodies
Design 1) the financing framework and 2) financial incentives and tools	National/ Regional	Efficiency of financial tools and mechanisms optimized when tailored to a given context	Governments	Governmental bodies/intergovernmental bodies/IFIs/ Financing facilities	Service providers/Philanthropy/Financiers
Capacity-building and organisational strengthening					
Develop people and leadership	National	Need for qualified leaders in every territory of intervention	Governments	Service providers/intergovernmental	IFIs/Field and academic research

Categories of functions	Level of application	Rationale	Expected role of key actors		
			Accountable	Responsible	Contributor
				bodies/Professional water networks	
Foster technical and operational excellence	National	Need for qualified technical manpower in every territory of intervention	Service providers	Service providers/intergovernmental bodies/Professional water networks	IFIs/Field and academic research
Facilitate partnerships for innovation	National/Regional	Capacity to innovate in the sector to foster through collaboration between stakeholders being geographically close to each other		Field and academic research/Service providers/Intergovernmental bodies/Professional water networks	IFIs/Philanthropy

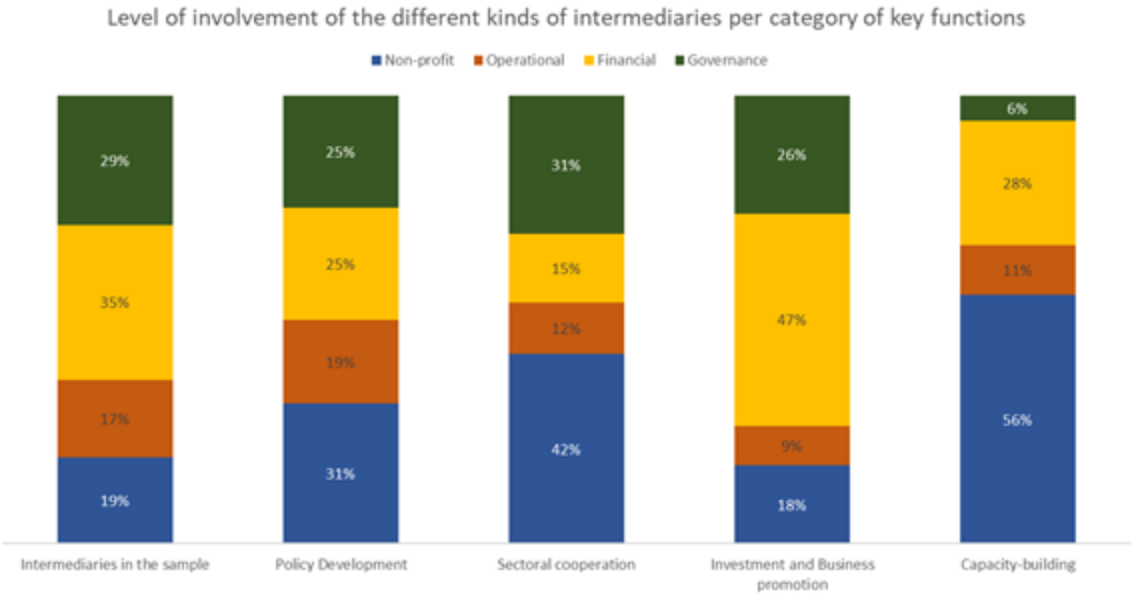
Source: Authors.

Observations

The actual responsibility for certain functions does not always lie in the hands of those who are the best placed to perform them

Figure 3.6 below highlights the number of key functions performed by each group of intermediaries for the four main categories of key functions. A striking observation lies in the fact that intermediaries categorised as non-profit or operational contribute to more than 50% of the activities for 3 categories of key functions: Policy development (50%), Sectoral cooperation (54%), and Capacity-building (67%).

Figure 3.6. Involvement of intermediaries by family of key functions



Source: Authors.

This strong role played by the non-profit group can be compared to the RAC matrix, where one can see that their expected role is typical as “Contributor” rather than performing the functions themselves. This is likely a response to governance and market failures observed by these players, and once again raises the

question of coordination of action in a sector characterised by a highly diversified ecosystem of actors. It also highlights the need to enhance a sense of responsibility especially among the national entities accountable for sector governance.

The focus on intermediaries' activities on a limited number of sub-categories illustrates the lack of "umbrella" entities, which could ensure consistency of action across the value chain

69% of the analysed intermediaries are active in only one or two sub-categories, and 57% of them claim a global level of intervention. This further strengthens the striking diversity of players, having their distinct scope of action in terms of functions and geographical priorities. With no intermediaries accountable for the achievement of a given key function, the consistency and efficiency of their actions can be undermined.

Discussion

A fundamental question about intermediaries is related to the potential for misalignment in their activities in light of key bottlenecks.

It is critical to understand how intermediaries differentiate themselves from one another, to what extent their action is customised to a situation or a country, and how effective they can be. The analysis of "missing links", "overlaps" and "misalignments" in the local and regional ecosystems is essential prior to envisaging the development of new intermediaries. However, in the current situation, the creation of intermediaries is often not driven by the demand or needs of local stakeholders, but by the interests or skills of sponsors or water entrepreneurs (hence the fact that each IFI creates its own project preparation facility, regardless of what is needed on the ground and who is already active in the field).

The abundance of intermediaries may undermine the coherence of their collective interventions

An evident observation is to note the abundance and diversity of the range of players active in water financing. Although this does not come as a surprise, it immediately raises the question about their coordination and the complementarity of their action. Intermediaries play different roles at different territorial levels. One can reasonably question how coherence can be promoted in the various interventions, and by whom, at the territorial level and for each sub-sector.

The high diversity of intermediaries calls for a stronger coordination in the sector.

Consideration needs to be given to ways to enhance the complementarity of intermediaries, the consistency of their intervention and their collective effectiveness. In some cases, integration with others, either horizontally or vertically may be considered. Further reflection on clustering intermediaries, whether they work at attracting domestic or foreign financiers, is also needed. The legibility of responsibilities is made difficult by this diversity of actors and intermediaries (sometimes confused for this reason). The creation of umbrella structures that would facilitate interactions and coordination in a given country could be further explored.

Recommendations

- Conduct a thorough analysis of the "missing links", "overlaps" and "misalignments" in the local and regional ecosystems.
- Identify where streamlining is needed and how this can be done without hindering the dynamics of intermediaries.

- Identify where the creation of umbrella structures could facilitate interactions and coordination, to attract domestic and/or foreign finance.

A role for governments and financial institutions

To mobilise the financing needed to achieve water security, a range of capital sources, both public and private, will be required. Intermediaries have proven their value in facilitating water-related investments to some extent, but gaps, redundancies and misalignments identified in this analysis calls for a more strategic approach to developing and deploying intermediaries.

