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Review of the PPP work since the eighth and final session of the Team of Specialists on PPPs on 20-21 October 2016**Draft UNECE Standard on PPPs in Water and Sanitation**Conference room paper submitted by the secretariat**Summary**

A project team led by Ms. Maya Chamli prepared a draft standard on PPPs in water and sanitation, which the secretariat is circulating as received from the project team leader for information only. The next step is for the draft to go to public review, where stakeholders, including expert networks in the UNECE Environment Division, are encouraged to provide their comments and feedback for consideration and inclusion in a revised version for consideration by the Bureau of the Working Party on PPPs.

The Working Party is requested to take note of the draft standard, which is subject to change. Participants are encouraged to provide comments on the draft directly to the secretariat at: ppp@unece.org.

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Proposed Draft

DRAFT UNECE STANDARD ON PPPs IN WATER AND SANITATION

SOURCE: Water Supply and Sanitation Project Team
ACTION: Interim draft
STATUS: Draft v3

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49 **1. Introduction**

50 Water and sanitation services play an essential role in the sustainability of human settlements of all
51 sizes and at all stages of development. They underpin the economy, public health, education,
52 environment, well-being and much more. In spite of this, these services can be neglected and suffer
53 from lack of investment and political abuse which lead to poor service quality levels. Repeated
54 international efforts to overcome this situation have been met with limited success. While there
55 have been some successes, a very significant proportion of the world's population today still does
56 not benefit from reliable access to water and sanitation services, nor services that comply with the
57 standards or conditions required to satisfy human rights.

58 The dedicated water goal of the UN Sustainable Development Goals aims to change this situation.
59 Success is contingent upon very significant governmental commitment to good governance and
60 organizational capacity and significant increases in finance, innovation, technology and skills in the
61 water sector. These requirements are widely recognized to be beyond the capacity of the public
62 sector on its own however, and engaging the private sector can help fill this gap. The private sector
63 can contribute in several forms, one of the most effective being through Public Private Partnerships
64 (PPPs).

65 Well designed and executed PPPs, which are supported by sound institutional structures and both
66 public and private parties who are actively engaged and invested in the outcomes, can deliver very
67 significant improvement and extension of services to water users. Examples from around the globe
68 include the East Manila concession where access to continuous potable water supply increased from
69 26% to 98% and the Senegal affermage where the access ratio went up from 58% to 76% and is now
70 considered as a model of public-private partnership in sub-Saharan Africa. Further examples are
71 available in Annex VII.

72 This standard provides guidance on best practices for policy makers – in both local and national
73 governments – who are interested in developing PPPs in water and sanitation services to fulfil their
74 responsibilities. Drawing on empirical evidence, it provides standard guidance and a model on how to
75 use the PPP option to combine the financial, intellectual, and technological resources of the public
76 and private sectors for the delivery of water and wastewater services. Among other guidance, it
77 addresses:

- 78 • Overarching issues relative to water and sanitation PPPs
- 79 • Institutional framework required for success in water and sanitation PPPs
- 80 • Alternative models of water and sanitation PPPs tailored to different situations
- 81 • Questions to consider in the selection of the appropriate model
- 82 • Managing a water and sanitation PPP project through the typical steps of a project lifecycle
- 83 • Financing for water and sanitation PPPs.
- 84 • Risk management for water and sanitation PPPs.
- 85

86 **2. Objectives of the standard**

87 **2.1. The agenda for water and sanitation services**

88 Universal access to safe water, sanitation and hygiene services is a long-standing development goal
89 enshrined in the New Delhi Statement of 1990 and the UN General Assembly and Human Rights
90 Council resolutions on the Human Rights to Safe Drinking Water and Sanitation (HRTWS) of 2010.

91 In 2015, the United Nations continued committing to these goals and adopted its Post-2015
92 Sustainable Development Goals, including goal n°6 dedicated to water and sanitation, as part of the
93 development agenda to end extreme poverty by 2030. These SDGs are applicable to all countries

94 irrespective of the level of development, and this is particularly true of water and sanitation. While
95 connecting users to these services for the first time is the main challenge in developing countries, in
96 many developed countries urgent attention is required to attract infrastructure financing and
97 improved operational practices and efficiency in order to bring water supply and sanitation to all.

