



WORLD BANK GROUP

SCOPING OUT THE POTENTIAL FOR DELIVERING WATER SERVICES THROUGH PUBLIC PRIVATE PARTNERSHIP IN SMALL-SCALE WATER SUPPLY SYSTEMS IN CAMBODIA



CAMBODIA

February 2020

© 2017 The World Bank
1818 H Street NW, Washington DC 20433
Telephone: 202-473-1000; Internet: www.worldbank.org

Some rights reserved

This work is a product of the staff of The World Bank. The findings, interpretations, and conclusions expressed in this work do not necessarily reflect the views of the Executive Directors of The World Bank or the governments they represent. The World Bank does not guarantee the accuracy of the data included in this work. The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of The World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

Rights and Permissions

The material in this work is subject to copyright. Because The World Bank encourages dissemination of its knowledge, this work may be reproduced, in whole or in part, for noncommercial purposes as long as full attribution to this work is given.

Attribution—Please cite the work as follows: “World Bank. 2020. Scoping out the potential for delivering water services through public private partnership in small-scale water supply systems in Cambodia. © World Bank.”

All queries on rights and licenses, including subsidiary rights, should be addressed to World Bank Publications, The World Bank Group, 1818 H Street NW, Washington, DC 20433, USA; fax: 202-522-2625; e-mail: pubrights@worldbank.org.

Contents

Acknowledgements	i
Acronyms	ii
Executive Summary	iii
1. Introduction	1
2. Context of Private Small-Scale Water Supply	2
2.1. Scale and Magnitude of Operations	2
2.2. Formation and Operational Characteristics	3
2.3. Existing Financing Arrangements	3
2.4. Implementation Arrangements for Water Supply Service Provision	4
2.4.1. License regime	5
2.4.2. Contract Based Implementation	6
2.5. Recent Development Partner Initiatives	7
3. Policy, Institutional and Regulatory Environment for Private Sector Engagement in Small-Scale Water Supply	9
3.1. Licensed Private Schemes	9
3.2. Legal/ Regulatory Basis for Public Private Partnership/ PSP in Water Sector	11
3.3. MIH and Private Sector Perspectives on Partnerships for Water Supply	13
3.3.1. Ministry of Industry and Handicraft	13
3.3.2. Private Water Operators	14
4. Lessons Learnt from Past Experience and Insights from Stakeholder Interactions	15
5. Addressing the Issue of Scale: Clustering	16
6. Approach to Public Private Partnerships in Small-Scale Water Supply Schemes	17
6.1. Options Considered for Engaging Private Sector under PPP	18
6.1.1. Option 1	19
6.1.2. Option 2	19
6.1.3. Option 3	20
6.1.4. Option 4	21
6.2. Analysis of Implications of Proposed Options	21
6.3. Proposed Arrangements for Implementation	23
7. Suggested Related Interventions in Financing, Institutional and Regulatory Arrangements	24
8. Conclusions and Next Steps	25
References	26
Annex 1: Key Elements of Licensing Decree	27
Annex 2: Overview of Existing PPP Arrangements in Urban Water Supply	28
Annex 3: Factors for Consideration in Selection of PPP Implementation Option	29

List of Tables

Table 1: Number and Size of PWOs.....	3
Table 2: Water Supply Arrangements in Practice.....	4
Table 3: Status of Licenses Issued (2019)	6
Table 4: Salient Features of On-going Donor Programs.....	8
Table 5: Options for Allocation of Responsibilities in Water Supply	21
Table 6: Implications of Options Considered	22
Table 7: Risk Allocation Implied in Potential Implementation Options.....	23

List of Figures

Figure 1: Estimated Investment Requirement for Water Supply	1
Figure 2: Observed Vicious Cycle of Small-Scale Water Supply Operation	16
Figure 3: PPP Conceptual Arrangements Preferred by MIH.....	18

Acknowledgements

The report was prepared by Suneetha Dasappa Kacker (Consultant), Phyrum Kov (Water Supply and Sanitation Specialist) and Khy Touk (Consultant) with contributions from Victoria Hilda Rigby Delmon (Senior Counsel).

The report greatly benefited from meetings held during November 26-30, 2018 with H.E. Ek Sonn Chan, Former Secretary of State, Ministry of Industry and Handicraft (MIH); H.E. Yea Bunna, Director General, MIH; H.E. Sam Vongsy, Head of Central Public Private Partnership Unit, Ministry of Economy and Finance (MEF), and their respective teams. The findings in the report have also been presented and discussed with H.E. Oum Sotha, Secretary of State of MIH.

The team also benefited from the view and insights provided by stakeholders throughout the assessment, which include representatives from Khmer Water Supply Holding, Cambodian Water Supply Association, DFAT-financed Investing in Infrastructure project, Agence Française de Développement, USAID WASH-FIN, WaterAid, and private water operators. The team would like to express sincere gratitude to all the stakeholders whose view, insights and inputs have been instrumental for the assessment.

Findings in the report also largely drew upon the results of an assessment for provincial water supply investment that was conducted in Siem Reap, Prey Veng and Kampong Chhnang provinces. The study was implemented by Groupe de Recherche et d'Echanges Technologiques (GRET) under the World Bank-executed Technical Assistance.

Peer reviewers are Marco Antonio Aguero (Senior Water Supply and Sanitation Specialist) and Aileen Castro (Financial Specialist) whose comments and insights have contributed to the improvement of the report. Constructive comments were also received from George Joseph (Senior Economist) in the finalization of the report.

Acronyms

ADB: Asian Development Bank

AFD: Agence Francaise de Developpement

BOO: Build-Own-Operate

BOT: Build-Operate-Transfer

CO: Certificate of Operation

CuM: Cubic Meter (1000 lt)

CWA: Cambodian Water Supply Association

DBL: Design-Build-Lease

DFAT: Department for Foreign Aid and Trade (Australia)

DIH: Department of Industry and Handicraft (provincial level)

EU: European Union

FTB: Foreign Trade Bank

FS: Feasibility Study

GDPWS: General Department of Potable Water Supply

HH: Household

IEC: Information, Education and Communications

JAIF: Japan-ASEAN Integration Fund

JICA: Japan International Cooperation Agency

MEF: Ministry of Economy and Finance

MFI: Micro Finance Institution

MIH: Ministry of Industry and Handicraft

MIREP: Mini Réseaux d'Eau Potable (Small Scale Piped Water Supply System)

PWO: Private Water Operator

PSP: Private Sector Participation

PPP: Public Private Partnership¹

RGC: Royal Government of Cambodia

TA: Technical Assistance

¹ Used, in this report, to describe arrangements which include part financing of investment costs by public entities, in addition to prevalent roles of public sector in privately developed and operated water supply schemes (licensing, tariff setting, etc.).

Executive Summary

In 2017, access to safely managed water supply in Cambodia was only 25.8 percent; and access to improved water supply was 52.7 percent.² Meeting SDG goals by 2030 and achieving the Government's own goals of universal access to improved water supply by 2025 will require significant investments in the water supply sector, which are likely well beyond public fiscal capability.

While Cambodia has traditionally had active participation of private sector in water supply, their scale of operations remains limited. To date, Private Water Operators (PWO) have typically undertaken full financing, design, construction and operations of water supply schemes in service areas identified in discussions with communes. Initiatives have largely been promoted by PWOs, rather than being solicited by public entities; and are focussed on areas where conditions allow for financially viable operations. Schemes are developed on the basis of a license issued by the Ministry of Industry and Handicraft (MIH). Areas that are not deemed viable on a stand-alone private investment basis have thus not, so far, attracted private sector interest.

Consultation undertaken by the Bank among key stakeholders and a study conducted in three provinces suggest that there is opportunity for further enhancing private sector engagement through public private partnerships (PPP), where risks are appropriately allocated among public and private sector in provisioning of piped water supply services. In such arrangements, MIH expresses preference for a role in influencing the quality of production (bulk water) facilities; and identification of assets financed by public sector (to the extent possible).

Considering this, four options for engagement through PPP emerge, which merit further assessment to define best-fit implementation arrangements with regard to the institutional set up and capacity context. Those four options include:

- Option 1 represents a clear demarcation of responsibilities, with public entities fully responsible for design, financing, construction and operations of bulk water assets (production and transmission) to supply water to sites (or schemes); and private sector responsible for all aspects of distribution assets. The arrangement would be secured through a bulk supply agreement between the public and private agencies.
- Option 2 considers public responsibility for design, financing and construction of bulk water assets, which are made available to a private entity for operations on the basis of an agreement. The private entity is responsible for all aspects (design, finance, construction) of distribution assets; and has end-to-end operational responsibility across the entire water supply value chain.
- Option 3 incorporates private sector responsibility for detail design, financing, construction and operation of bulk and distribution assets, with a capital subsidy (determined at a pre-established tariff) to reduce private investment requirements. The capital subsidy, may fully cover cost of construction of bulk assets, with any additional subsidy being made available for distribution assets, if required. Ownership of bulk assets rests with the public entity (which is also assumed to arrange for the land on which bulk assets are located); and are made available to the private entity (or PWO) on the basis of a Design Build Lease (DBL) or Design Build Operate (DBO) agreement.
- Option 4 represents full private sector responsibility for detail design, financing, construction and operation of the entire water supply system. Government would provide for an operational

² WHO/UNICEF Joint Monitoring Program (JMP) 2019, logged in on January 16, 2020.

subsidy (which may be in the form of an annuity payment) to ensure financial viability of operations at pre-established tariff and service levels. The arrangement would be based on a Design Build Finance Operate Transfer (DBFOT) contract between public and private entities.

The proposed allocation of roles among public and private parties is further illustrated in the table below:

Options for Allocation of Responsibilities in Water Supply Schemes

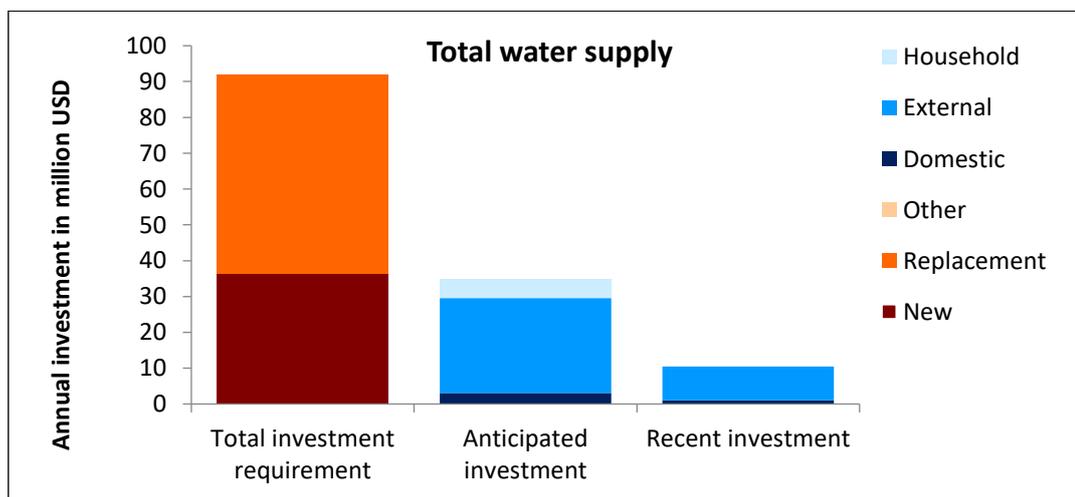
	Asset distinction	Finance		Design & Build		Operate	
		Public	Private	Public	Private	Public	Private
OPTION 1	Bulk Assets	√		√		√	
	Distribution Assets		√		√		√
OPTION 2	Bulk Assets	√		√			√
	Distribution Assets		√		√		√
OPTION 3	Bulk Assets	√			√		√
	Distribution Assets		√		√		√
OPTION 4	Bulk Assets		√		√		√
	Distribution Assets		√		√		√

Although PPP options for small-scale water supply systems emerge, clear sector policy to set a direction in mobilizing private finance; relevant guidance on aspects of the PPP process along with contract templates for ease of use; and enhanced institutional capacity for monitoring and regulation are important aspects for successful implementation of PPPs in the current sector context in Cambodia.