The question is to identify how governments and financial institutions (development banks, public finance institutions, etc.) can better leverage the capabilities, scale and scope of those intermediaries to ensure they dispatch key functions in line with the greatest needs across the investment value chain in a coordinated and consistent manner.

Greater efforts should be placed on transformative changes rather than transactional activities.

A major hindrance in making the shift from transactional activities towards transformative changes lies in the fact that the full value of longer term, transformational efforts to strengthen the enabling environment cannot be easily measured and quantified. Table 3.4 summarises attributes of transactional activities vs transformational programmes. Indeed, investors have a relatively short time horizon (focused on 5 to 7-year business cycles). Similarly, the return on investment typically used to assess investment opportunities does not have an equivalent for those investments which benefits cannot be measured with straightforward metrics.

Table 3.4. Comparing transactional activities with transformative programmes

Improve the internal efficiency of transactional activities	Invest in transformative programmes & pilot transformative structural changes
5-7-year horizon	25-50-year horizon
Project and task thinking	System thinking
Marginal policy and governance improvement	Tackles policy and governance improvements
Limited number of stakeholders involved	Diversity of stakeholders involved
Project based goals	Context-based metrics and goals at basin/territory level
Value based on project returns and savings	Value based on basin/territory benefits for all users and beneficiaries

Source: Authors.

Governments have the duty and capacity to play a more decisive role in all dimensions of the enabling environment

Ultimately, governments are accountable to ensure water security for all and to put in place the policies and institutional frameworks to facilitate this. Nevertheless, this responsibility does not always result in an effective, proactive support for the water sector and ensure the conditions are met for finance to be mobilised. The need for strong enabling environments has been discussed at length, but the diverse elements behind this broad term may not be comprehensively identified by governments. Activities that require greater consideration include:

- Generating demand for quality services from the users, spurred by proper communication and awareness campaigns;
- Increasing the visibility of the sector for investors, supported by governments championing the water sector and the creditworthiness of the service providers;

- Enhancing capacity to build pipeline of investment opportunities and to strengthen those opportunities to meet investors' expectations;
- Ensuring availability of qualified human capital to design, lead, and implement water-related projects, supported by relevant academic and vocational education in a given geography.

With the support of development finance institutions in LMICs, governments have the capacity to play a more decisive role in ensuring that all the dimensions of the "enabling environment" are actually in place and effective in their country.

Governments have the capacity to encourage the action of "umbrella" entities and the avoidance of gaps in the action of intermediaries.

The precise mapping of the water-related ecosystem (service providers, investors, investment needs and opportunities, active intermediaries…) in specific contexts would provide a basis for beginning to address gaps and misalignments. Such an activity could be fostered by governments, with the support of development actors in LMICs. This first step could be followed by the creation of a territorial strategy, and consideration of coordination mechanisms and/or integrating activities within an "umbrella" entity.

The analysis of gaps and redundancies in intermediaries' activities can also identify opportunities and synergies between existing entities, may encourage the expansion of their roles in areas that are not yet covered to date. The diversity and abundance of intermediaries offer opportunities for learning, scaling and replicating successful models.

Recommendations

- Reinforce efforts to promote transformational change rather than focusing solely on the transaction level
- Undertake a more detailed mapping of intermediaries active in the water sector in specific contexts to identify and address potential gaps, redundancies and misalignments
- Provide greater support for activities that are often overlooked, but are important for facilitating investment (including demand generation for quality services, increasing the visibility of sector for relevant investors and build capacity)

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Annex A. Methodology

This analysis derives from the selection of a diverse sample of intermediaries and the identification and characterisation of the key functions across the investment value chain (a detailed description of key functions can be found in Annex B). The selected intermediaries were then categorised by their type and focus of intervention, as well as assessed according to the key functions performed.

Selection of the sample: Based on inputs from the OECD and the World Bank teams, experience from the authors, and drawing on additional research, a sample of 52 intermediaries active in the facilitation of water-related investments was selected, representative of their multiple facets:

- Level of intervention: Transaction/Ecosystem
- Needs addressed: Investors/Service providers
- Project initiation: Public/Private
- Target Countries: OECD/LMICs
- Sub-sectors: Utilities/Small-scale/Nature-based solutions

Categorisation and mapping of intermediaries: intermediaries were categorised and assessed to identify the key functions performed. Analysis was undertaken to identify gaps, redundancies and misalignments in light of the need to address the risks, bottlenecks and other barriers arising in the context of water-related investments.

Annex B. Detailed description of the key functions

This section details the key functions under each category and sub-category, with one example per sub-category.

Water and Resilience Policy Development

Monitor and channel financial flows via regulation and public policies

Stakes

In the water sector, adequate policy, planning, and governance frameworks, as well as efficient budgeting and public resources allocation have always been critical. They are important for reaching the following objectives : 1) more and better-targeted investments towards more and better services, 2) to address multiple challenges (regulation, efficiency, affordability)

Regulation is key for lowering the risk for commercial financiers, and how the regulation is provided is sometimes even less important than the lenders' perception of its effectiveness.

Affordability is often given as a reason for not accessing commercial finance; inadequate tariffs policies and poorly targeted subsidies are one of the major constraints to reliable revenue streams.

Key functions

Defining and implementing a clear regulation framework

Given the monopolistic nature of the sector, commercial financiers would look for a strong sector regulatory regime (effective, fair and transparent) to ensure predictable, transparent tariff-setting and service regulation—characteristics seldom encountered in LMICs. Institutional and legal restrictions may also be limiting private investment (e.g. regulatory regimes may preclude the possibility of including debt service in the costs that can be covered by the tariff). NbS can fall under different public authorities (water/energy/environment/rural development…), thus complicating the regulation. Expectations include:

- Clarity of the priority objectives of regulation
- Promotion of effective, fair, and transparent economic regulation.
- Comparison and competition in the sector via benchmarking, which can incentivize the sector to increase capacity and efficiency
- Definition of the right territorial level for regulation policies

As decreed by the French Water Act of 1964, water agencies are governmental institutions. They carry out a mission of general interest to manage and preserve water resources and aquatic environments. Under the Ministry of Ecological Transition, water agencies collect taxes from all water users on the principle of "polluter pays" and "abstractor pays". Every euro raised is reinvested in the form of aid to communities, economic and agricultural players to finance actions that restore the good condition of water.