98 **2.2. PPPs linking public and private efforts**

99 PPPs in water and sanitation provide governments with the opportunity to bundle infrastructure
100 creation and/or rehabilitation with related service delivery that leverages private sector efficiencies.
101 This can free Governments from the burden of daily operations and maintenance of water and
102 sanitation facilities and allow them to focus on contract administration and monitoring, setting and
103 supervising water policy and planning, overseeing cost management, and overall service quality and
104 impact. Indeed, in some respects PPPs are no more than a natural extension of a “traditional” public
105 procurement contract where certain finance and management elements are added to the traditional
106 water and wastewater activities of capital works, supply of pipes and other goods and services, which
107 have been routinely provided by private entities. As such, PPP contracts when compared to the
108 traditional approach allow the transfer of some risks to the private sector and have a long and
109 proven history in some countries such as in France where most municipalities delegate the provision
110 of water and sanitation services to private companies (two thirds of French citizens receive their
111 water from private companies) and where concessions were invented in the nineteenth century.

112

113 **3. Scope of the standard**

114 In light of the various PPP models and structures (Chapter 4), this standard is designed to assist
115 governments who decide to pursue PPPs as a method of water and sanitation service delivery. The
116 standard will specifically assist governments in choosing the appropriate PPP model and addressing
117 important elements that impact the success of these arrangements, such as operational and financial
118 sustainability, reliability of baseline data and contract flexibility, institutional and social support, key
119 legal and regulatory issues, willingness and ability to charge and pay tariffs and/or taxes, among
120 others.

121 This standard builds on the practical experience of PPPs in water and sanitation and their recent
122 evolution to formulate the model favoring the fulfillment of people first objectives.

123 For purposes of this standard, a Public-Private Partnership is defined as, *“a contractual agreement*
124 *between a responsible public authority and a private sector operator for the development,*
125 *redevelopment and/or operational management by the private sector, including often a staffing*
126 *component, that provides a public service to the community, under the oversight and ultimate control*
127 *of the governmental entity responsible for the delivery of that service. The assets may be financed by*
128 *the private sector or the public sector or jointly”*. In some PPP models, the asset ownership is
129 transferred back to the Public Sector owner upon completion of the PPP.

130

131 **4. Central Question**

132 Pressure for the efficient performance of water supply and sanitation has reached unprecedented
133 levels. Driven by urbanization, scarcity of resources, and necessary health and environmental
134 protections, governments struggle to ensure access to water and sanitation for all. Yet the challenge
135 persists and the UN Sustainable Development Goals, and in particular Goal no. 6, calls on
136 governments to achieve access to water and sanitation for all, and has eight specific targets, the first
137 three being noteworthy here:

- 138 • 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water;

139 • 6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end
140 open defecation, paying special attention to the needs of women and girls and those in vulnerable
141 situations; and

142 • 6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and
143 minimizing release of hazardous chemicals and materials, halving the proportion of untreated
144 wastewater and at least doubling recycling and safe reuse globally.

145 Ensuring access to water and sanitation for all is not an isolated goal as a dynamic two-way
146 interdependence exists between the water and sanitation targets and all other Post-2015 Sustainable
147 Development Goals and most of these interlinkages are mutually reinforcing¹. To meet these
148 targets, or optimize and maintain water and sanitation where these targets have been partially
149 achieved, will require significant commitment from governments. Historically, however, public
150 utilities have generated less than half the money required for investment from their own operations
151 and have been dependent on treasury transfers. With public finances under pressure as never
152 before, the goals are unlikely to be met, the current approach to delivery of water and sanitation will
153 remain unsustainable, and systems will face further degradation and falling levels of service.

154 These financial constraints, together with the need to improve the performance of services rapidly,
155 are driving the shift to alternative modes of delivery which acknowledge that water services must be
156 managed as economic as well as social and environmental services, using sustainable economics to
157 meet the costs of extraction, treatment, distribution and maintenance. This warrants the
158 investigation into the potential benefits of greater private participation in the water supply and
159 sanitation sector, under due control by public authorities.