1. Introduction

The Sustainable Development Goals (SDGs) on clean water and sanitation present a huge challenge to Cambodia in accelerating access, reducing disparity, and increasing quality of service. In 2017, access to safely managed water was only 25.8 percent and access to improved water supply was 52.7 percent.³ Meeting SDG goals by 2030 and achieving the Government’s own goals of universal access to improved water supply by 2025 will require significant investments in the water supply sector, which are likely well beyond what the public sector can afford. An estimate in 2015 suggested that US\$92 million is required annually if the country is to reach universal access to improved water supply in 2025 (figure 1), 40 percent of which is for building new or expanding infrastructure while the rest is the replacement cost for existing infrastructure. This amount was nearly three times the level of investment that was flowing to the water supply sector through external assistance and domestic private sector. Considering lower-than-the-required-level of investment between 2015-2019, it is understood that the annual investment needs for the country to reach the set targets will be even larger, requiring the sector to rethink the way resources may be mobilized to accelerate progress. An additional of US\$10.4 million is required for operation and maintenance. This indicates the extent to which the water supply utilities or operators need to generate income to support their day-to-day operations, notwithstanding their need to generate sufficient income to prepare for replacement and expansion investments.

Figure 1: Estimated Investment Requirement for Water Supply



Source: Service Delivery Assessments, World Bank 2015

Traditionally, aside from provision of piped water supply through public utilities in core provincial towns, Cambodia is one of the countries which has active private sector participation in the water supply sector. Private Water Operators (PWOs) of small-scale piped water supply systems have an estimated market share of almost 50 percent of all households with access to piped services in Cambodia. They, thus, have been instrumental in providing piped water supply access to the population.⁴ Despite major contribution from both development partners and private sector over the past decade, the overall gain in access to water supply and sanitation remains limited. Gaps in water supply service remain in many parts of the country, especially the areas which are not commercially attractive for private sector due to technical and/or financial risks. Considering the past trend, reaching the Government’s ambitious targets by 2025 and SDGs by 2030 is unlikely to be realistic, should the investment model in water supply remain business-as-usual. Global experience suggests that joint investment from public and private sectors could be an important path to accelerate access to, and contribute to efficient

³ WHO/UNICEF Joint Monitoring Program (JMP) 2019, logged in on January 16, 2020.

⁴ Covering 1.4 million people in 2012 (Sy, Warner and Jamieson, 2014). MIH (2015) estimates that 4.6 million people have access to piped water services (including through community operated schemes), of which 50 percent through PWOs.

management of water supply, especially in areas which private sector may not find adequately financially attractive on a stand-alone basis.

The objectives of the report are to assess the potential for engaging private sector, through public private partnerships (PPP), in investing and operating small-scale water supply schemes in areas where piped water supply is not currently available. It seeks to (a) understand private sector participation (PSP) and PPP landscape in water supply in Cambodia; (b) discuss the existing policy, institutional and regulatory framework for PPP and PSP in the water supply sector; and (c) discuss possible pathways for engaging private sector in small-scale water supply under PPP arrangements in areas where there may be a technical or commercial reason that the private sector has not already sought to develop a scheme using its own funds.

The report aims to provide an overall understanding and basis for further discussions with government counterparts – and other sector stakeholders – to reach a consensus on the approach; and further agreement on appropriate arrangements and related interventions required to facilitate PPPs. The main findings and proposals have been shared and discussed at the Cambodia Water Conference in October 2019⁵ as a first step to assessing stakeholder receptivity. They have also been introduced in on-going discussions around the World Bank-financed Water Supply and Sanitation Improvement Project (Cambodia WaSSIP), with a view to informing sector support, as well as exploring potential for pilot PPP initiatives under the Project.

This scoping report was developed largely based on consultation with the Government and sector stakeholders to discuss the scope for PPP in water supply in Cambodia; and on the results of an assessment for provincial water supply investment that was conducted in Siem Reap, Prey Veng and Kampong Chhnang provinces.

The report is organized in the following broad sections:

- Context of Private Small-Scale Water Supply;
- Policy, Institutional and Regulatory Environment for Private Sector Participation in Small-Scale Water Supply;
- Lessons learnt from past experience; and
- Insights and Options for PPP in Small-Scale Water Supply

It concludes with a brief section on the way forward. A list of materials reviewed is annexed at the end.

2. Context of Private Small-Scale Water Supply

2.1. Scale and Magnitude of Operations

In the period between 2000 - 2018, approximately 400 PWOs have financed, developed and are operating systems comprising water source works, treatment facilities and distribution networks through a variety of arrangements (refer later). Systems typically serve from less than 750 connections to over 3,000 connections in each site⁶ (or scheme), with approximately 60 percent of the PWOs handling between 500 - 2000 connections. Investments made to these schemes have ranged from US\$90,000 to US\$1 million at each site.⁷ Table 1 below presents snapshot of the size range of the PWOs in Cambodia.

⁵ An event organised by the Cambodian Water Supply Association, an industry body representing PWOs

⁶ Sites may cover several villages or communes

⁷ Discussion with GRET, 29 November 2018

Table 1: Number and Size of PWOs

Operator	Number	Percentage
Micro (less than 500)	28	25
Small (501 – 2000)	64	58
Medium (2001 – 5000)	14	13
Large (over 5000)	5	4
TOTAL	111	100

Source: Cambodia Water Association Telephone Survey of 111 PWOs (2015)

2.2. Formation and Operational Characteristics

A salient feature of the formation of small-scale private water supply systems in Cambodia so far is that they have largely been initiated by the private sector, rather than being solicited⁸ by local or national government, in response to unmet local demand. In scoping for suitable sites for water provisioning, PWOs have typically focused on denser developments, largely along roads or in growth centers, with a view to optimizing costs and increasing efficiency of investments. Proposed systems and service areas to be covered are required to be agreed with the commune(s), district and provincial authorities before a license application for the relevant site may be submitted to MIH (refer below).

Recent reviews⁹ of systems indicate the following operational characteristics:

- Investments in system capacity and assets are undertaken in a phased manner. The distribution network is initially implemented in a core area having greater density, with build-out plans – which may or may not be realized in the proposed time frame [and as set out in the license].
- To date, the average household (HH) connection rate¹⁰ remains low, at approximately 50 percent for non-poor HHs and only 20 percent for poor HHs. This includes sites having near full network spread or accessibility over the site (CWA, 2015; GRET, 2016).
- Connection fees are significant and have increased steeply over the last 15 years, from less than US\$20/connection to over US\$60/connection (GRET, 2016).
- All consumption is metered and billed as per a linear (single step) volumetric tariff. The tariff charged has remained largely unchanged (2006 – 2016), averaging KHR2,300/CuM (although recently there has been some pressure to reduce tariffs further). No minimum monthly fixed charge for water is levied on connections.
- Supply averages 22 hrs./day and, with an average consumption of 60 l/capita/day (lpcd), monthly HH consumption varies between 8.5 – 9 CuM¹¹ (GRET, 2016). Poor HHs record lower consumption. Also, overall consumption reduces by over 30 percent during the rainy season.

2.3. Existing Financing Arrangements

Most schemes developed to date have been fully privately financed by PWOs. A representative country assessment of private provisioning of water supply in Cambodia (Frenoux, 2013) indicated that 75 percent of PWOs experienced severe difficulties in accessing commercial finance, and only 23 percent

⁸ This holds for privately implemented projects in other sectors also, notably energy (discussion with MEF, 27 Nov. 2018)

⁹ “What Evolution for the Water Supply Utilities Supported by GRET over the past 15 Years?” Presentation, 2016, shared by GRET; “Strengthening Sustainable Water Supply Services through Domestic Private Sector Providers in Cambodia” World Bank, 2016; “Benchmarking Report” Presentation at the Cambodian Water Conference and Exhibition, 2015, Phnom Penh. CWA

¹⁰ Assessed as the ratio of actual connections to total potential connections in any site.

¹¹ CWA estimates of monthly consumption for HH dependent on other sources of water (well, ponds, river, stream canal) are higher, averaging 13 CuM /HH/month (CWA 2015)

held bank loans. PWOs confirmed this in discussions during the assessment. The first few schemes were largely financed through proceeds of land sales combined with family loans. At the time, high interest rates (10 percent – 14 percent p.a. in 2014); limited tenor (typically 5 years); and high collateral requirements (as much as 300 percent of the loan amount in hard assets, viz, land and buildings) of local banks acted as deterrents to taking out commercial loans. This situation has partially eased recently through development of increased, and hence more competitive, financing options – including AFD line of concessional credit to the Foreign Trade Bank (FTB)¹²; large and small MFIs; small water finance companies – and softening of collateral requirements to include lending against the value of water supply assets and projected future cash flows. However, the term remains limited (maximum of 10 years) from the perspective of water supply operations; and interest rates, ranging between 8.5 – 10 percent, remain high. Moreover, only a small percentage of PWOs benefit from these financing arrangements. A recent initiative by The Stone Family Foundation, still at pilot stage, aims at providing financing to PWOs for system expansion, through flexible, revenue-based payments and extended tenor of up to 15 years.

2.4. Implementation Arrangements for Water Supply Service Provision

Implementation arrangements for water supply service provision have varied. A snapshot of these is presented in the table 2 below, alongside a wider landscape of water supply implementation arrangements currently in practice in Cambodia.

Table 2: Water Supply Arrangements in Practice

Ministry	Ministry of Industry and Handicraft (MIH) General Department of Potable Water Supply (GDPWS)					
	Large Cities	Provincial Towns		Small and Medium Towns		
Management	State owned enterprise	State Agencies	Private Owned	Private Registered	Private Non-Registered	State Agencies
Implementation Arrangement	Autonomous Utilities	Non-autonomous Utilities	BOO, BOT	BOO, BOT, DBL		Non-autonomous Utilities
Number of Sites	2 (Phnom Penh, Siem Reap)	10	11	256 licensed (out of approximately 400)		2

Source: MIH presentation, 2015

As indicated in table 2, private sector has been engaged in water supply service provision in various ways, including:

- Purely private initiatives characterised by private ownership of land on which bulk assets (or the production facility) are situated; and full private financing and ownership of water supply assets. In this case, the PWO has typically borne full design, construction, demand, revenue and political risks; and significant extent of investment risk.
- Build-Operate-Transfer (BOT) initiatives, wherein ownership of land on which the production facility is situated may vest with a public entity at local, provincial or national level. The public entity may also partly finance the water supply assets, which may revert to it at the end of the agreed operations' period.
- Design-Build-Lease (DBL) initiatives, in which ownership of land on which the production facility is situated vests with a public entity at local, provincial or national level. Additionally,

¹² Closed in June 2019

the water supply assets are significantly publicly financed – with up to 90% contribution – with typically smaller share of private investment. The private operator is entitled to use the assets for water supply operations for an agreed period; and a lease payment to the public entity may be agreed, depending on the ability of the tariff to bear the payment.