Designing adequate tariffs structures

Tariffs can, but in practice often do not, fully cover operational and maintenance costs and rarely cover capital expenditure. Incentive tariff mechanisms based on the OECD 3 Ts' (tariffs, taxes, and transfers) approach provide ways to ensure water service providers generate reliable revenue streams despite their limited ability to increase tariffs to cover their costs and the limited access to tax revenues.

- Create analytical tools, such as approaches for diagnosing the creditworthiness of service providers (cash flow analysis, and tariff adequacy analysis)
- Make subsidies 1) explicit, quantified, and tied to policy objectives, 2) clear, transparent, predictable, and reliable.
- Promote social measures to address affordability issues where they arise.
- Set up reserve funds in the form of revenue intercepts or escrow accounts that can be used as guarantees.

In the late 1990s, the Mexican government launched a countrywide sanitation investment programme with the aim of building wastewater treatment plants at large scale. In a country with limited domestic markets depth, the attractiveness of this programme for foreign investors lied in the combination of a clear contractual and tariff framework (including cover for foreign exchange risk), clear subsidies brought by FONADIN, the national development bank benefiting from international finance institutions support, and a trust mechanism indirectly backed by a sovereign guarantee.

Planning investments to serve water and resilience needs

The population density and the purchasing power of service area (urban or rural) are critical dimensions of economic viability, which should drive public support and investments. Clear financing strategies are needed, with a transparent allocation of public resources to support policy settings, monitoring or regulation and for investment in activities that may not be able to attract other sources of finance.

Support the design of and influence national priorities

Stakes

Governments need to establish the policy, strategic planning, and governance frameworks that will improve sector efficiency and creditworthiness to attract the commercial finance required to meet water and sanitation goals. To this end, taking stock of the existing situation to assess strengths and limitations, opportunities and threats is a first step in designing a national strategy and establishing the qualitative and quantitative objectives. It is important to mention:

- Small-scale off-grid models are not always recognised in legal frameworks as still innovative and emerging, meaning they are not recognised as a component of public policy, which sometimes places them in a legal void.
- Increasing water scarcity, the variability of rainfall and increasing uncertainty about future conditions, the decline in water quantity and quality brought about by inadequate systems, can lead to significant increases in the cost of bulk water supply.

Key functions

Assessing the dynamics of the water industry ecosystem

The water industry ecosystem encompasses an entire flow of goods and services from source to end consumption (service providers, manufacturers, government and financial institutions inter alia).

Understanding how these complex industrial ecosystems operate, describing their interactions and interdependencies, identifying trends, and detecting the root cause of market dynamics is needed to anticipate how such systems could respond to sector transformations, emerging technologies, and other potential disruptions.

To drive change and deliver lasting results, WaterAid works with a wide range of government, civil society and private sector partners. They analyse the political, economic and social contexts of the countries and regions where they operate and work with their partners to develop responsive programmes of service delivery, capacity development, research, policy analysis and campaigns designed to influence sustainable transformational change.

Accompanying governments in the design of their public policies

Supporting governments in the design of public policies, promoting coordination amongst stakeholders involved in territorial planning, promoting sectoral policies considering varied service models, and introducing sustainability criteria with incentives in investments promoted by governments.

The sectoral framework often requires multiple institutions and stakeholders working cooperatively toward the same objectives, each within its own sphere of influence (governance, policy, technical capacity, and public and private finance).

Promoted by the Nature Conservancy, Water Funds are organizations that design and enhance financial and governance mechanisms at the local level, and which unite public, private and civil society stakeholders towards water security and sustainable watershed management through nature-based solutions. The financial mechanism enables basin-level projects with payment schemes involving upstream/downstream users.

Developing strategic planning and investment programming at national and local levels

To extend and sustain services to all of their citizens, governments need to be properly resourced to develop robust planning, implementation and monitoring systems as part of their national development plans. Promoting expertise in sizing and demand studies, as well as in life-cycle management of capital assets are key to carrying out robust, innovative and appropriate long-term planning and engineering solutions, with the objective to estimate future capital funding requirements based on population evolution forecasts, existing age of assets, expected service lives, development, maintenance and rehabilitation policies. In this regard, strategic planning is to be seen as a basis for capital investment programmes.

The creation of the *Office de Mise en Valeur du fleuve Sénégal* (OMVS) in 1972 took place in the context of severe climatic conditions, marked by a persistent and severe drought that devastated the entire valley. Since its inception, OMVS has implemented a coherent multi-sector and integrated development programme of the resources of the Senegal River basin. The integration of Guinea, the development of a multimodal transport system, the construction of so-called second-generation structures, involved the establishment of an efficient, dynamic, sustainable institutional framework and thus a modernization of institutional architecture and management methods.

Developing a technical business ecosystem

Due to the long-lived and capital intensive nature of water and sanitation infrastructure as well as under-investment in maintenance, performance risks may arise due to aging infrastructures, leakage and technological obsolescence. Furthermore, efficiency gains are a source of untapped resources in terms of avoided costs; operational and commercial inefficiencies represent an opportunity cost to the government or service provider. Special attention should be given in national policies to the development and promotion of a technical ecosystem oriented towards long-term quality service provision. This can take place through:

- Qualification and certification systems for sustainable products and services, and
- Initial and vocational training centres for personal (technicians, equipment suppliers).

In 2018, the U.S. Agency for International Development (USAID) launched the Small Water Enterprise (SWE) Alliance, a multi-sectoral collaboration facilitated by Safe Water Network, focused on promoting an ecosystem for scale-up of Small Water Enterprises. The SWE Alliance is comprised of SWE practitioners, entrepreneurs, technology providers, service providers, funders and knowledge providers who work together to align on standards and promote policy reforms to accelerate the scale-up of SWEs.

1.3 Influence global priorities and policies

Stakes

Positioning the importance of water security and the critical need for financing more firmly on the international agenda is critical to drive further capital to the sector and to promote broader acceptance of emerging, but promising approaches such as small-scale solutions to deliver water supply and sanitation services and nature-based solutions to deliver a range of benefits for water security.

Considering the growing focus climate action by governments, development actors and the financial sector, influencing global priorities and policies should include advocating for the contribution investments in water security can make to climate adaptation, resilience and net zero pathways.

Key functions

Advocating for the urgency of water-related projects

Urging the importance of water-related projects to decision and policy-makers is a function in itself, covering the activities of advocacy and influencing, typically performed by stakeholders such as international NGOs. For instance, WWF actively advocates for public agencies, farmers and businesses to practice better water management through the use of tools such as the Water Risk Filter. Advocacy in the sector spans a range of activities focused on the conservation of freshwater ecosystems and delivering water and sanitation services.