160
161 While the UN Right to Water and sanitation is neutral towards the delivery mode, provided
162 Governments remain accountable and aim for project sustainability, the importance of Public-Private
163 Partnerships is recognized as a tool to deliver against the ambitious SDGs' targets. As Target 17.17 of
164 the SDGs explicitly states: "Encourage and promote effective public, public-private and civil society
165 partnerships, building on the experience and resourcing strategies of partnerships". They are also
166 highlighted in the Addis Ababa Action Agenda of the Third International Conference on Financing for
167 Development, which forms an integral part of the 2030 Sustainable Development Agenda.

168 As such, Public-Private-Partnerships in the water and sanitation sector build on the private sector's
169 efficiency and expertise to strengthen the public utilities' capability and financial viability. However,
170 as governments choose to tap into the private sector's technical expertise, operational efficiency,
171 and financing capacity, they must acknowledge their ultimate accountability and be vigilant in
172 safeguarding the public interest in universal access to water and sanitation. As such, it would be the
173 government's responsibility to respect a fair rate of return on investments in capital or workforce for
174 the private partner, yet, regulate associated profits and performance and proactively raise public
175 awareness of the issues at stake.

176 **4.1. Project Types and Examples**

177 There are a significant number of potential project types and examples that have been used to create
178 water and sanitation partnerships between public authorities and the private sector. These range
179 from the outsourcing of service contracts to complex project finance structures. Each is associated
180 with, and defined by, a particular set of objectives, allocation of responsibilities and risks and should
181 be closely scrutinized by governments in order to understand their benefits and limitations.

¹ UN-Water, 2016: *Water and Sanitation Interlinkages across the 2030 Agenda for Sustainable Development*. Geneva

182 Some of the most common PPP contracting approaches are the following:

183 - For existing systems and assets, the most common project types are:

184 • Management contracts are contracts through which a private entity undertakes the
185 operation, management and maintenance of a water asset and service, including the
186 associated workforce, for a fee, which is commonly linked to performance. The assets are
187 publicly financed and owned, though the private entity could bear the cost of routine
188 replacement of small, low value parts of equipment.

189 In water short countries, acute water scarcity drives the cost of water supply very high. In
190 order to boost the efficiency of the water and sanitation system, the government can initiate
191 sector reform by entering into a management contract, which targets reducing the level of
192 unaccounted for water and improving the operation and maintenance of the system.
193

194 • Affermage contracts are contracts through which the service in its entirety is transferred to
195 the private entity including the financial risk for operation and maintenance. The operator's
196 remuneration consists of its affermage fee (*prix du fermier*²) multiplied by the volume of
197 water produced or sold, and is retained by the private entity out of the revenues collected
198 from users while the balance is transferred to the public entity to cover its investment
199 commitments. The operator is in this case is not only assuming some commercial risk since it
200 remuneration depends on the volume of water sold but is also bearing the risk of delayed or
201 non-payment by the government for any arising shortfall, in case the tariff falls below the
202 affermage fee. While capital investments are publicly financed and the assets are publicly
203 owned, the private entity undertakes financing and implementing maintenance,
204 rehabilitation and new works (non-fixed assets, meters, domestic connections).

205 Affermage type contracts have improved operational efficiency in countries where access to
206 safe supply of piped water was limited to half of the urban population and where water
207 supply was intermittent and of poor quality. Private financing of new connections and
208 contributing to repair and maintenance investments was key in decreasing the levels of
209 unaccounted for water and improving revenue collection. (*Senegal affermage contract*)
210

211 • Lease contracts are similar to affermage contracts in terms of scope. However, greater
212 commercial risk is assumed by the private entity whose remuneration is based on cost-plus
213 and is deducted from the revenues collected from the users. The private entity also pays a
214 lease fee to the public entity for leasing its infrastructure, which contributes to financing
215 capital investments and debt service. The assets are publicly financed and owned while the
216 cost of maintenance and some replacement is borne by the private entity.

217 Unlike affermage contracts, lease contracts are awarded based on highest "lease fee" bid
218 and heavily depend on the customer tariff level and its adjustment rules as these
219 substantially influence the private entity's remuneration.