Most of the private schemes are governed by the licensing regime, while some are managed through a contractual arrangement. Subsequent sections provide further information on each of these arrangements.

2.4.1. License regime

The Ministry of Industry and Handicraft (MIH)¹³ is responsible for water supply schemes undertaken on a commercial basis, i.e. schemes operated by PWOs or public utilities whose cost of operation and maintenance and/or investment is dependent on tariff levied on users. Between 2006 - 2015, the MIH administered a licensing regime for PWOs which followed the basis of permits issued for Small and Medium Enterprises (SMEs): a rolling three-year license was issued based on a business plan submitted by the license applicant; with little clarity on the basis for renewal of license. The license set out the water supply service area, including the number of HHs to be covered by the operator, while leaving tariff subject to negotiations at commune level. These were based loosely on costings set out by the PWO in the business plan that accompanied the license application, but there was no specified methodology for tariff setting.

As of 2015, of approximately 400 private operators in the country, 256 are licensed through MIH; and the rest are unlicensed or in the process of applying for a license. PWOs operating larger systems are more likely to be formalized: an estimated over 75 percent of large and medium PWOs are licensed, while only 30 percent of micro and small PWOs hold licenses (Frenoux 2013). All, however, have some level of informal consent for provision of water supply services from the village, commune or district authorities, including the provincial Department of Industry and Handicraft (DIH).

Following a *Prakas* (ministerial decree, 2014), MIH developed a licensing scheme for water supply operators and initiated issuance of licenses for 20-year terms in 2015, requiring PWOs to submit a Feasibility Study report as part of applications for the same. Three-year licenses were proposed to be phased out over a transition period ending in 2018, but this is still on-going. The new license conditions provide for regulation of key aspects including (i) tariff and connection fee, currently averaging KHR2,200/CuM (US\$0.55/CuM) and US\$50 respectively; (ii) water quality, based on identified parameters; (iii) coverage, expected to reach 70 percent of total potential connections in the site, as specified/ demarcated in the license, by the fifth year of operations; and (iv) other aspects. PWOs are required to submit quarterly, bi-annual and annual reports to MIH, capturing the status of the above aspects. The license also empowers PWOs to provide connections only against recovery of connection fees; and to disconnect non-paying customers (refer Annex 1 for key elements of the licensing decree). Additionally, licenses may also be awarded on a competitive basis – however, very few licenses have been awarded on this basis so far. Table 3 provides the status of license issued as of 2019. This is reflective of the manner in which schemes are developed: given government’s limited intervention in identifying potential sites for bidding out to PWOs, a majority of sites are identified and assessed by PWOs for development, after which a license is obtained from MIH on a unsolicited basis. MIH maintains a database of licensed PWOs, including information on status of sites and license.

It is understood (from interviews carried out by the team with selected operators) that the slow take up of 20-year licenses is due, in part, to service providers’ concerns as to the complexity and costs involved in developing a feasibility study; and then the on-going burden of meeting the licensing requirements.

¹³ Previously this was Ministry of Industry, Mines and Energy

Table 3: Status of Licenses Issued (2019)

No	Type of License	Number Issued
1	Permanent (for public waterworks)	6
2	20-yr. – direct applications	99
3	20-yr. – replacement of 3 yr. license	65
4	Competitively bid	16
5	3-yr. or extended for a further 3 years	72
	TOTAL	258

Source: MIH

In addition to the license, operators¹⁴ are required to obtain a Certificate of Operation (CO) prior to commissioning water supply operations. The CO, valid for a period of 5 years, is issued on the basis of inspections of facilities, undertaken jointly by the Department of Technical and Project Management and the Department of Water Supply Regulations (both under General Department of Potable Water Supply) of the MIH (refer later). Only licensed operators are eligible to apply for the CO.

2.4.2. Contract Based Implementation

A limited number of projects have been undertaken on the basis of contractual agreements, largely under initiatives supported by development partners (also refer Annex 2). These provide insights into – and have had significant bearing in shaping – MIH’s approach and thinking on private sector engagement in water supply services. The types, objectives and provisions of contract arrangements have been diverse, and include:

- a. Projects supported by GRET under a program for small-scale private water operators implemented between 2000 - 2005 (Mini Reseaux d’Eau Potable [MIREP]), with the objective of formalizing relationships and responsibilities through establishment of a local contractual /regulatory framework involving commune authorities (these pre-dated the SME licensing scheme for PWOs). The program supported 14 initiatives. Although several subsequent projects adopted the technical and financial features of MIREP supported schemes, the contractual model (or broad provisions of the contract) has not been replicated so far.
- b. Water supply operations contracted to private sector in 11 provincial towns. There is limited information available on the contract and award process, which, it is understood, was characterized by lack of transparency and ad-hoc, unsolicited bids. In some cases, contracts were signed and issued by provincial governments; in other cases, by Ministry of Industry Mines and Energy (MIME)¹⁵ / MIH; while other operating mandates may have been awarded without signing a contract. Where contracts were awarded for implementation on a BOT basis¹⁶, they were concerned primarily with the ownership of land and assets. (Jensen, 2017)
- c. Design Build Lease (DBL) contracts awarded under the World Bank supported project in 2005. Of a total of 22 projects, 10 were bid out as intended¹⁷ and contacts signed between private operators and MIME. Contractual provisions addressed obligations of parties,

¹⁴ This includes licensed operators as well as operators mandated through contracts

¹⁵ The predecessor of MIH.

¹⁶ Land belonging to public authorities

¹⁷ Other projects faced mis-procurement or cancellation, and were removed from the remit of the project

service standards, monitoring mechanisms, lease payments, etc.; but were unevenly enforced, largely due to lack of supervisory capacity in MIME/MIH.

Projects under category (a) and (c) were developed in areas where the private sector had not previously started up business or sought a license; and in some cases, they may not have proceeded without some form of concessional or grant financing or subsidy.

It is understood that contracts in some cases have been renewed by provincial governments or MIH upon completion of the initial contract term¹⁸. In other cases, for example the DBL contracts, the initial contract term is still on-going. In most, if not all, cases, in addition to the contract, the PWO also holds a license and a CO.

2.5. Recent Development Partner Initiatives

Three recent initiatives by development partners, launched in and after 2015, have focused on addressing the financing needs of PWOs, which is recognized as a significant hurdle in extension and densification of existing networks in covered areas, as well as expansion of services to still uncovered areas. This is particularly so given the new license requirements for increased coverage in service areas.

Access to Finance Program

In May 2015, Agence Française de Développement (AFD) launched a program with the signing of a concessional line of credit of US\$15 million to Foreign Trade Bank (FTB) – of which US\$5 million earmarked for the water sector¹⁹ – and a partial (50 percent) risk guarantee for loans above US\$400,000. This enabled loans to be offered at lower rates (7.26 percent p.a.) for 4 – 10 yr. terms including 1-year moratorium, with reduced collateral requirements (100 percent of loan amount). The program targeted existing PWOs with at least 3 years' operating experience and proposals for system expansion; and is complemented by a Technical Assistance (TA) grant to support the mandatory detailed technical and investment studies by qualified consultants prior to approval of financing (World Bank, 2016). The broader objective of the program was to professionalise PWO operations in order that loans may be extended and repaid on the strength of commercial operations. The first phase of the program, which closed in December 2019, has supported 30 PWOs and disbursed approximately US\$6 million in loans (2018). A second phase is currently under design.

Investing in Infrastructure Program

In September 2015, Australian Department of Foreign Affairs and Trade (DFAT) launched an investment facility offering grants to leverage private investments from water operators. The facility may finance up to 60 percent of investment requirements, subject to a maximum of \$65 per household²⁰. The financing requirement for each scheme is estimated through detailed design and feasibility studies undertaken by the program (technical and financial assessments are further reviewed by a third party). The program focuses on licensing of unlicensed operators who have identified (but not yet constructed) sites that are agreed (“locked”) for water provisioning, and has supported approx. 77 PWOs, with a total of approximately US\$ 12.7 million so far (April 2019).

In a parallel initiative, 10 schemes have also been put up for bidding to PWOs, following an assessment of investment viability of potential sites (bidding documents have been shared and may inform the initiatives going forward). MIH reviews and approves identified sites, detailed feasibility studies, and the extent of viability financing (grant) proposed. In the case of schemes that were bid out, the grant financing offered averaged approx. 35% of total investment requirement. While most sites received up

¹⁸ Team has not seen any documentation and this information has been obtained from interviews with ministry officials and/or PWOs

¹⁹ The balance was earmarked for small scale private electricity operators

²⁰ This condition reportedly resulted in maximum financing of up to approx. 50% of total investment requirement

to 3 – 4 bids, a single site received no bids and was withdrawn. It is reported that sites in which households have limited alternative sources of water are more readily commercially viable given that households that have access to alternate water sources are generally more reluctant to connect (KWSH, discussion on 28th November 2018). The program was designed to continue until mid-2020, but has been extended by a year, to 2021.

WASH-FIN

In October 2017, the United States Agency for International Development (USAID) launched the Cambodia Water, Sanitation and Hygiene Financing (WASH-FIN) program, with the aim of expanding commercial lending to PWOs to expand and improve WASH access and service delivery. Specific support is implemented through credit worthiness and market assessments, as well as transaction facilitation and advisory support for completing loan agreements. Use of credit enhancement instruments, such as USAID DCA Guarantee, was proposed under the program but has not been implemented so far. By September 2019, a review of 40 PWOs interested in engaging with the program had been completed, and seven PWOs had been selected to receive support in a first phase. Of these, two PWOs had received loans totalling \$250,000; and a further three were engaged in discussions with banks partnering with the program. The program was proposed to be implemented over a three-year time-frame and closes in September 2020.