Strengthening the case for emerging and innovative models through evidence generation

Considering the significant gap between the SDG 6 targets and the current state of play, supporting innovation (in terms of technologies, business models and financing approaches) will be needed to achieve ambitious results at scale. Strengthening the evidence base related to the potential impact, costs, sustainability and scalability can help support the wider adoption of promising new innovations.

For instance, the Container-Based Sanitation Alliance has coordinated a global study on the CBS sanitation service model, to demonstrate its feasibility and cost-effectiveness and convince investors finance these solutions.

Creating and developing markets for social and environmental benefits

The positive externalities of water-related projects are benefits that can be valued at local and global levels. An example of an effort to measure and market such benefits is the independent voluntary label -- Gold Standard for Global Goals. This initiative has developed an approach for water-related projects, called “Water Benefits”, which generates a credit when a litre of water is either made safe for consumption, or sustainably conserved. Credits can then be sold to voluntary purchasers. This market for such credits is

not mature yet, resulting in a slow expansion of the mechanism. However such voluntary initiatives could be further encouraged by as a means to encourage investment in sustainable water management.

Influencing the non-profit and donor community to think differently about value for money

Although every water-related project is not intended to reach commercial viability, systematically considering the overall value for money in terms of cost-benefit ratio and long-term sustainability of the benefits delivered would help to ensure that each existing resources are effectively deployed. The presence of non-commercial money in the sector through public subsidies and private philanthropic grants should be leveraged to initiate and scale efficient models rather than used to maintain the sector on a drip.

Customer knowledge and sectoral cooperation

Generate demand for quality services through customer-centric approach

Stakes

In remote and/or underserved areas, the willingness to pay for quality water-related services might be low due to the lack of understanding of the importance of quality WASH services for health, and the persistence of traditional habits (e.g. consuming rainwater).

Even in areas already covered by services, the sensitivity around water and sanitation tariffs remains very high, particularly when it comes to tariff increases for low-income households as a result of major new capital investments.

This results in a demand risk for water-related service providers, who might not achieve the expected performance levels due to either lower volumes or lower tariffs than planned.

Key functions

Spurring awareness about the needs for and implications of improved quality water-related services

In order to generate demand for water-related services, conducting awareness campaigns aimed at consumers can help stress the importance of quality in the delivered services to create positive externalities (e.g. improved health only if water is safe for consumption). Specific attention should be given to making this communication customer-centric, to ensure messages are well conveyed and the relevant levers are used to foster behaviour change.

Taking one example from the energy sector, the “Smart Power India” program, aiming at increasing rural electrification, observed a 50% increase in the number of paying customers after running an awareness campaign in areas where their services were already available.

Integrating consumers’ behaviours throughout the design and delivery of services

Seeing water services from the consumer’s perspective, and understanding the behaviours that inhibit or motivate how and when services are used, enables the design of appropriate water-related services. Mechanisms to collect consumers’ feedback and market insights, supported by health and economic evidence, are also key to ensure continual improvements of the solution. Population Services International has placed the understanding of consumers and their behaviours at the heart of their approach to “shape markets” according to the responsiveness and required behaviour change in the field.

Furthermore, stimulating a marketing approach in the sector would complement awareness and pedagogy activities while fostering long-term demand by making the services more attractive for the consumers.

Identifying levers to bring water services closer to consumers

Permanent technological innovation provides useful instruments to collect and use data on consumers' habits and performance levels, in order to improve water services. They also provide opportunities to inform populations through service delivery points. Social innovation, combined with technology (or not), also offers new ways of expanding the customer base for water services and improving collection rates.

The market analysis prior to the design of the Output-Based Aid (OBA) Sanitation Microfinance Program Bangladesh is a good example of this approach.

Ensure operational coordination between the local, national and regional stakeholders

Stakes

Water-related projects often require mobilising a high diversity of stakeholders, at different territorial levels. This can result in high transaction costs related to efforts needed to involve all the parties and align them on the relevant strategy to adopt for the project. This is particularly true for nature-based solutions, which have to gather all the stakeholders at basin / regional level to make the project happen efficiently. An enhanced operational coordination can also benefit the regulator, who sometimes faces difficulties to monitor decentralized service providers or ensure the governance of multi-stakeholder projects.

For ongoing water-related services, operational performance and technical risks could also be mitigated by good territorial coordination, so as to avoid interruption in service or a decrease in quality due to the lack of a continuity plan, or lack of expertise to maintain assets and technology in the long run.

Key functions

Setting up dedicated platforms to facilitate stakeholders' operational coordination

The existence of platforms enabling the engagement of stakeholders is a first step to enhance their cooperation. This could be done at the project level to facilitate governance from design to implementation and service delivery, or at a territorial level (local, national, and regional) to build up communities between key market enablers, and link up the stakeholders involved in financing and developing water projects.

This is precisely the mission of WWF when preparing projects at a river basin level. By engaging all the stakeholders from field actors to institutional decision-makers, they ensure collective alignment and facilitate the connection with potential investors.

Aggregating small service providers into networks

Small service providers (especially in remote locations) can face difficulties ensuring continuity and quality of service over time and attracting investments with relatively small financial requirements. Aggregating them into networks can help to address these issues by providing them with long-term support through the mutualisation of resources or models such as franchising, and by pooling their financial needs to better highlight the overall investment potential.

The international non-profit organisation PSI performs such work in the sanitation sector, with the capacity to aggregate the needs of service providers in order to attract investors by providing an overview of the entire market where they may find suitable opportunities.

Developing partnerships to complement local capabilities

Projects and service providers require numerous capabilities at hand in order to achieve the performance levels expected from them. They might not all be available on every territory, and as such should be completed through partnerships. Partnerships can take place with technology companies, manufacturers, investors, and institutions. As an example, Water.org developed the Water Credit Initiative, through which they train microfinance institutions to integrate water and sanitation loans in their portfolio. They thus facilitate the access to finance for households, which was identified as the key barrier to the expansion of WASH services.

Enhancing the value proposition of projects

In order for projects to be attractive for investors, there is a need to enhance their value proposition by improving project design and marketing. Soliciting feedback from various sectoral stakeholders is one way to support service providers to optimize the project framing. Highlighting the project impact, efficiency and key characteristics with metrics understandable and valued by investors is the next step.

This is the ambition of “Water as Leverage”, a program looking at all the dimensions impacted by water, and gathering stakeholders to provide input from the design phase onwards to ensure the projects are designed and built in the optimal way.