220 Where successfully implemented, lease contracts have improved water supply duration and
221 quality, metering and collection efficiency, as well as energy efficiency in instances where
222 the energy cost constitutes a major O&M cost center. When tariff programs resulting from
223 the bids are within government expected range, leases do not entail major financial
224 implications on treasury and have even allowed for phasing out of subsidies in some cases.
225 (*Yerevan Djur lease contract*).
226

227 • Concessions are arrangements where the private entity assumes the overall responsibility
228 for the services (operation, maintenance, management, collection) and capital investments

² The affermage incentivizes operational efficiency by awarding the contract to the lowest bidder.

229 for the expansion of services (including rehabilitation and replacement). Its remuneration
230 consists of the revenues collected from the users after deduction of a concession fee to be
231 paid to the public entity and may be ring fenced for large asset replacement. The assets
232 purchased by the concessionaire are privately financed and all rights to them revert back to
233 the public entity at the end of the concession. Private financing of investments constitutes
234 the main incentive for governments to resort to this scheme of private sector participation.
235 Concessions could be awarded on a regional (non-nation or capital wide) level, through a
236 simultaneous approach (*Manila concession*) to create competition and performance
237 comparison basis and diversify the risk in case the concessionaire fails to deliver, or in a
238 phased approach (*Casablanca concession*) to pave the way for other regional concessions.
239 *Results:* Concessions have succeeded in improving the quality of customer services and
240 boosting network efficiency in countries where the supply system was obsolete and
241 investments were poorly managed by a highly indebted public operator. On the sanitation
242 front, concessions have succeeded in reducing flood risks and expand sanitation service
243 coverage.

244

245 - For new assets, the two most common PPP contracting approaches are:

246

247 • Design-Build-Operate (DBO) are contracts where the private entity undertakes to design,
248 build, maintain and operate a new facility, for an annual service fee - that is usually
249 comprised of a fixed component , a variable component (based on cubic meter delivered)
250 and pass through charges - paid by the public entity. The assets are publicly financed and
251 owned: the private entity is responsible for financing during construction and gets paid once
252 the construction is completed without retaining any equity stake in the facility. DBOs
253 transfer most of the operating risk to the private entity, including the risk of on budget
254 operation and maintenance expenditures, against a fixed annual service fee. The demand
255 risk can be borne by the public entity through guaranteeing the purchase of a minimum
256 amount of water regardless whether end user demand exists for it or not. Such guarantee
257 requires forecasting prior to contract signature based on assumptions on population growth
258 and water demand growth. In some cases (Lake Pleasant water treatment plant in Phoenix,
259 AZ), DBO contracts have been renegotiated after few years of operations proved that
260 demand levels were significantly below expectations: lower water volumes were guaranteed
261 by the public entity and resulted in annual cost savings. This highlights the importance of
262 projecting consumer demand and the potential financial implications of demand risk in DBO
263 contracts.

264 The DBO arrangement streamlines the traditional Design-Build (DB) method by combining
265 the construction and the operation and maintenance (including repairs and replacements) of
266 the new facility into a single contract, ensuring as such an operator-driven design with
267 significant attention to project operability. This would boost efficiency through technological
268 innovation and improves risk management through performance guarantees, all resulting
269 project lifecycle cost savings which translate into end-user savings.

270

271 • Build-Operate-Transfer (BOT) ³ are contracts where the private entity undertakes to finance,
272 build, operate and maintain a new facility and transfer it back to the public entity at the end
273 of the contract. The revenues generated from the operation phase are intended to cover

³ Variations on the BOT structure include BOOT (Build-Own-Operate-Transfer), BOO (Build-Own-Operate), DBOOM (Design-Build-Own-Operate-Maintain), DBFO (Design-Build-Finance-Operate) and more, and for purposes of this document, all these variations will generically be referred to as BOT.

274 operating costs, maintenance, repayment of debt principal, financing costs and a return for
275 the shareholders of the SPV created for the project. (*Samra wastewater treatment plant in*
276 *Jordan & Cairo wastewater treatment plant*)

277 The different aspects of the project types are further compared and identified in Annex I part 1-7 and
278 additional information on the reviewed case study examples can be found in Annex VII.