The salient features of the three programs are captured in the table 4 below:

Table 4: Salient Features of On-going Donor Programs

Program Description	Access to Finance (A2F)	Investing in infrastructure (3i)	WASHFIN
Donor	Agence Francaise de Developpement (AFD)	Department of Foreign Affairs and Trade (DFAT), Australia	USAID
Duration	May 2015 – Dec. 2019 (4 years)	Sept. 2015 – 2020 (5 years), extended to December 2021	October 2017 – Dec. 2017 (3 years)
Objective	To Support scaling up and professionalisation of PWOs through financing on the basis of commercial attributes of water operations	To deepen penetration of private water operations through closing the viability gap in Sites that are not yet serviced; and formalising unlicensed PWOs	To expand the market for commercial lending to PWOs, on the basis of sustainable and credit-worthy business models
Size	For water: \$5 million	For water: \$ 15 million	\$ 3 million
Components	Concessional Loan, Partial (50%) risk guarantee (loans above \$400,000 only), TA	Grant, TA	TA for access to commercial loans; and for capacity building
Target PWO (Eligibility)	Existing licensed PWOs, with min. 3 yrs. operating experience, with plans to expand (system expansion or new Site)	Unlicensed PWOs having “buy-in” (or local approval) for operations in pre-identified Sites having a relatively higher percentage of poor households	Existing licensed PWOs with on-going operations, and having covered >30% but <70% of the licensed area
Partnerships	Foreign Trade Bank, GRET (Consultants) ARTERIA (Consultants)	–	Cambodian Water Supply Association (CWA), Water.org, Idemitsu S. Corporation (ISC)
Requirements	A detailed FS by a qualified consultant to accompany the loan application	PWO to demonstrate availability of 35% of total investment requirement (for bid out projects only)	PWOs to provide full access to WS facilities and infrastructure; and share all available records
TA support provided	To Banks: for revamping of loan disbursement procedures	Detailed technical and financial feasibility studies are undertaken by 3i (in-house) for	Detailed technical assmt. and business case preparation; preparation of loan application

	To PWOs: for Feasibility Study (technical and financial assessments)	each Site proposed to be taken up (direct license or bid)	Capacity building of PWOs for marketing services
Financing Ceiling	–	\$65/connection	70% of estimated investment (for expansion)
Terms of Financing	Loan: approx. 7%, up to 10 years' tenor, incl. 1-year moratorium Collateral: 100% of loan Bank Charges: 2% Addnl. Cost for FS (3%)	Grant	Loan: 10% Bank Charges: 0.5% Collateral: 20% - 30% of loan amount
Loan /Grant Disbursement	Post-construction as per agreed technical specs.	In instalments linked to construction as per established technical specs	
Achievement	30 PWOs supported; \$6 million disbursed	Approx.77 PWOs supported; 12.7 million disbursed	2 loans (total \$250,000) closed; 3 in pipeline
Phase II	Under Design	To focus on policy. No financing proposed	To focus on devolution of WS mandate to local level

3. Policy, Institutional and Regulatory Environment for Private Sector Engagement in Small-Scale Water Supply

Recognising the private sector as an important driver of service expansion in the country, the Government has signalled support for a continued role for PWOs. The licensing regime has been strengthened to ensure that PWOs have greater certainty of the license over a longer period of up to 20 years, whilst there are increased obligations on, and accountability of, PWOs regarding access and service delivery.

The National Water Policy (2003) also emphasises the need for capacity building to establish a robust institutional environment, with appropriate competence within the government to manage both the process and contractual aspects of private sector participation. The overall recent regulatory and legal formulations also signal a shift towards more proactive government involvement, through project preparation and competitive tendering (ADB-AFD, 2012).

3.1. Licensed Private Schemes

MIH is responsible for water supply in provincial centres as well as small towns in which operations are of commercial nature (i.e. implementing tariff to recover investment, and operation and maintenance costs). Within MIH, the General Department of Potable Water Supply is composed of four departments. The Department of Water Supply Regulations is mandated with issuance of licenses to public waterworks and PWOs; and tariff setting for all water operators including public and private. The Department of Technical and Project Management is responsible for (i) coordinating with development partners on project management; (ii) overseeing project operations; and (iii) ensuring PWO compliance with technical and water quality standards. The departments undertake joint inspections to ensure compliance with conditions for issuance and renewal of the CO. Additionally, the Department of Planning and the Department of Water Supply Policy also function under MIH.

Additionally, MIH is represented in each province by the Department of Industry and Handicraft (DIH), typically staffed by only one or two officers – indicating the very limited role played by local government in the sector.

Since 2014, the government has taken progressive steps to strengthen the regulatory framework governing water supply (PWOs and public utilities), mainly through a *Prakas* addressing procedures relating to licensing (2014); and a series of *Prakas* (2015 – 2017) on tariff setting principles. The latter

provide for full cost recovery; incentives for efficiency; reasonable return on investment, capped at different levels for public utilities (10 percent) and PWOs (15 percent); discretion for adjustments based on project/utility capital structure; deviations to account for geographic conditions peculiar to specific PWOs; and pro-poor tariff (World Bank 2016). The principles are captured in a tariff-setting tool that is used by MIH while negotiating and establishing tariffs under specific licenses. Box 1 provides an overview of the tariff determination for water supply service that is currently applied by MIH.

Box 1: Tariff Determination

Tariff is determined based on established principles applied through an excel-based tool. The tool uses a discounted cash flow method to determine tariff over a 5-year period based on operating cash flows and adopting the following assumptions:

- (a): Unrecovered investments on CAPEX at the end of Year 5 will be reflected in Year 5 as cash inflow
- (b): Tariff may be revised every 5 years
- (c): Year of purchase of “existing CAPEX” is Year 0
- (c): New CAPEX to be acquired in first year has year of purchase as Year 1

The net cash flow is estimated as follows:

Net Cash Flows = Cash Inflows from Sale of Water (net of Tax) + Cash Inflows from Connection Fee - Cash Outflows from Operations (net of tax) + Terminal value of existing & additional CAPEX - Additional Investment on CAPEX + Tax Saving on Capital Allowance

Where,

Terminal Value of Initial or Existing CAPEX = Remaining Value of CAPEX to be Recovered, as determined by applying established rates of depreciation

The model establishes the Tariff when the Net Present Value (NPV) of the cash flows is zero, using a Discount Rate of 15% (Discount Rate = permissible Return On Investment)

Additionally, MIH has also recently issued minimum technical requirements (*Prakas* dated December 2019), which lay out standard specifications for construction of small water supply systems. A schedule of rates for construction items is also included in the document to facilitate estimation of construction costs. PWOs are required to comply with the minimum technical specifications and cost guidelines.

This emerging institutional and regulatory framework is facing setbacks in implementation due to lack of resources coupled with limited capacity leading to large back logs in processes. Only few staff in the Department of Water Supply Regulations are deployed for monitoring of nearly 250 licensed schemes / operators, including inspections for purposes of renewal of COs. So, while an MIH team is intended to undertake an annual visit to each licensed scheme, this is not practiced due to shortage of staff and resources. The department relies on provincial DIH (also short-staffed) as well as the communes for support and feedback²¹, but this also falls short of requirements, as PWOs practices are often found to be in violation of license conditions; and rectification of shortcomings (incl. verification of the same) is time consuming. As a result, it is not unusual for operators to be operating schemes for up to 4 – 5

²¹ Provincial branches are responsible for undertaking and submitting bi-annual inspections reports on scheme operations to MIH, whereas a team from MIH team is required to undertake inspection of schemes on an annual basis to monitor compliance with license conditions

years while awaiting renewal of COs or licenses.²² While the department may revoke licenses for delay in construction of new schemes or non-compliance with license conditions in existing schemes, this step is rarely taken due to the (a): complexities and lack of established process and legal framework related to managing asset take-over and compensation (for built schemes), and (b): lack of options for continuing water supply service operations at the site. The lack of manpower is thus coupled with limited regulatory capacity, contributing to weak enforcement of license and/or contract conditions.

The limited role of local government also significantly constrains public sector's ability for comprehensive planning, including identifying uncovered sites appropriate for implementation through public and/or private entities. Technical capacity constraints are a related issue: while Detailed Feasibility Reports are required to accompany applications for 20-year licenses, technical resources in the Department of Technical and Project Management or DIH to review these are limited, leading to a large backlog in clearing applications. There is also a lack of capacity and interest on the part of PWOs to develop these Detailed Feasibility Reports. Also, the technical information base and tools to support implementation and facilitate regulatory functions are yet being developed – for e.g., technical standards for construction of water supply systems have been established, but standard operating procedures for water supply operations are lacking (discussion with CWA, 27 Nov. 2018). Similarly, while the tariff determination tool establishes an objective methodology for estimating appropriate tariff, operators expressed that tariffs are, in practice, often established through negotiations.

3.2. Legal/ Regulatory Basis for Public Private Partnership/ PSP in Water Sector

Private investment in small scale water supply schemes in Cambodia, as described in sections above, has so far been undertaken with little, or no, public financing support (except in the case of a handful of projects). To date, a large majority of sites that were assessed viable for implementation on a purely private investment basis have already been taken up for servicing by PWOs. However, a large number of potential customers, residing in “gap areas” that are not deemed viable on a stand-alone private investment basis (i.e., without viability subsidy) – and have thus not so far attracted private sector interest – are yet to be reached. Such “gap areas” may typically face technical issues (related to challenges in source development) or commercial issues (related to lower affordability of households) that raise the quantum of investment required and discourage private sector interest. This calls for intervention, in the form of public financing, to lower the investment size for private sector – i.e., public financing may bear part of the investment cost for sites in gap areas, in order to improve viability and leverage private investment. Such public private partnership (PPP) arrangements may offer a way forward for further increase in coverage of piped water supply services, while optimising use of public resources.

With this perspective, an overview of the regulatory context for PPPs in the country is elaborated below.

a. PPP Framework

The PPP policy paper adopted in June 2016 identifies “production supply and distribution of water” as a priority sector for selection of projects for implementation through PPP²³. The policy places a focus on revenue-based payment models in the initial stages of PPP project implementation in priority areas, in order to relieve pressure on the national budget.

While noting the importance of private capital in complementing scarce public resources, the PPP policy highlights the role of private sector as a means of knowledge transfer and technical upgradation for the effective provision of public services. Discussions with the MEF's PPP Unit touched upon the

²² The World Bank is currently providing targeted assistance to help MIH in undertaking the inspection for issuing CO using a risk-based management system with the help of information technology.

²³ “Policy Paper on Public-Private Partnerships for Public Investment Project Management: 2016 – 2020” Ministry of Economy and Finance, RCG, 2016

importance of ensuring that private sector bring requisite skills – for design, construction, as well as operations – and a professional outlook, in addition to investment capacity.

The PPP Unit, under the Ministry of Economy and Finance (MEF), was established in 2016 and is the nodal agency responsible for development of processes and mechanisms necessary for policy implementation; and support to implementing agencies in adoption of the same. While the Unit’s involvement is limited to projects above a threshold investment size of US\$10 million, which may be well above the scale of typical rural and small-scale water supply schemes in Cambodia, the MEF prefers to be kept informed on small scale initiatives in which the Government may have exposure – either through financing or other forms of support.

It is noted that, given the population density and settlement pattern in the country, most of the water schemes being considered for PSP are likely to require some public financing support to make the projects viable. Given that private sector investment in the water sector is vibrant in Cambodia, and that there is some track record of PSP schemes and precedent documentation, then if there could be some standardisation of approach developed with simple documentation, the costs of developing these schemes could be reduced significantly²⁴. Also, there could be a possibility to aggregate several schemes to make for a larger investment size.

The PPP Unit expressed interest in being kept informed of (and possibly providing technical support to) preparation of projects that blend development finance and private investment for asset creation, even where project capital investment size may be lower than the threshold justifying their involvement. Moreover, specific provisions of the recent Draft Law on Public Private Partnerships²⁵ – implementation of which is supported by the PPP Unit – may be relevant in opening opportunities to deepen private involvement in small-scale water supply projects. These include provisions for

(a): Government support to projects, including “direct commitments (e.g., capital subsidies), contingent liabilities (e.g., guarantees) or other assistance which the public sector provides to a PPP project”²⁶. The guarantees may take the form of performance guarantees for the performance of implementing agencies; and guarantee against sovereign or political risks (adverse political or policy actions).

(b): Asset contributions: The government or implementing agency may contribute any state property or assets to a PPP project.