Foster sector knowledge collaboration at regional and global levels

Stakes

In addition to the local operational collaboration described above, ensuring that the knowledge and lessons learned are shared more broadly is decisive in helping service providers improve performance and sustain it over time. The sector is experiencing potential disruptions via new technologies, including digitalisation, and service delivery approaches. Learning from these technical and operational innovations and documenting their performance track record can help further dissemination of approaches that work. More evidence on performance of innovative approaches can lower the risk perception of investors.

Key functions

Building up a network of technical expertise and cooperation among local, regional and international players

Ensuring the existence of a network of water experts that provides opportunities to share knowledge and experience on best practices and technical know-how would foster cooperation and integration of lessons learned. Danone Communities is a good illustration of this function in the way it gathers water service providers and sector experts in their network, with Learning Expeditions organised annually and a stated ambition to encourage practical collaboration between the participants.

Ensuring the dissemination of knowledge and technical know-how at local, regional and global levels

Sharing knowledge and know-how can also be done through platforms and communication channels that allow for fast, easy and clear dissemination throughout national, regional or global networks. The BEWOP (Boosting Effectiveness of Water Operator Partnerships) aims to facilitate knowledge transfer and change management, and as such has developed an open platform gathering tools, case studies, guidelines for water service providers looking for ways to increase their performance.

Documenting emerging technologies to foster their expansion

Intermediaries can take the lead on documenting new technologies arriving on the market in order to build objective evidence of their characteristics and performance, and to detail the environmental/contextual conditions in which they fit best. An example of an intermediary playing this role is the International Water Association (IWA). For years, the IWA has published articles, blogs, and case studies on new water practices, with the aim to increase uptake among the water community.

Investment and Business Promotion

Build a positive image of the water sector and reduce the misperceptions on investments in water-related projects

Stakes

From a general perspective, the water sector can appear to be a promising opportunity for investors considering the significant investment needs and the essential services delivered by such investments. Yet, despite the huge financing gap, the sector still fails to attract the level of commercial investment witnessed in other regulated sectors, such as energy and communications. This is often due to a lack of financially viable opportunities and awareness of those that do exist. Further, the sector is subject to unpredictability in terms of the legal and governmental regulations (as political interference is common) or the volatility of industrial and agricultural demand for water.

Key functions

Characterizing the business environment of a given territory

Generally, governments can attract foreign direct investments where efforts are placed on:

- Infrastructure improvement
- Economic, political and legal stability
- Financial incentives
- Streamlining administrative processes

For the water sector, this translates into the identification of the formal and informal business enabling environment rules and norms that impact the private sector activity in a given context :

- Commercial efficiency, i.e. existence of an active and diversified local industrial fabric (skilled sub-contractors, wholesalers, etc.)
- Corporate governance of local enterprises
- Existence of an entrepreneurial and business oriented mind-set
- Efficiency level of the judiciary system, the compatibility of local and foreign systems

The Myanmar Information Management Unit, or MIMU, provides information management services to strengthen analysis and decision-making of the humanitarian and development community in Myanmar. It maintains a common data and information repository with data from various sources on all sectors, countrywide, at the lowest administrative unit for which it is available. This information is then made widely accessible to UN, NGO, donor and government stakeholders in the form of maps, databases and other tools which support the coordination, planning and implementation of humanitarian, development and peace-focused activities.

Providing access to information on the water sector of a given territory and its upcoming evolutions

Promoting access to transparent sectoral information from independent bodies (statistical data) at national or regional levels about the water sector, its organisation, and on-going and upcoming reforms facilitates water-related investments. This helps characterise the levers of performance and transformation of the water sector. The provision of targeted, timely and statistical information on the water sector, including existing policies, laws, stakeholders, prices, generation costs, resources, existing plants, and other relevant information about the specific context can significantly improve the decision-making process of financiers.

With funding from the Conrad N. Hilton Foundation, the Bill & Melinda Gates Foundation, the Rockefeller Foundation, and the Howard G. Buffett Foundation, the Foundation Centre developed WASHfunders.org as a hub for funding and needs-related data and information for donors, policymakers, and other stakeholders interested in water access, sanitation, and hygiene.

Positioning governments as broker of public investments and market coordinator

In domestic water supply, governments can invite private companies to improve and renovate existing infrastructure measures, such as reducing leakages, customer metering, and maintaining distribution infrastructures. Governments can also invite private companies to contribute to bulk water supply projects where the public authorities can address the customer delivery aspect of a project, while the private players can focus on investing and implementing capital-intensive projects. Such initiatives are relatively less risky and can improve the financial health of service providers, while also providing a way to introduce the private sector's expertise into the sector. The success of such projects will pave the way for larger and more complicated projects in the future.

Showcasing and advertising the opportunity to invest in the water sector within a country and in regions

An example of showing and advertising opportunities to invest in the water sector is ÉLAN RDC. This is project aimed at developing market systems financed by UKAID and implemented by Adam Smith International. In particular, it organised a private sector mobilisation workshop "Investing in water, liquid gold" which presented opportunities to invest in this sector. The workshop aimed to stimulate investment in the water sector while providing useful information on the socio-economic, technical and legal strengths of the water sector, and its related risks. To achieve these goals, entrepreneurs, donors, NGOs, institutions and public organizations working in the water sector were invited to participate.

Prepare investment opportunities

Stakes

Prior to the financial transaction itself, there are barriers to the creation and promotion of attractive investment opportunities.

Service providers often face high transaction costs, which comprise efforts 1) to design the adequate architecture of an investment/project and 2) to mobilise the stakeholders involved in the success of such investment/project – this is specifically true for nature-based solutions, as these projects often imply deep transformations and impact a large diversity of stakeholders on the ground, thus making time an essential component of change management to be considered. Whether it is due to the opportunity costs of management, or an inability to allocate proper resources to project development activities, transaction costs can be a barrier to the creation of robust projects.

From the investors' point of view, the lack of appropriate analytical tools and data to assess complex water-related investments and lack of a track record of such investments can deter financiers. This creditworthiness risk is enhanced by the frequent absence of third-party evaluation providing assessment of service providers' financial and operational performance, as well as up-to-date information on the sector and local context (e.g. policies, laws, stakeholders, prices, generation costs, resources).

Key functions

Assessing the financial efficiency of existing programs and service providers

In order to improve the creditworthiness of water service providers, building financial information on them and their past water-related projects is fundamental for creating a performance track record. This was for instance the purpose of the Kenya shadow credit ratings' initiative, implemented by the Kenyan regulator WASREB and the World Bank. They assessed the creditworthiness of 43 utilities, thus giving investors clear visibility on the level of risk.

The sector would also benefit from standard methods and tools to calculate key financial metrics, integrating the specificities of such projects – for instance, assessing the return on investment with a relatively long timeframe, and pricing the social and environmental benefits. On the latter, the work done by the Gold Standard for Global Goals to assess the impact of water projects, not only in terms of CO2 avoided, but in terms of economic impact generated on the field, is an interesting way forward to better value the positive externalities of water-related projects.