279 **4.2. Advantages and disadvantages of PPPs in water supply and sanitation**

280 Private financing can be one of the main attractions of PPPs, however, given that the water sector is
281 capital intensive in nature and characterized by high fixed long term investments and low returns, full
282 cost recovery is challenging through tariffs. Such specificity of the sector makes efficiency gains,
283 improved service quality and compliance brought about by the private sector's management systems
284 and innovative technologies and techniques the main attractive aspect for PPPs in water and
285 sanitation.

286 Many of the advantages of PPP arrangements over traditionally procured projects apply in the water
287 and sanitation sector:

- 288 • Risk reduction in cost and time overruns in civil construction and equipment specifications and
289 deliveries;
- 290 • Faster achievement of performance targets due to specialized experience;
- 291 • Higher incentives of boosting operational efficiency to optimize both capital and operational
292 expenditures, hence improving productivity and results;
- 293 • Better performance in reducing non-receivables and average collection period due to
294 management focus on results and the bottom line;
- 295 • Improved system longevity and insulation of projects and service provision from unexpected
296 changes through long term management approaches;
- 297 • Channeling of the public sector's resources to focus on the legislative and regulatory
298 environment and contract supervision and monitoring;
- 299 • Increased transparency as private companies providing water and sanitation through PPPs face a
300 very high level of public scrutiny, as they must answer to the government entities, to various
301 regulators, auditors and committees, to public opinion and media. ⁴

302 Disadvantages to PPPs in water and sanitation include:

- 303 • Opposition from stakeholders and be politically controversial. Causes of this include, (i) purely
304 political opposition to the government attempting to implement a PPP policy, (ii) economic
305 motives of some stakeholders, (iii) lack of public awareness of the investment needs and actual
306 costs of water services (linked with a fear of tariff increases, attributed rightly or wrongly to
307 private sector participation), and (iv) ongoing perceptions of "free water" and water as a human
308 right that is to be provided without a direct cost.
- 309 • Communication with stakeholders can be challenging: employees affected, the community
310 receiving the service, the media, appropriate labor unions and relevant interest groups, may
311 formulate opposition.

⁴ In France, the Loi Barnier of 1995 requires water utilities to submit comprehensive data on their performance to their municipal owners.

312 **4.3. PPPs Meeting People First Objectives – Replicability, Scalability, Equity, Efficiency,**
313 **Sustainability Effectiveness Demonstrated**

314 People first PPPs in the water and sanitation are arrangements which achieve people first objectives -
315 - that is providing universal and equitable access to safe and affordable drinking water and sanitation
316 services, with special attention to vulnerable groups.

317 The water and sanitation sector in low and middle income countries share common constraints and
318 characteristics such as fragile financial situation, weak regulatory environment, inadequate access to
319 service, intermittent supply and poor quality, prevalent customer dissatisfaction, low collection rates,
320 low non-cost recovering tariffs and limited baseline data. Involving the private sector through a PPP
321 arrangement too soon and too quickly in such environments poses a high risk of failure in meeting
322 people first objectives and could potentially create a backlash and strong public resistance which has
323 been shown to lead to contracts being terminated early and/or tainting PPPs in the sector with such
324 monikers as “leasing the rain”⁵. In light of these realities, a sequential approach to private sector
325 participation is recommended, starting with a “private sector - light” arrangement and building on its
326 success to move towards deeper partnership involving higher risk transfer to the private sector.

327 Such stepwise development of PPP in the water and sanitation sector can be initiated through a short
328 term management contract of high flexibility (allowing for example a reversion to public
329 management if necessary), which aims at improving the functioning of the public utility. Direct
330 operation and transfer of managerial and technical know-how through hands-on training would ease
331 an institutional upgrade and improve the utility’s efficiency. Such efficiency gains would potentially
332 translate into better quality and more responsive service, which can positively impact the consumers’
333 willingness to pay for such improved services and allow the general public to experience and weigh
334 the advantages of PPP without any long term commitment. In addition, the fact that the government
335 maintains asset ownership and control over tariffs can ease fears and the common misconceptions of
336 a ‘loss of sovereignty’ or ‘selling water resources to foreign private companies’.

337 The management contract could be performance based and include financial incentives for the
338 private entity to meet priority performance targets of financial and technical efficiency.