(c): Investment Incentives: The government may offer incentives and favourable policies to PPP projects, including credit enhancements to support project financing; facility for repatriation of profits, in case of foreign investors; and others.

The PPP Unit indicated that, a three-stage approval process is established for PPP projects: (i) at concept note stage, for review of the project proposal prepared by the implementing agency (ii) prior to bidding, when detailed technical, financial and contract documents are reviewed; and (iii) prior to contract signing, to review adherence to agreed parameters / provisions. Limited capacity in implementing agencies to prepare the concept note (templatised) is recognised by the PPP Unit as a challenge, and the Unit has requested ADB support for establishment of a project development facility to support this process.

b. Contract Documents

²⁴ Thereby justifying the PPP Units’ support – the objective of the Unit’s threshold for involvement is to ensure that the cost of project preparation is not outweighed by benefits delivered by the projects

²⁵ MEF, June 2019

²⁶ Article 14 (Forms of State Support for Project implementation), “Draft Law on Public Private Partnerships (draft for discussion)”, MEF, June 2019

As outlined in Section 2.4.2 (“Contract based implementation”), some forms of contractual agreements (BOT, DBL) have been attempted for water supply projects implemented in partnership with private sector. In addition to the contract, the PWO generally also holds a license and a CO. The license thus currently remains the salient document or agreement issued by MIH to PWOs to regulate the development and operation of PWS schemes. It references other *Prakas* and documents, including

- The *Prakas* on “Procedure for Issuing, Revising, Suspending and Revoking Permit for Water Supply Business”, dated May 2014
- The Law on Metrology (Articles 24 and 27), dated August 2009, regarding use of water meters
- The *Prakas* on “National Water Quality Standards”, dated July 14, 2015, which requires PWOs to comply with the water quality standards issued by MIH.

The license substantially includes main provisions relevant to development and operation of schemes; and states the tariff (in Riels/CuM) for PWS services, set by MIH for the particular scheme; and which the PWO licensed for the scheme is entitled to levy. Key scheme-specific information from the license is captured in an on-line database maintained by MIH for the purposes of monitoring. The licensing mechanism, perhaps incorporating strengthened conditions for competitive bidding and accompanied by a supplementary contract document, may constitute an adequate document for projects undertaken on a PPP basis (refer Section 7).

3.3. MIH and Private Sector Perspectives on Partnerships for Water Supply

Discussions with MIH and PWOs explored perceptions and perspectives on initiatives involving both the public and private sector for water supply. The private sector acknowledges the necessity for public sector and/or donor driven intervention to expand markets, as most sites that are financially viable on a stand-alone basis are already serviced; and remaining sites face technical challenges due to quality or distance of water source, or commercial challenges. The government also recognises the value of private sector engagement in achieving the policy objective of universal coverage by 2025, while simultaneously targeting improvement in PWOs services.

3.3.1. Ministry of Industry and Handicraft

The ministry’s approach, resources and efforts²⁷ in recent years have focused on strengthening provincial corporatized public utilities such as in Siem Reap and Phnom Penh or non-corporatized public utilities serving urban areas or main provincial towns, where there is the highest concentration of population. It is also hoped that those public service providers may, in turn, be in a position to share improved operational and financial management practices with private sector operators operating in or adjacent to their service areas; and contribute to strengthened and effective regulation of private water operations. Views expressed during discussions highlighted the following:

- PWO capacity deficit, as noted during inspections: for example, even on sites with over 10,000 connections, there is a lack of engineering expertise; cost of water production is not clearly recorded or largely unknown; license stipulations on performance (pressure, water quality), and also tariff, may not be complied with; and accounts are poorly maintained.
- Challenges in source development (technical, or related to distance), and high energy costs are key factors in raising the cost of water (and tariffs), and hence lowering commercial viability in sites that are still uncovered by PWOs. In these cases, one possible solution could be for Government intervention in the financing and/or development and/ or operation of bulk water sources to serve one or more site(s) in which distribution networks may be financed and developed by PWOs. MIH expressed a preference for such an approach separating bulk and

²⁷ Supported by development partners including WB, ADB, JICA, JAIF, EU and AFD. Other partners have had greater focus on strengthening private sector.

distribution activities as it would allow: (i) public sector to bear a greater exposure to larger investments in development of more sophisticated bulk water production facilities, reducing risks for PWOs; (ii) a clear separation in asset ownership, roles and responsibilities between private and public agencies (iii) a more exact assessment of costs implied in production and distribution activities, (iv) adequate return on investment at average tariff levels for PWOs. MIH also highlighted that provisions allowing for bulk water supply are included and promoted in the draft Water Supply Law.²⁸

- Political will for decentralisation of decision making for water supply is weak at the current time, but there is potential to strengthen local enforcement of regulatory requirements (including through citizen engagement) to establish greater accountability of both PWO and local government water supply departments.

3.3.2. Private Water Operators

The Cambodian Water Supply Association (CWA), an industry body established in 2011, includes 159 PWOs as members (2018); and interacts with MIH, development partners, and other sector stakeholders (financing entities, suppliers, etc.) on their behalf. Acknowledging deficiencies in current PWOs operations²⁹, the CWA recognises that regulation is inevitable and increased professionalisation of services/operations is required from PWOs for further growth. Concerns articulated regarding the current situation included (these were largely echoed by individual private operators interacted with):

- Tendency of the government to reduce water tariff, as experienced in the past few years. Tariffs for small-scale water supply systems inevitably compare unfavourably with those in larger cities serviced by public utilities³⁰ (notably Phnom Penh and Siem Reap City), causing a trend in government to regulate water tariff unreasonably. As a result, and in spite of the tariff guidance tool available with MIH, tariff determination is largely guided by negotiations, and influenced by political considerations.
- Difficulties in accessing finance to meet investment requirements at terms suited to sector context, particularly in the context of increased license obligations to expand coverage of connections in a short time frame.
- Lack of government support for public engagement through Information, Education and Communication (IEC) initiatives to raise awareness of consumers regarding benefits of piped water – which is important to increase connection levels.
- Difficulties in financing and undertaking Detailed Feasibility Study required for 20-year license application.
- Informal costs incurred by PWOs in the process of obtaining favourable decisions from relevant government agencies, causing difficulties for doing business. This is corroborated by the findings of an assessment of PWOs conducted in 2013 (Frenoux), as all operators surveyed confirmed this to be an obstacle.

The discussion with private water operators on the potential of PPPs in water sector revealed that PWOs clearly and unanimously articulated the interface risks perceived to be associated with joint initiatives with government (government sharing cost of investment; development and/or operations of components of the water supply system). These include risks related to: (i) quality of supply, including

²⁸ As of January 2020, the law is still being drafted by MIH. The team was not able to obtain the copy of the draft law itself, so the information provided in this report is solely based on what is shared with MIH during the consultations.

²⁹ Partly due to reluctance of PWOs to hire technical staff; and lack of financial management skills

³⁰ The latter reflect benefits accrued from concessional finance, sustained inputs to improve operational efficiencies, higher densities and economies of scale in larger cities

reliability and pressure at which bulk water is supplied, (ii) technology and construction standards adopted for development of facilities, and (iii) impact on tariff, based on rate established for bulk water, which may constrain operator returns at acceptable tariff level. Concern was also expressed regarding pressure that may be brought to bear on PWOs to discontinue operations of existing production facilities in order to off-take treated water from bulk facilities. However, willingness to engage would be greatly influenced by contract terms, clarity and credibility.

4. Lessons Learnt from Past Experience and Insights from Stakeholder Interactions

Given the context presented in the sections above, the following emerge as salient aspects and lessons learnt, for consideration in guiding decision on related supporting measures:

- Current PWOs start off as investors, rather than water operators (PPP Unit, AFD); and need sensitisation to the service aspects of operations complemented by training to deliver professional services (DPs, CWA, Jensen, World Bank 2016).
- Household willingness to bear relatively high charges has been a key factor in attracting PWOs to finance and establish systems to provide services. The level of subsidy must be calibrated, to respect and not undermine, this culture.
- The focus of development partner initiatives supporting private engagement in water supply has so far been largely on the supply side – very little on the demand side (to address, for e.g. connection fees, IEC to promote up-take of connections, customer feedback mechanisms among others).
- In addition to size and density of demand, complexities in source development (either due to technical issues or distance criteria) have a large and determining impact on viability of sites for private investment (KWSH, MIH).
- Rate of household connections, and tariff are points of political concern:
 - High connection costs are a greater deterrent to HH connections than tariffs (KWSH, GRET). Customers bring up service standards, but rarely refer to tariff levels as an issue.
 - Availability of alternate sources of water (dug wells, small ponds) is a significant factor in household uptake of piped water connections.
- On the other hand, tariffs are a factor in influencing consumption – as indicated by growing difference in consumption levels between wet and dry seasons over the last 15 years (GRET):
 - Availability of alternate sources results in reduced consumption in households connected to piped network services.
 - Consumption levels of poor households are also recorded to be very low.

Thus, although a connection subsidy may lead to increased coverage, it may not necessarily translate into more viable operations.

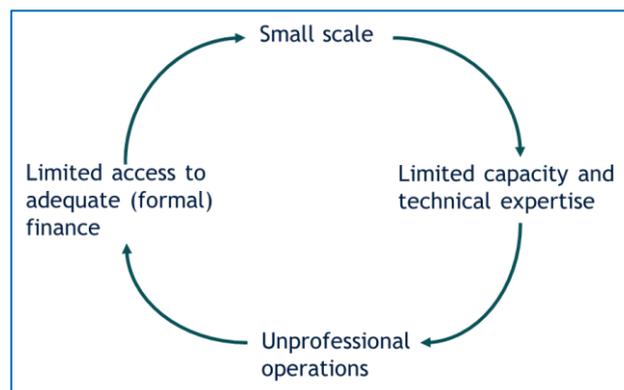
- Capacity constraints in MIH for scheme oversight and regulation is a critical bottleneck. This is further compounded by limited capacity (and inclination) of PWOs for managing operations to meet regulatory requirements; and high informal costs of doing business. The challenge is to sustain and strengthen engagement through mechanisms appropriate to available capacities, while these are improved incrementally and over time.

- Sub-national authorities (commune, district and province) have shown capacity to be a counterparty to and manage contracts (GRET), but this has not been pursued. There is willingness to devolve oversight and monitoring activities to sub-national levels, which may provide a window for further involvement of local authorities.
- Reducing interface risks, including through clear and easily implementable contractual arrangements and provisions is an important consideration for both public and private stakeholders, particularly given that past experiences have contributed to a prevailing trust deficit (MIH, PWOs).
- Striking a balance between support to private sector (cost) and impact to the public (benefit) – i.e., achieving optimum efficiency in public support extended – is an important concern for the Government.

5. Addressing the Issue of Scale: Clustering

Current PWO operations are typically characterised by their small scale; limited technical expertise and lack of professionalism, in terms of meeting service delivery and efficiency standards. These attributes have reinforced a vicious cycle (figure 2 below), wherein PWOs have had limited access to adequate finance to expand operations to a scale that may promote more professional operations.

Figure 2: Observed Vicious Cycle of Small-Scale Water Supply Operation



The limitation on scale and expansion poses a hurdle in increasing access to piped water supply services at a rate required to achieve the country’s target of universal access by 2025. The need for professionalisation of PWOs has thus been a key concern of MIH and sector stakeholders, including development partners and financing entities.