Performing this assessment should be systematized to all water-related programmes, independently from the source of funding. More specifically, subsidised or grant-funded projects should also be scrutinized from a financial efficiency perspective.

Providing financial support for project development

Service providers can undertake more robust preliminary studies and assessments of projects when they have dedicated funding support to cover the costs to do so and employ qualified resources to conduct these activities. This can generate higher quality investment opportunities, with stronger rationale to convince financiers.

The typical instruments are grants from private philanthropy and technical assistance from IFIs and financing facilities. For instance, the PIDG Upstream Technical Assistance facility provided USD 36.7M TA grants to 182 projects within 15 years.

This function is particularly key for nature-based solutions, where mobilizing stakeholders can be very time-consuming.

Providing financial expertise to support service providers in preparing deals

To ensure project proposals meet financiers' expectations, it can be necessary to provide specific support to service providers to strengthen their understanding of financial counterparties' assessment criteria. In particular, the blended finance mechanisms that have proven their important role in attracting private capital to the sector, remain complex and are not explored much by providers and hence might require the provision of a specific expertise.

Creating an attractive pipeline of opportunities in a given territory

Once projects are designed and ready for investors, the capacity to aggregate the opportunities can strongly increase the attractiveness of projects for financiers. This can be done at two levels:

- Pooling small projects/service providers to reach a critical scale and mitigate the viability risk: this was the main objective of the Water and Sanitation Pooled Fund in Tamil Nadu, through which 50 service providers have benefitted from over INR 3B (approx. USD 40M) since the set-up of the fund in 2002.
- Consolidating investment opportunities at a territorial level to give perspectives to financiers and show them how engaging in the water-related sector can lead to a variety of opportunities.

Ensuring third-party evaluation of investment opportunities

A way to enhance the confidence of investors in water-related projects' viability and performance perspectives is to make independent evaluation available. This can be done through rating standards available at national or regional scale, with continuity in the methodology used. Another approach consists in labelling service providers and their projects, to guarantee their robustness. The Solar Impulse Foundation has, for instance, developed a due diligence process to certify 1 000 "Efficient Solutions", ticking the boxes of economic viability, environmental and social sustainability, and quality of technological solution. Once obtained, this label grants fast tracks with institutional and private investors, who trust the due diligence performed by the SIF.

Once the methodology is defined, it should be generalized to ensure that the information is available and up-to-date for all the water-related projects/investment opportunities.

Promoting the existing opportunities in a given territory

Ensuring that opportunities are visible and known by potential investors is crucial, provided the difficulty service providers experience to allocate resources and time to these visibility efforts, and the high economies of scale generated by a grouped promotion.

While it now seems easily feasible to set up online platforms maintaining and advertising a database of investment opportunities as well as upcoming tenders/calls for projects, the importance of more formal gatherings, organized at a given territory level, is not to be underestimated. The "Innovate 4 Water" market-place events organized by Waterpreneurs at country level are good examples of a forum gathering all the stakeholders (utilities, small-scale providers, MNCs, sector experts, financiers, IFIs…), with a clear traction in LMICs.

Design 1) a national financing framework and 2) financial incentives and tools

Stakes

A robust regulatory and policy framework and strategic financing plan, together with an appropriate set of financial instruments, can help reduce investment risks and associated financing costs.

- A country's sustainable development strategy sets out investment objectives. The national financing framework details how the national strategy will be financed and implemented. The design and implementation of an integrated national financing framework is built on four pillars: (i) assessments and diagnostics; (ii) design of the financing strategy; (iii) mechanisms for monitoring, review and accountability; and (iv) governance and coordination mechanisms.
- Identification of policy instruments which typically include: i) Surveillance ii) Market-based solutions iii) Regulation iv) Guarantees v) Lending and liquidity support vi) Subsidies, grants, vii) State ownership and control.
- Design of financial instruments that fit the needs of the water sector that will alleviate borrower's constraints and lender's risk.

Key functions

Ensuring the efficiency of the local capital markets

Capital markets provide an important financing channel for the real economy as they help allocate risk and support economic growth and financial stability.

A strong enabling environment is characterised by macroeconomic stability, market autonomy, strong legal frameworks, and effective regulatory regimes. In addition, drivers that are more directly linked to specific capital market functions also play a key role in market development (such as better disclosure standards, investor diversity, internationalisation, and deep hedging and funding markets, as well as efficient and robust market infrastructures)

Strengthening domestic capital markets is key to unlocking domestic private capital and attracting foreign investors in turn.

The *Agence Française de Développement* (AFD) supports the public and private sector in improving its governance and defining a regulatory framework for the establishment of a sustainable and responsible financial system in Cambodia:

- The AFD also supports the banking sector in taking environmental issues into account in their development projects and in defining environmental, social and governance criteria in their commercial or investment decisions.
- The AFD uses its FEXTE tool to support Cambodia. The Agency helps to define the legal and regulatory framework for public finances and to standardise national accounting.

Developing a common understanding of investment strategies and criteria

The water sector has a limited track record of successful private projects. Given the financial and political risks attached to project execution, water-related projects are considered to be a relatively risky investment. This is primarily due to the absence of certain key factors that investors evaluate prior to committing large pools of capital. These can be understood from structured dialogue organised with private sector investors and project developers. This approach helps understand what the investment criteria are, from where the risk perception originates and how the risk perception gap can be reduced.

- Have the problems and needs been clearly identified?
- Has the case for public and private intervention been established?
- Have the range and features of policy and financial instruments available to tackle the problem been identified and are they well understood?
- Is there a clear regulatory framework for service level requirements, tariff determination, and revenue risk mitigation?
- Is there a financially viable business model? How has the cost recovery of water supply and distribution improved? Have the vital steps such as leakage detection, faulty pipeline replacement, metering of all connections, and regular billing and collections been taken?

The Water Finance Facility (WFF) aims to mobilise large-scale private investment from domestic institutional investors, such as pension funds, insurance companies and other qualified investors by issuing local currency bonds in the capital market in support of their own country's national priority actions on water and sanitation service delivery. The initiative, launched by the Dutch Government, promotes the pooling of water and sanitation projects to make them more attractive to investors.

Designing adequate blended finance approaches

The design of blended finance approaches should adapt to local conditions, notably the state of financial market development and sector investment needs in targeted countries and for targeted service providers. It is all about designing an appropriate combination of concessional and commercial financing for a given investment.