339 A trade-off exists between the contract duration and the probability of meeting performance targets:
340 while short term contracts (e.g. 3 – 4 years) are more accepted by the general public and perceived
341 as less committing, experience has shown that, in a relatively weak environment, significant
342 improvements to water systems and service requires time, and as much as 6 or more years to be
343 achieved. As a result, the management contract can include a clause allowing for extension, upon the
344 government’s request, in case further improvement is deemed possible under its scheme.

345 Alternatively, upon contract expiry, and based on the amount and quality of information collected
346 through the term of the management contract regarding the parameters and performance of the
347 utility, the government can seek longer term, a greater degree of private sector participation which
348 transfers more risks to the private entity. The public’s perception of the success of the management
349 contract and its trust in the capacity of the private sector to improve the level and quality of service
350 should be taken into consideration in the government’s decision to pursue a more pronounced
351 partnership with the private sector. Public trust is primordial for the success of PPP contracts in
352 socially sensitive sectors such as water and sanitation, as it paves the way for the acceptance of
353 unpopular but often times necessary measures of universal metering and tariff increases.

⁵ Cochabamba Concession

354 On the private sector's side, its willingness to assume greater risks in its operations depends on the
355 performance and efficiency of the utility. Improvements achieved under the management contract
356 would make the utility more attractive for the private sector to take on additional commercial risk, a
357 scheme which by its very nature creates further financial incentives to improve performance.

358 Moving from a management contract to a concession scheme - which relies on private financing of
359 investments based on tariff revenues - is particularly difficult for water and sanitation challenged
360 countries. Often these countries require massive investments and yet the tariff level typically falls
361 short of the recovery needed to meet even the operation and maintenance costs, let alone capital
362 investments. As such, public financing of capital investments will remain necessary for many of these
363 countries as the financial conditions required for project financing will hamper raising private equity
364 and commercial debt. As a result, once the management contract comes to term, affermage or lease
365 arrangements, which combine public financing with private efficiency, emerge as perhaps the next
366 most suitable scheme for low and middle income countries.

367 These jurisdictions often have inadequate regulatory capacity, so affermage arrangements which are
368 regulated by contract and focus on reaching performance targets should be preferred to lease
369 arrangements. This is particularly true when affermage contracts are compared lease arrangements
370 in which the private entity collects tariff revenues for its own account and directly deducts its
371 operations and maintenance expenditures before remitting the operational surplus to the public
372 entity. Such lease arrangements require meticulous monitoring of operational expenditures by an
373 established and empowered regulatory authority with a significant amount of contract management
374 capacity.

375 In light of people first objectives, the affermage contract type is more a suited tool than the lease
376 type in achieving them, particularly in terms of affordability and equitable access. In a lease
377 arrangement, the lessee's profitability is highly correlated with the customer's tariff level and often
378 times requires a tariff program beyond the affordability threshold of 3% of household income. In
379 contrast, affermage contracts rely on an affermage fee which is paid by the public partner and is
380 independent of the customer's tariff level. This focuses the private partner's profitability on
381 minimizing costs, which in turn creates an incentive to maximize operational efficiency. In addition,
382 efficient water use is more emphasized in affermage contracts, where performance targets are
383 structured according to water production, than in lease contracts which incentivize water sales and
384 hence water use.

385 In terms of equitable access, lease schemes by their very nature dis-incentivize the lessee to provide
386 service to customers billed at low – often below cost – subsidized tariffs, as this reduces its sales
387 revenues and profitability. As such, price differentiation by consumer income class can incentivize
388 the lessee to concentrate on high revenue market segments, thereby further discriminating against
389 the poor. Affermage contracts, by contrast, are blind to social classes as the private entity's
390 remuneration is a function of the volume of water produced and operates somewhat independent of
391 the end user tariff.

392 In light of the conditions characterizing the water and sanitation sector, either by its intrinsic nature
393 or due to constraints resulting the precarious conditions prevalent in low and middle income
394 countries, the sequential approach of a short term management contract, followed by an affermage
395 contract seems to be the most appropriate approach to meeting people first objectives of the SDGs
396 in water and sanitation. However, the selection of a particular PPP model and the development of a
397 structure to underpin it should be based on the specific needs of the government entity in charge of
398 delivering a public service, and of the community receiving the service.