The settlement pattern in Cambodia has, so far, been conducive to small scale operations: villages are fairly small and quite dispersed. The challenge is how to achieve sufficient expansion and economies of scale to attract or promote PWOs having higher order operational skills. An option is to cluster schemes or sites. Clustering should ideally be part of a broader sector strategy, and be assessed for technical, financial and economic viability. As such, clustering may be beneficial in several ways, including:³¹

- Increased operational and investment efficiency through economies of scale: resources required may be shared (and optimised) over more than one scheme. In terms of procurement also, a number of sites may be bid (and licensed) under a single contract, reducing transaction costs.

³¹ “Public Private Partnerships – Guidance Note”, Menzies, 2015

- Enhanced professional capacity: larger scale operators (or a consortium of small operators) can afford to pay for specialist skills needed to sustain services (e.g. engineering services; maintenance and repair technicians; qualified finance, management and customer services staff, etc.).
- Access to more sustainable water resources: this is specific to sites that may have difficulty in accessing water sources but that may be clustered with neighbouring sites / locations that can draw upon sustainable sources.
- Cost sharing between higher- and lower-cost service areas to improve affordability and viability: clustering sites with varying investment viability can increase investment in less viable poor areas / sites.
- Increased access to finance: aggregating sites to form a larger demand (customer) base and investment opportunity may attract higher capacity PWOs – or consortia of small PWOs – with improved operational efficiency. Commercial lenders are also likely to find such larger entities more attractive, since their investment programs can often justify longer-tenor loans and reduced transaction costs

Considering the settlement pattern and the geographical condition, two options for clustering may be considered:

- **Option 1:** Aggregating bulk water assets for two or more distribution sites, which may be operated by a single, or different, PWO(s). The bulk and all distribution systems may be bundled in a single contract, or multiple contracts, for tendering.
- **Option 2:** Aggregation of separate sites, each having distinct water supply systems (bulk and distribution) into a single package (and contract) for bidding.

In both the above options, clustering may be based on the following criteria:

- a) Geographic spread and topography, seeking to aggregate sites that are no more than 10 – 15 km in distance, and having no significant topographical barrier (mountain, stream etc.).
- b) Investment size, seeking to attract mid-sized regional operators; or consortia of local operators.
- c) Viability, to the extent possible, balancing sites that are assessed more viable for private investment (i.e., requiring less public finance) with less viable sites.
- d) Number of connections, targeting 10,000 or more connections, to assure a good customer (demand) base; and demonstrate significant gains in coverage of piped water services.

6. Approach to Public Private Partnerships in Small-Scale Water Supply Schemes

Government's inclination is to focus its support on bulk supply functions – which may include source development, treatment and transmission – while leaving clear responsibility for distribution functions to PWOs. Although this seems counter to conventional practice in urban water supply elsewhere in the world, where arrangements have favoured private sector engagement in bulk asset development and operations³², the approach seems justifiable in Cambodia, as PWOs have been involved in financing, developing and operating distribution networks for over 15 years and are familiar with customer management and risks associated with this segment of activity.

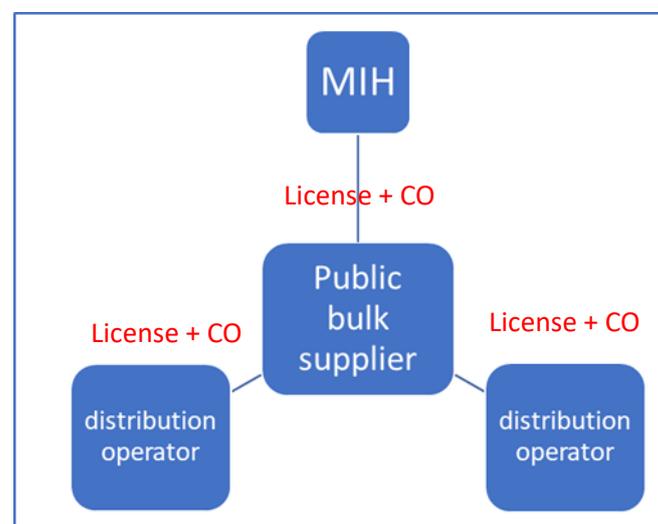
In this context, two possibilities for governments' role in PPP arrangements emerge at a conceptual level, i.e., support for:

³² On account of more effective risk distribution

- (a) **Bulk water facilities serving multiple water distribution sites:** Several factors (such as location, geographic distribution and size of sites served, topography, among others) would influence the viable scale and operation of bulk water facilities. The assessment for provincial water supply investment conducted under a Bank-executed technical assistance (and implemented by GRET) to scan for potential piped water investment sites in two provinces³³ indicates that sites suitable for bulk supply are likely to be fewer in number. This is largely due to (i): limitations of water sources (ii): the dispersed nature of settlements in the country.
- (b) **Bulk water facilities dedicated to specific single unserved distribution sites:** This is particularly relevant for sites in which the available water source is distant, or source development may be difficult; but may also be considered as a means of lowering private investment requirements in sites that may not be viable on a full-private-investment basis.

These arrangements may be represented schematically in figure 3 below.

Figure 3: PPP Conceptual Arrangements Preferred by MIH



In terms of implementation steps (this is still subject to further discussion and assessment), it is envisaged that responsibility for construction and operation of bulk water supply may rest with:

- (a) the provincial water utility, in provinces where a public utility has been established; or
- (b) a private entity under a Design Build Operate and Transfer (DBOT) or Design Build Lease (DBL) arrangement in provinces having no public utility; or
- (c) a newly formed public utility.

Under (a), a sub-option whereby a PWO (distinct from the PWO for the distribution sites served) operates the bulk system that has been developed by the provincial water utility might also be considered. Under (b), the private entity could be the same entity that is financing and operating the distribution network(s).

6.1. Options Considered for Engaging Private Sector under PPP

These arrangements may be translated into four possible options for implementation based on allocation of responsibilities for design, financing, construction and operations between public and private

³³ Siem Reap and Prey Veng provinces

agencies across the water supply value chain. As mentioned earlier, the options are proposed keeping in mind government’s expressed preference for:

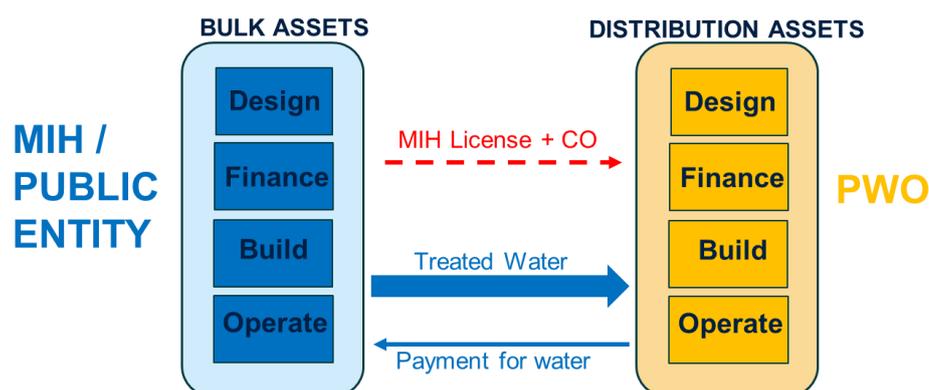
- (a): a role in influencing (i.e., controlling) the quality of bulk water or production facilities; and
- (b): clear identification (to the extent possible) of assets financed through public funds.

The options are described below and presented in Table 5. Each option may potentially be suitable for implementation with any (or a range of) PWO or water supply schemes. The options are differentiated, however, in that the effectiveness of implementation in each case is subject to differing levels of development of aspects of the upstream enabling environment – viz., prevailing trust among parties; understanding of PPPs among stakeholders; policy and regulatory stability; nature of public counterpart; regulatory capacity etc. Factors that may guide the choice of best-fit implementation arrangement are captured in Annex 3. In each case, a bid process is envisaged, to select a PWO to undertake implementation, on the basis of a Detailed Feasibility Report³⁴ (DFR), containing details of the proposed scheme / site(s), preliminary designs and relevant technical specifications for works to be implemented; as well as performance standards for service delivery. Final design of all system components, which would be undertaken by the winning bidder, may be approved by MIH prior to start of construction.

6.1.1. Option 1

This option envisages a public entity fully responsible for design, financing, construction and operations of bulk water production assets; and supplying treated water to site(s) (one or several schemes) in which private sector is responsible for all aspects of distribution assets. The arrangement would be secured through a bulk supply agreement between the public and private agencies, in addition to which both (or all) agencies would be required to obtain licenses³⁵ and CO. It is assumed that the pre-established customer tariff is adequate to enable sustainable distribution operations at agreed service levels. Payment for bulk water supply (which may or may not cover costs) would be contingent on the ability of the tariff to bear the payment, in addition to cost of distribution operations.

Under this option, a sub-option whereby a PWO (distinct from the PWO(s) for the distribution site(s)) operates the production system that has been developed by the public entity may also be considered.



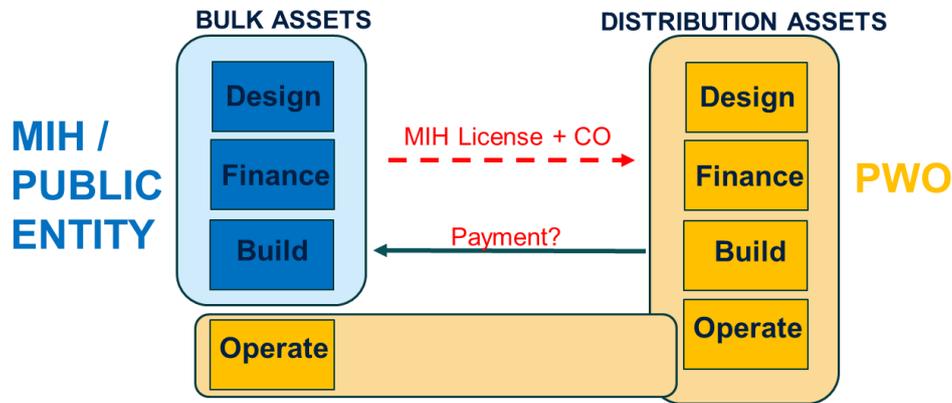
6.1.2. Option 2

Option 2 considers public responsibility for design, financing and construction of bulk water assets, which are made available to a private entity for operations. The private entity is responsible for all aspects (detailed design, finance – including with subsidy if required, construction) of distribution

³⁴ Prepared by MIH

³⁵ In case of private sector, through a bid process

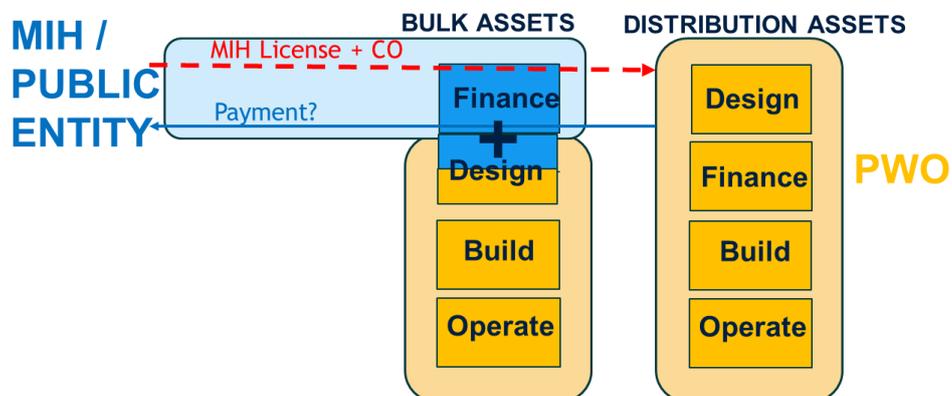
assets; and has end-to-end operational responsibility across the entire water supply value chain. The private entity may also supply bulk water to additional PWOs, at sites that lack access to a water source (assuming adequate source capacity). Ownership of bulk assets rests with the public entity; and the arrangement may be based on a lease agreement between the two parties, with a payment for use of bulk assets, if this is viable within the pre-established customer tariff. The private entity would be required to obtain a license and a CO.