As an example, the Government of Peru issues PAOs (Pago Annual de Obras or annual payments for work) to the private contractor for completing construction milestones. PAOs are obligations from the Government of Peru to make dollar denominated payments on an annual basis (similar to bonds). After they are issued, the payments are not linked to the performance or operation of the roads and are irrevocable and unconditional. Debt for the project is raised through bonds that are backed by the securitisation of the PAOs, known as CRPAOs (Certificado de Reconocimiento de Pago Annual de Obras).

Catalysing the use of financial tools reducing lender's risk and borrower's constraints

A large diversity of policy and financing instruments have been tested and implemented in various geographies and jurisdictions. Traditionally, financial tools aiming at facilitating transactions include:

- For the borrower: tenor extensions, project preparation facilities, result-based financing;
- For lenders: insurance, hedging instruments, pooled finance, guarantees, revenue intercepts, benchmarking, and credit rating.

Identification of the right financial mechanisms for the right situation is key.

- Example 1: Cardano Development addresses the most pressing financial risks to developing economies: credit, liquidity, currency.
- Example 2: Aqua for All is developing a range of financial models and solutions to address varying demand and supply requirements in different market contexts. De-risking tools and mechanisms leveraging philanthropy are designed to make water projects attractive for private investors.
- Example 3: The Vietnam Sanitation Revolving Fund (VSRF) is a facility that serves households through subsidised microfinance loans for latrine construction nationwide. Households lacked collateral to borrow, but through this model they join a savings and credit group, which provides a "community collateral" process to qualify them for the microloans. The process involves group members carrying out creditworthiness assessments before recommending co-members for a loan. Demand for the product has been high and it is offered countrywide (Trémolet, Kolsky, and Perez, 2010). The subsidized microfinance revolving fund model allowed households' access to finance for sanitation investments.

Capacity-building and organisational strengthening

Develop people and leadership

Stakes

Employees are the most valuable assets to an organisation. Training and development are intertwined with the success of organisations, sector challenges and evolution. The water sector relies on human capital, not only on financial investments. Stakeholders not to be forward looking so that human capacity development programmes are designed according to business cultures, customer and industry needs.

Key functions

Providing quality training and education to existing and future senior officials

Leadership, strategic design and decision-making skills are not always well developed within governmental organisations. Also, public officers may lack sufficiently financial skills which would allow them to be better prepared to access private finance.

The “AgroParisTech-SUEZ” academic Chair was created in 2009 to help strengthen the skills of managers of public service operators faced with the challenge of ensuring 1) access for all to quality water and sanitation and 2) the sustainable management of water resources. One of the training programmes is dedicated to chief executive officers of those service providers with the objective of increasing their ability to deal with complexity in a number of areas:

- Strategic management and prospective analyses over 10 years
- The digital transformation of services
- The Water and Energy Nexus
- Governance of urban sanitation (collective and individual)
- Water resources mobilisation and climate change

It is expected that providing quality vocational training management and strategic education to senior officials and managers, developing their team and stakeholder management skills, will bring long-term benefits to their organisation.

Building a pool of external and internal talents at the right territorial level

In many countries, increasing levels and quality of education are an important determinant for advancements across the water sector. This can only be achieved through cooperation among all national stakeholders, such as governments, business and civil society. In view of the considerable time lag for reforms in these areas to materialise, action must be taken now to leverage national talents and place them at the core of the water sector’s future. This can be achieved through the preparation of a pool of talent across national and regional networks, and for civil servants, with succession plans, financial and purpose-driven incentives and compelling career paths.

Strengthening innovation capacities within governmental and service providers' organisations

Technological innovation is becoming increasingly more important in the water sector. To date, public and aid investment, in emerging countries particularly but not only, are viewed as important enablers for developing technology transfer programmes. In countries where the creation of an entrepreneurial culture is not a viable strategy for economic growth and sector development, building professional capacity in technology transfer could provide an alternative approach to increasing the efficiency of innovation ecosystems.

Since 2016, the Toilet Board Coalition's specialised corporate accelerator program has been supporting entrepreneurs with bespoke mentorship, partnership and the visibility to scale their sanitation economy businesses. Toilet Board Coalition looks for commercially viable businesses facilitating access to sanitation services for all.

Foster technical and operational excellence

Stakes

The provision of water services comes at a cost (energy, treatment chemicals, and human capital) and that cost basis can easily erode any potential profits. Options to reduce this cost basis are very limited, as fixed and variable costs tend to increase regularly. Further, the ability to pass through increasing costs to the customer is usually not under the discretion of the service provider. To be able to develop, maintain and improve the service provision in such an environment places great importance on operational efficiency.

Key functions

Building the managerial capacities of future technical and operational managers

Technical and operational managers need to be trained adequately with a particular focus on building future managerial capacities and developing their expertise in project management.

BEWOP is a 5-year research and outreach initiative aimed at boosting the effectiveness of WOPs around the world. Launched in September 2013, BEWOP is a collaboration between the worlds' foremost water sector capacity development institute, UNESCO-IHE, and UN-Habitat's Global Water Operators' Partnership Alliance, the organization leading the global WOPs movement. BEWOP targets performance improvement through technical assistance (after policy reform implementation).

Ensuring the availability of technical capabilities within the ecosystem

To ensure cost-effective quality services, which rely heavily on technical and customer related activities, local needs must be proactively and accurately addressed. To this end, governments must be committed to developing a technical ecosystem, including technicians, equipment suppliers and training centers. Ensuring the availability of technical training for public officers and private sector subcontractors and developing technical expertise on the assessment of vulnerability to climate change is also critical.

The Climate Resilient Infrastructure Development Facility (CRIDF), a programme supported by UK Aid, provides long-term solutions to water issues that affect poor communities in Southern Africa. The focus is not on building short-term water infrastructure, but on working with organisations to show them how they can better build and manage their own water infrastructure to improve people's lives.

Developing standards that will incentivize service providers to reach technical and operational excellence

Industry standards, whether normative or deriving from industry practices, form a common repository of technical and commercial guidelines. When adopted at the national or regional level, these standards help to harmonise the activity of a sector, create a level playing field and simplify contractual relationships.

Smart Power India is an initiative of the Rockefeller Foundation designed to scale up decentralized micro-enterprise models for electricity access. Smart Power India has developed a standardized set of services to support energy based micro enterprise development at the village level. Smart Power India identifies opportunities, technology partners, forges relevant partnerships (involving governments, the corporate sector and NGOs) and organizes training and capacity building programs. Smart Power India leverages electricity to power other essential services, including water.