399 Annex II proposes a decision tree for the selection of a PPP model which best addresses the
400 challenges faced by the water and wastewater services, whether these challenges are operational by
401 nature and / or related to capital investments, and depending on the financial and tariff constraints.

402 As such the assumed conditions of difficult initial conditions (poor service quality coupled with
403 unqualified utility staff) combined with the non-bankability of a privately financed PPP arrangement,
404 has led to the selection of a management contract as an initial step in involving the private sector
405 and followed by an affermage type of contract once service levels have improved. In some instances
406 (*Senegal*), the water utility is well run from a technical point view and allows engaging directly in the
407 more advanced PPP arrangement of affermage. It is worthwhile to note that PPP schemes lie on a
408 continuous spectrum of contract types, and therefore, in practice tailored or hybrid solutions can be
409 developed to match a government's preferred approach of risk and responsibility allocation.
410 Examples of customized risk-sharing arrangements are possible include the "lease-plus" model,
411 whereby some responsibility for investment is transferred to the private partner: in this case, the
412 private partner could fund the extension of service coverage to poor areas or peri-urban
413 neighborhoods, while the contracting authority retains responsibility for other investments.

414 Another example consists of an innovative affermage arrangements which would incorporate targets
415 for technical and collection efficiency in the private sector's remuneration formula, penalizing as
416 such failure to attain the targets and rewarding outperformance. These targets would provide strong
417 financial incentives to reduce leakage and improve billing and collection, incentives which otherwise
418 do not exist in traditional affermage contracts. (*Senegal affermage contract*)

419 The government should nevertheless seek qualified advice, especially if they wish to modify the
420 standard model, expert transactional, finance, and legal advice will be required to tailor the
421 approaches to their needs (see Section 5.3 hereafter). Annex III provides more detailed insight on the
422 respective advantages of each type of PPP regarding (1) water and/or sanitation expansion, (2) cost
423 of service and impacts on tariffs, (3) quality of service and (4) operational efficiency.

424 **5. Delivering the model in water supply and sanitation**

425 **5.1. Project selection / Baseline requirements for private interest**

426 Project identification and selection will depend on the type of challenges faced by the utility and the
427 need which the public entity is trying to address through PPP (Decision tree in Annex II). While there
428 is no optimal dimension for a project, a minimum size remains required to achieve sustainability and
429 attract private sector. Projects that are too small or economically unfeasible should be merged with
430 larger ones, even if the distance between them, geographically, is considerable. By the same logic,
431 several cities and small settlements (in regions, provinces, or districts) can be merged into a bigger
432 project.

433 Although water distribution's costs are often directly proportional to dimension, larger projects
434 generate larger economies of scale, risk mitigation and lower tariffs. However, in heavily populated
435 areas, it may be advisable to split the projects in two or more PPPs in order to reduce risk and
436 increase competitiveness and emulation between operators.

437 In water and sanitation, as in any other sector, the private sector's interest depends the credibility
438 and transparency of the bidding process undertaken to award the PPP contract. Countries where
439 international competitive bidding was adopted and professionalism was upheld (Yerevan and
440 Senegal) have witnessed smooth closing of transactions, while contracts awarded after the bid
441 submission deadline to unsolicited unqualified and inexperienced companies have failed dramatically
442 (Cochabamba).

443 The private sector's interest also depends on the sustainability of the project, in terms of operations
444 and financial performance. For such sustainability to exist in a water and sanitation project,
445 significant effort is required from the government side prior to tendering any project given the
446 sensitivity of the sector.

447 **4.1.1 Sustainability of Operations**

448 The sustainability of operations requires the buy-in of all stakeholders, be it end users, existing
449 employees or labor unions or the informal water providers as well as other government stakeholders
450 such as the departments of health and environment. Stakeholder engagement and communication is
451 imperative and should take place prior to tendering any PPP project in the water and sanitation
452 sector, where private sector participation can easily be perceived as a hostile takeover of natural
453 resources and local jobs by foreigners. Therefore, the very first step would be the identification of
454 stakeholders and anticipating their reaction to address their concerns prior to launching the tender.