6.1.3. Option 3

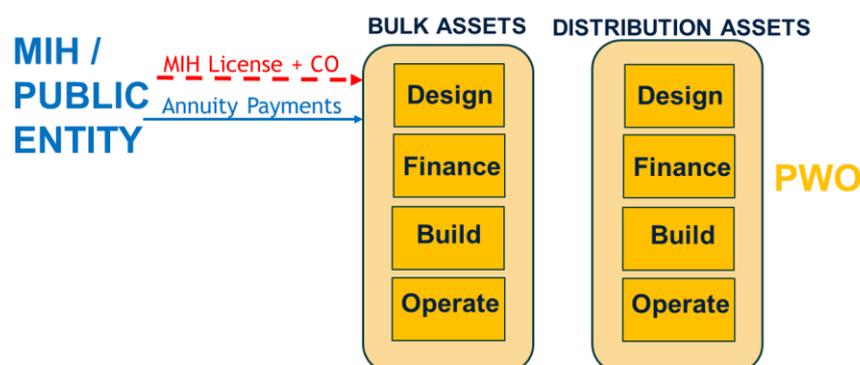
Option 3 incorporates private sector responsibility for detailed design, financing, construction and operation of bulk and distribution assets. A capital subsidy, determined at a pre-established tariff is offered, which fully covers the investment requirement of bulk assets, in order to reduce private investment requirements. Additional subsidy, if required, may partly meet investment costs of distribution assets. Ownership of bulk assets rests with the public entity (which is also assumed to arrange for the land on which bulk assets are located); and are made available to the private entity (or PWO) on the basis of a Design Build Lease (DBL) or Design Build Operate (DBO) agreement.

In this case, the public entity may also provide a more detailed design for bulk assets (source works, water treatment plant, transmission pipeline, if any). The private operator may suggest improvements, if any; and obtain approval of the public entity for the final design prior to start of construction. The private operator would then have end-to-end responsibility for design, construction and operations across the entire water supply value chain; and be required to obtain a license and a CO. There may be a lease payment for the bulk supply facilities if this is feasible or viable within the pre-established customer tariff. Also, the private entity may supply bulk water to additional PWOs, at sites that lack access to a water source (assuming adequate source capacity).



6.1.4. Option 4

Option 4 represents full private sector responsibility for design, financing, construction and operation of the entire water supply system. Government would provide for a subsidy in the form of annuity payments, to ensure financial viability of operations at pre-established tariff and service levels. Detailed design of all assets would be based on preliminary designs provided; and require approval from Government prior to construction. The arrangement would be based on a Design Build Finance Operate Transfer (DBFOT) contract between public and private entities. The private entity (or PWO) would be required to obtain a license and a CO from MIH; and may supply bulk water to additional PWOs, at sites that lack access to a water source (assuming adequate source capacity).



As mentioned earlier, the key difference between the proposed options lies in the allocation of responsibilities for design, finance, build and operations of the production assets. This is illustrated in table 5 below. Characteristics and status of the enabling environment requisite for effective implementation of each option – providing a rough guide to selection of best-fit option – are presented in Annex 3.

Table 5: Options for Allocation of Responsibilities in Water Supply

	Asset distinction	Finance		Design & Build		Operate	
		Public	Private	Public	Private	Public	Private
OPTION 1	Bulk Assets	√		√		√	
	Distribution Assets		√		√		√
OPTION 2	Bulk Assets	√		√			√
	Distribution Assets		√		√		√
OPTION 3	Bulk Assets	√			√		√
	Distribution Assets		√		√		√
OPTION 4	Bulk Assets		√		√		√
	Distribution Assets		√		√		√

6.2. Analysis of Implications of Proposed Options

A first level examination of the implications of the proposed Options is presented in table 6 below. In all Options, the specific public sector entity that will engage in implementation (MIH; or provincial utility, where a utility has been established; or provincial WSS department) is to be determined in further discussions with stakeholders.

Table 6: Implications of Options Considered

	Option 1	Option 2	Option 3	Option 4
Strengths	<ul style="list-style-type: none"> • Clear separation of asset ownership and responsibilities • Simple financing arrangement: no subsidy amount to be estimated 	<ul style="list-style-type: none"> • Integrated private sector operational responsibility, enabling improved operations & optimisation • Public financing support relatively simple to implement • Clear separation of asset ownership 	<ul style="list-style-type: none"> • Integrated private sector Design, Build and Operational responsibility, enabling improved operations & optimisation • Clear separation of asset ownership 	<ul style="list-style-type: none"> • Integrated private sector responsibility, enabling improved operations & optimisation • A similar model is in use in the power sector (prior experience)
Challenges	<ul style="list-style-type: none"> • Optimisation of resources across the value chain is difficult • Disregards private expertise in water production. • Significant bulk supply & tariff risk for private operator 	<ul style="list-style-type: none"> • Risk of “blame game” over design, construction and operations of production system • Increased/ close monitoring (of operations) required by public sector 	<ul style="list-style-type: none"> • Increased / close monitoring (construction & operations required by public sector • Determination & administration of lease amount (if relevant) may be complex • Perception of public funds going into privately managed process / assets 	<ul style="list-style-type: none"> • Increased / close monitoring (construction and operations) required by public sector • Complexity in estimating subsidy amount • Significant payment risk for private operator • Perception of public subsidy going into privately held assets

As indicated above, the progression / transition from Option 1 to Option 4 represents a progressive transfer of responsibilities and risks to private sector. In Options 1 & 2, government retains key responsibilities in upstream functions. Option 2 represents full transfer of operational risks to the private sector – however, without full control over asset development, as a result of which risks relating to asset construction quality (and operability) may remain. Options 3 and Option 4 represent full transfer of development and operational responsibility to private sector; and are differentiated largely by the manner in which the financing risk is allocated: Option 3 envisages a capital subsidy, thus reducing private sector responsibility for raising financing. Option 4 places the entire responsibility for arranging financing for implementation on private sector and represents transfer of substantial risks to the PWO. Aspects of the enabling environment necessary to sustain levels of risk transfer implied by the options are presented in Annex 3.

This is further translated to a preliminary assessment of risk allocation implied in, or represented by, the options, as presented in the table 7 below. It is to be noted that this allocation may be moderated (or risks mitigated) through specific measures put in place by government to support implementation – including conditions of the license and / or contract agreement underpinning implementation.

Table 7: Risk Allocation Implied in Potential Implementation Options

Key Risk	Allocation				Remarks
	Option 1*	Option 2^	Option 3^	Option 4	
Arranging required finance at appropriate terms	Govt & PWO	Govt & PWO	Govt & PWO	PWO	Limited borrowing options; and financing required for proposed clustered projects is large
Time over runs / Delays in construction	PWO	PWO	PWO	PWO	Delays affect PWOs ability to start services/ collect revenues
Operating cost escalation	Govt & PWO	PWO	PWO	PWO	Mitigated by provision for tariff revision at 5-year intervals
Investment Risk	PWO	PWO (& Govt)#	Govt & PWO	PWO	Options 1 & 4 will require securing through robust legal arrangements**
Demand Risk	PWO	PWO	PWO	PWO	Significant since consumption varies seasonally
Revenue Collection Risk	PWO	PWO	PWO	PWO	Mitigated by provision for disconnection
Tariff Risk	PWO	PWO	PWO	PWO	Govt. retains the right to revise tariff “when deemed necessary”
System expansion to meet increased demand for connections	PWO	PWO	PWO	PWO	Revised connection rates are aggressive, but consequences for default are not clear

Notes: *Assuming no payment is made for treated water

^ Assuming no (lease) payment made for use of production facilities

PWO bears risk of construction quality, which may impact downstream investments

**In option 1, the PWO is dependent on an upstream activity undertaken by govt.; in option 4, the PWO is dependent on regular capex annuity repayments

6.3. Proposed Arrangements for Implementation

Adoption of any of the above options for implementation will require to be based on appropriate documented agreements among parties. In the current context, the license is the main document issued by MIH to PWOs. Together with associated *prakas*, it addresses most aspects, procedures, technical and financial conditions relevant to implementation and operations of small-scale PWS schemes. The soon-to-be adopted Water Supply Law is further expected to collate and streamline the various *Prakas* and technical specifications relevant to PWS under a single umbrella law. Its implementation may likely strengthen the form of the license further. The form of the license may thus serve well as the main document establishing the terms of agreement between MIH and PWOs for implementation of PWS schemes on a PPP basis. However, clauses pertaining to select aspects may require strengthening to provide greater comfort to PWOs as well as to enhance performance and monitoring. . These include:

- (a): in relation to technical aspects, provisions relating to (i): water allocation or granting of water abstraction rights, (ii): repair and maintenance of water supply system, (iii): ensuring

accuracy of water meters, both retail and bulk, and (iv): recording and reporting of key performance indicators

(b): in relation to process aspects, provisions relating to: (i): periodic and extra-ordinary revision of tariff (ii): customer engagement and services (feedback; grievance redressal) (iii): liability and compensation for damage to assets caused by third party actions (iv): contract monitoring (v) asset ownership and conditions of transfer (vi) process for termination by government (vii): dispute resolution

Also, in addition to the license, a simple contract document, capturing specific terms and conditions for implementation of the PPP (i.e., DBO, DBL, other); and conditions for disbursement of public financing committed, is proposed to complement the license. These may be articulated through standard contract clauses that identify and address roles and responsibilities among parties to the contract. The clauses may be developed based on pilot PPP projects or past experiences of implementation.

7. Suggested Related Interventions in Financing, Institutional and Regulatory Arrangements

The deepening and scaling up of private sector participation in PWS through PPPs in Cambodia may be further supported through interventions in related areas. A preliminary identification of relevant areas of intervention is presented below. These are suggested for further analysis and discussion with government prior to consideration for implementation.

Access to Finance

As mentioned in Sections 2.3 and 2.5, access to financing at appropriate terms remains a key bottleneck for PWOs. Both the clustering approach proposed, and aggressive connections' target contained in the 20-year license translate into a larger up-front financing requirement over and above the public financing support proposed. In this context, government-backed or donor-initiated arrangements to support financing needs may provide further impetus to PWO appetite and ability to take up implementation. These may include measures to reduce the cost of debt (through guarantee structures); and /or partnering with select lenders to improve the terms of debt (moratorium, flexible repayment aligned with revenue flows). In a related intervention, enabling household access to micro-finance to support meeting initial connection costs may also be an aspect worth looking into.