Leveraging digital technologies to enhance technical and operational performance

The water industry is often considered as a "dinosaur" when it comes to the efficient use of data and technology. Obstacles to the adoption of technology and data include 1) the significant fragmentation of water service providers that are generally not large enough to deploy technology on a large scale and 2) cultural resistance to change.

Using technological market intelligence and technology (call centers, drones, mobile money, financing technologies, leak detection...) can make revenue cash flows more steady and predictable by :

- Bringing water services closer to beneficiaries, making them easier to use, and
- Improving water quality as well as reducing obsolete infrastructure inefficiencies and water shortages.

Facilitate partnerships for innovation

Stakes

Considering the gap between the current situation in terms of access to safely managed water and sanitation services and the targets set by the SDGs, the need for innovation and new solutions is tremendous to accelerate the expansion of access to quality services and provide investors with adequate financial conditions.

However, innovation presents a risk in itself, and public funding as well as long-term commercial money tend to be targeted towards well-demonstrated models to avoid taking risks. This situation is a disadvantage emerging models, such as small-scale solutions and nature-based approaches, which dampens the will to innovate among more established utilities.

Key functions

Creating and developing hubs to incubate and demonstrate promising projects

The role of incubators is now well known and far-reaching due to the technological ecosystem supporting the emergence of promising start-ups over the world. However, it is less common in the infrastructure sector, and clearly lacking for water-related service providers. The Toilet Board Coalition has set up an interesting programme called the Sanitation Accelerator. This programme selects entities with a realistic business model and scaling potential and supports them with standard incubator services, such as coaching, expertise, inspiration, peer networks and investment opportunities.

Funding innovation and pilot projects

As innovation intrinsically presents a high level of risk, dedicated funding channels should exist to foster the emergence of promising ideas and support the implementation of pilot projects with a clear target of evidence generation. WaterAid has interestingly taken up this mission, with the strategy to fund pilot projects that have the potential to be integrated into public policies afterwards. They use this innovation facility as a way to prove emerging ideas' potential to contribute to the national WASH targets and leverage philanthropy for this purpose.

Annex C. Focus on two examples of vertical and horizontal integration

The analysis of the various intermediaries shows that two of them intervene in a particularly integrated manner (vertically geographically and horizontally on the value chain). These intermediaries and their specific organisation are presented below in Table A C.1.

Table A C.1. Example: Cities Development Initiative for Asia

Ambition	Help secondary cities in Asia and the Pacific prepare bankable and sustainable infrastructure investments
Type of intervention	Project preparation facility
Main activities	Development of project preparation studies Link cities to finance Identify capacity development interventions
Geographical focus	Secondary cities in Asia and the Pacific
Type of entity	Multi-donor trust fund managed by the Asian Development Bank
Funders	The governments of Austria, France, Germany, Switzerland and the European Union
Key functions performed	1. Water and resilience Policy development *Support the design and influence national priorities* 2. Customer knowledge and Sectoral cooperation *Ensure operational coordination between the local, national and regional stakeholders* 3. Investment and Business Promotion *Build a positive image of the water sector and reduce the misperceptions on investments in water-related projects* *Prepare investment opportunities* *Design 1) financial framework and 2) financial incentives and de-risking tools* 4. Capacity-building and organisational strengthening *Develop people and leadership* *Facilitate partnerships for innovation*
Implementation	Asian Development Bank (ADB) & Agence Française de Développement (AFD)
Sectors & Impact areas	Focus on traditional urban infrastructure sectors like water supply, drainage, sanitation and mobility Impact areas : poverty reduction, good governance, environmental improvement, climate change mitigation and adaptation
Intervention modalities	• Bespoke technical assistance on project preparation studies • Assistance on linking cities to funders that includes assessing potential for project funding at an early stage, and working with funding institutions to successfully implement projects. • Capacity development initiatives that identify short, medium and long-term activities to help cities increase the impact and sustainability of new infrastructure.
Key intervention criteria	• The most urgent or important infrastructure projects • The environmental, social and financial impacts of the projects • The technical options for implementation • How to integrate climate risk and resilience building in the design of infrastructure projects • How much it will cost to operate and maintain the new infrastructure • How to promote good governance in the design and implementation of infrastructure projects
Examples of CDIA intervention	Jalandhar Surface Water Supply System | Cities Development Initiative For Asia (cdia.asia) Sewerage System Development | Cities Development Initiative For Asia (cdia.asia)

Source: Authors.

Table A C.2. Example 2. World Wildlife Fund Bankable Water Solutions

Ambition	Build coalitions of partners at the river basin level and adopt an integrated and holistic approach to protecting freshwater resources
Type of intervention	Project preparation facility, Advocacy, Stakeholder management, Technical assistance
Main activities	Place freshwater on the decision-makers' agenda Mobilise stakeholders at basin level Coordinate the project design phase and the implementation Provide technical expertise on freshwater conservation, policy design, and project management
Geographical focus	River basins presenting risks in terms of climate resilience and/or species' conservation
Type of entity	International NGO
Funders	Multiple donors (public institutions, private foundations, individuals…)
Key functions performed	1. Water and resilience Policy development *Influence global priorities and policies* 2. Customer knowledge and Sectoral cooperation *Ensure operational coordination between the local, national and regional stakeholders* *Foster sectoral knowledge collaboration at regional and global levels* 3. Investment and Business Promotion *Prepare investment opportunities* *Design 1) financial framework and 2) financial incentives and de-risking tools* 4. Capacity-building and organisational strengthening *Foster technical and operational excellence* *Facilitate partnerships for innovation*
Implementation	Direct implementation of projects by WWF, in partnership with local stakeholders
Sectors & Impact areas	Focus on nature-based solutions generating a holistic impact on the basin Impact areas: climate resilience, species' conservation, sustainable energy
Intervention modalities	• Advocacy on freshwater ecosystems, with a focus on institutions and governments having the capacity to act at a basin level • Stakeholder coordination at basin level, to mobilise all the actors and design projects that match everyone's interest and leverage the available expertise • Project preparation facility to design bankable projects attractive for investors, thanks to nature-based and landscape-based approaches pooling efficiently initiatives at a territory level • Technical assistance by using the tools and processes developed by the WWF, and their comprehensive field experience • Project management to ensure the good implementation of the initiatives in the field
Key intervention criteria	• The river basins the most at risk in terms of climate resilience or species' ecosystems • The possibility to design bankable projects thanks to nature-based and landscape-based approaches • The capacity to leverage the expertise of WWF in terms of freshwater ecosystems' and endangered species' conservation
Examples of WWF intervention	Water Risk Filter Tool | WWF (panda.org) Valuing Rivers Report | WWF (panda.org)

Source: Authors.