Enhancing Regulatory Arrangements

As described in Section 3.2, PPP support institutions and policy framework are in place at national level. However, these largely focus on big projects, involving sizeable investments. A relevant framework and process guidelines addressing small-scale PPPs as well as sector specificities may contribute to further facilitating transactions in small water supply projects. Areas of focus may include:

(a): developing guidelines elaborating clear and consistent approaches to stages in the PPP process including tariff setting; bid processes and documents; and contract management. Standard contract clauses specifically addressing the requirements of small-scale PWS projects may also be useful.

(b): clarifying the framework for public financing support to projects, including (i): the threshold for support (ii): method of implementation (preferably grant) (iii): additional support extendable by government for small scale PWS

(c): monitoring of regulatory compliance through a practical approach, which may also provide the basis for forming contracts that are enforceable on the ground

Institutional Alignment and Strengthening

In transitioning to the deeper partnership with private sector implied in PPPs – with consequent implications on accountability – the capacity, role and involvement of public entities at the central and provincial levels may be reviewed for better alignment. Issues related to water supply are typically more effectively addressed locally: while the PPP framework for the water sector has been developed at national or ministerial level, the implementation of the framework is done at the local level. In this respect, decentralisation of select responsibilities to subnational levels may be effective – for e.g., for conduct of IEC campaigns to raise awareness of benefits of piped water supply; for monitoring PWO performance, etc.

Initiatives to support capacity building for PPPs are also required at all levels. In this regard, PPP guidelines may serve as effective tools for government entities as well as the private sector to develop a better understanding of the PPP process and arrangements.

8. Conclusions and Next Steps

While a large proportion of population remains currently without access to water supply, meeting the Government’s objective to provide universal access to water supply by 2025 and to reach SDG goals by 2030 requires more structured private participation in investment in water supply sector, especially in areas where private sector would not be willing or able to bear all risks without public support. The unique situation in Cambodia where private sector has traditionally been active in providing water supply presents opportunity for further enhancing their engagement.

The assessment suggests that the potential for PPP in small-scale water supply systems exists, and possible arrangements to realise the same have been proposed. Considerations influencing the up-take of options have been examined briefly; however, the further applicability of each option in the institutional and capacity context in Cambodia requires deeper assessment. In addition, the following next steps may also be considered to support improvement in effectiveness of PPP implementation:

- Strengthening of policy for water supply and sanitation to establish strategic direction and framework, including related support necessary for mobilizing private sector investment for the water supply sector.
- Assessment of existing arrangements for implementation (license, BOT / BOO / other contract agreements) in relation to appropriateness to operating context and proposed options for PPP, in order to inform drafting of standard contract formats (or provisions) for proposed PPP arrangements.
- Drafting of clauses /format(s) for identified best-fit implementation arrangements, including requisite key provisions, monitoring and oversight arrangements, others. A Guidance Note may be developed with a recommended approach for key aspects (for example, on performance indicators etc.); as well as broad contract formulations for ease of adoption.
- Assessment of options for improving the effectiveness of public sector regulatory and monitoring regimes for water supply, including under identified PPP options.

References

World Bank, 2016. Kingdom of Cambodia. Strengthening Sustainable Water Supply Services through Domestic Private Sector Providers in Cambodia. World Bank Publications.

Menzies, Iain, 2015, Public Private Partnerships – Guidance Note. World Bank, WSP

Royal Government of Cambodia, 2016. Policy Paper on Public-Private Partnerships for Public Investment Project Management, 2016 – 2020.

Jensen, Olivia, 2017. Private Sector Participation in Water Supply in Cambodia

Mahe, Jean Pierre, 2010. "Building Water Utilities with Local Private Entrepreneurs." World Bank Publications.

Investing in Infrastructure, 2017. "Piped Water Business Opportunities: Investment Viability Assessment of Potential Sites in Cambodia"

MIH, GDPWS, 2018. "Overview of the Cambodia Water Sector" Presentation at VietWater, Ho Chi Minh City (shared by Cambodia Water Association)

Cambodia Water Association, 2015 "Benchmarking Report" Presentation at the Cambodian Water Conference and Exhibition, Phnom Penh

GRET, 2016. "What Evolution for the Water Supply Utilities Supported by GRET over the past 15 Years?" Presentation shared by GRET

ADB-AFD, 2012. Assessment of Public Private partnerships in Cambodia, Constraints and Opportunities

Frenoux, C. 2013. Cambodia Country Report - Global Study for the Expansion of Domestic Private Sector Participation in the Water and Sanitation Market – Cambodia. Phnom Penh, Cambodia: unpublished; available upon request from WSP Cambodia.

Ministry of Economy and Finance, Royal Government of Cambodia "Draft Law on Public Private Partnerships" June 2019

Annex 1: Key Elements of Licensing Decree

- It covers all natural persons or legal entities that may be a public enterprise, public-private partnership and a purely private enterprise engaged in the provision of water service, but excludes 18 water service providers with special contracts (such as Design-Build-Lease schemes)
- It sets the term of permits at 20 years for purely private enterprises and unlimited for public enterprises and public-private partnerships.
- It contains procedures for the issuance and replacement of water permits and the issuance of the necessary operating certificates (5 years) allowing licensees to continue operations in case of compliance with the permit conditions.
- In addition to a direct granting process, it contains provision for a competitive granting, where feasibility studies are made available to shortlisted bidders and permit is granted to bidder with lowest tariff.
- It stipulates the necessity to submit a feasibility study with the application, including a systems-and buildout-plan indicating how the area will be served within a five-year period.
- It provides for procedures for public consultation and hearing on license area and tariff issues.
- It includes procedures for requesting expansion licenses covering adjacent communes/service areas.
- A sample permit is included which - among other things – stipulates the obligations to provide customers with basic services and maintain records and reports in format of MIH.
- It provides for Tariff and Fees in the permit and stipulates that MIH shall study the tariff every 5 years for adjustment based on real circumstances.
- It contains procedures for suspension, revocation of licenses including mechanisms to issue warnings in case of non-compliance with the obligations under the license.

Annex 2: Overview of Existing PPP Arrangements in Urban Water Supply

No.	Year of Implementation	Implementing Agency	No.	Nature of Contracts	Contract Term (yrs)	Extent of subsidy /Public Investment	Basis of Award	Oversight Agency	Status
1	2001	GRET (MIREP)	19	12: Build Own Operate* 4: Build Operate Transfer** 2: Management 1: License	BOO: 15 to 30 BOT: 10 Management: 7 License: 20	For projects bid out: 30 percent (cost of WTP); capped at US\$40/connection	9: Negotiated (Brownfield) 10: Bid	Commune & Provincial Authorities	1 failed (sold); 2 sold; All operational
2	Since 1997-98	Provincial Govt	3***	BOT	23 – 40	Not known	Not known	Provincial Authority	Not known
3	End-1990s	MIH	8	BOO, BOT	Not known	Not known	Not known	MIH	Not known
4	2006	MIH (World Bank supported)	10	Design Build Lease (DBL)	15	90 percent	Bid	MIH, through Contract Administration Unit (CAU)****	Operational, 4 well-performed

Note: *On privately owned land, with all investment private;
 ** On public land, with mix of public and private investment
 ***Kampong Speu, Takeo, Banteay Meanchey
 **** the 3-member CAU was disbanded soon after contract award

Annex 3: Factors for Consideration in Selection of PPP Implementation Option

Conditions for Effective Implementation of PPP Option	Option 1 – Govt. entirely responsible for production; PWO entirely responsible distribution*	Option 2 – Govt. Designs, Finances, Builds production assets, PWO entirely responsible* for distribution assets and full system operations	Option 3 – Govt. provides capital subsidy for production assets; PWO entirely responsible* for system design, balance financing, construction and operations	Option 4 – PWO responsible for entire system design construction, financing and operations; Govt. makes annuity payments
Characteristics of Stakeholder Relationships	High degree of trust, demonstrated through prior engagements or collaboration	Good degree of trust, may also be built on transparency and collaboration in design and implementation of specific asset	Reasonable degree of trust – may be strengthened based on implementation oversight mechanisms	High degree of trust and transparency, built through engagement sustained over a reasonable time frame
Desirable Sector / PPP Context	Reasonable level of stakeholder understanding; policy and regulatory stability; and proven working initiatives built upon professionalism	Reasonable level of stakeholder understanding; policy stability and mutual comfort, based upon understanding and respect of counterpart capacity	Reasonable level of stakeholder understanding; policy stability and mutual comfort, based on understanding and respect of counterpart capacity	Fairly well-established and mature, with stable policy and regulatory framework; and record of collaboration
Public Entity Characteristics	Professional, autonomous entity, with good record of operating WS production systems	Professional, collaborative, with strong, recognised capacity in technical aspects	Professional, able to provide direction and guide efforts towards objective	Professional, with good technical understanding
Access to Commercial Finance for PWO	Desirable, but may not be critical – subject to size and characteristics of distribution operations	Desirable, but may not be critical – subject to size and characteristics of distribution operations	Desirable, but may not be critical – subject to size and characteristics of distribution operations	Important, particularly if water source development is difficult (i.e., expensive)

Regulatory Capacity & Autonomy	The arrangement is contingent on well-developed and autonomous regulatory capacity, with proven ability to enforce contract conditions	Reasonable regulatory capacity for adequate and balanced monitoring; and contract enforcement	Reasonable regulatory capacity for mature and balanced monitoring; and contract enforcement	Strong and mature regulatory capacity for monitoring and contract enforcement (incl. through re-balancing payments due, if required)
---	--	---	---	--

*Additional public financing support may be made available, as required, to partly meet investment costs of distribution assets

The progression / transition from Option 1 to Option 4 represents a progressive transfer of responsibilities and risks to private sector. In Options 1 & 2, government retains key responsibilities in upstream functions. Consequently, these are likely to be successful in contexts characterised by a high degree of trust among stakeholders, built upon favourable experiences in prior collaborative engagements - perhaps also demonstrated in sectors other than water. Option 1 also calls for policy and regulatory stability; and is dependent on well-developed and autonomous regulatory capacity, with proven ability to enforce contract conditions – in order to mitigate risks related to access to treated water for private sector.

Option 2 represents full transfer of operational responsibilities to the private sector – however, without full control over asset development. This may be justified in contexts in which public entities have clearly superior technical advantage – in addition to access to resources – particularly with regard to asset design and development. Private sector concerns over asset design may be mitigated through transparency and incorporating feedback in final asset design, which may also enhance trust in the partnership. However, risks relating to asset construction quality may remain. The arrangement assumes reasonably developed regulatory capacity to oversee private operations of publicly developed assets, although private sector interests are aligned with efficient operations and maintenance of assets over most of the operating period.

Options 3 and Option 4 represent full transfer of development and operational responsibility to private sector; and are differentiated largely by the manner in which public financing is made available: Option 3 envisages a capital subsidy, with disbursements linked to construction milestones and quality of works. This facilitates scheduled monitoring of implementation by the concerned public entity. Option 4 proposes implementation of government financing support through annuity payments to moderate the impact of private sector investment on tariffs required to ensure financial sustainability; and represents transfer of substantial risks to the PWO. A greater degree of familiarity with managing PPP arrangements; sound technical understanding and good, experience-based oversight of construction and operations may be required, as well as strong regulatory capacity to re-assess the quantum of annuity payments in relation to change in operating context (demand, change in input costs, other).