455 4.1.1.a Public Perception

456 Public perception is the cornerstone for the success of any PPP project, and more so, for a water and
457 sanitation PPP project given ongoing perceptions of “free water” as a human right and association of
458 private sector participation with tariff hikes. The government can start laying the foundation for the
459 need of private sector participation by raising awareness on the existing quality of service (*Manila*
460 *where the water crisis was announced by the President*), which the end users might be oblivious to it
461 and its consequences on their health. The effectiveness of such awareness campaign and its
462 credibility in terms of the PPP proposed solution depends on the level of trust in the authority
463 delivering the message. A such, prior success in stabilizing the economy (*Buenos Aires*) or a prior
464 successful PPP transaction (*power sector in Manila*) would instill some trust in the public authority
465 and would lead to a supportive environment and a favorable public opinion. Public consultation
466 through opinion polls undertaken at different times throughout the project preparation stage would
467 help the government monitor public perception and its evolution into project tendering (*Buenos*
468 *Aires*) and would allow it to take required remedial actions before opposition spirals out of control.
469 Tainted public perception and ensuing social opposition have been the driving force behind the most
470 notable failures of water and sanitation PPPs, especially when actions were undertaken without prior
471 awareness campaigns or justification, and went as far as being perceived as private ownership of
472 water resources (*Cochabamba*).

473 4.1.1.b Existing Employees

474 The general public or the end users are not the only stakeholders whose buy-in would contribute to
475 the sustainability of private operations. The utility’s existing employees, who would be concerned
476 about their future, can create resistance and impede a smooth start for the private entity
477 jeopardizing as such the success of any PPP arrangement. As such, governments should manage
478 existing employees’ issue proactively, prior to tendering the project or by contract design, to bring
479 comfort to the private entity regarding the viability of its operations for the contract term.

480 Given that utilities are typically overstaffed, the public entity can prepare for the PPP project by
481 offering generous compensation packages for voluntary early retirement (*Manila concession and*
482 *Buenos Aires*). The government should also adopt a participatory approach and involve the
483 employees or the labor union in consultations (*Buenos Aires and Manila*) and capacity building
484 events (*Senegal*), in order to build understanding and consensus on the institutional structure and
485 reach an agreement on all open issues. Such consultations could culminate in arrangements such as
486 shareholding rights for the existing employees in the new company (*10% of the shares in Buenos*
487 *Aires and 5% in Senegal were allocated to existing employees*). Overcoming the labor union’s
488 opposition can take a more extensive approach, by involving their leader in the decision making
489 process as a member of the PPP committee (*Buenos Aires*) or by arranging meetings with labor
490 unions of other countries where PPP arrangements have been undertaken (*Manila labor union*
491 *consulting with Buenos Aires*).

492 Alternatively, and to ensure expertise continuity beyond the contract term, the government can
493 require the private operator to commit to retain a good majority of the current staff or fully transfer
494 them to the operating company (*Yerevan*), or even offer employment and maintain their legitimate
495 benefits, which might be more problematic in case of overstaffed utility (*Casablanca water and*

496 *wastewater*) than in the case of a normally staffed and technically well run utility (*Senegal*). Such
497 contract obligations, though they create additional burden for the private entity and could be built
498 into its financial proposal, would help ensure smooth project launch and avoid employee resistance.

499 **4.1.1.c Informal Water Providers**

500 Informal water providers thrive in low and middle income countries where public provision of the
501 service is inadequate or involves high time and waiting costs. More often than not, and due to the
502 lack of a proper regulatory framework, water is sold at a premium. As such, informal water suppliers
503 would perceive private operations as a major threat to their profitability and existence. At the same
504 time, the private sector will perceive these established providers as competitors, especially that in
505 some cases they could be supported by local elites who use them for clientelism (*Tripoli*). Such
506 circumstances would negatively impact private sector interest and should be managed early on prior
507 to tender launch during the public consultation phase.

508 **4.1.2 Financial Sustainability**

509 Financial sustainability of any PPP arrangement is vital for private sector interest, especially in the
510 water and sanitation sector where full cost recovery through tariffs is difficult to achieve given its
511 capital intensive nature which is characterized by high fixed long term investments and low returns.
512 As such, the arising funding gap, should be bridged through government subsidies in concessive
513 arrangements and through public funding of capital expenditures in non-concessive arrangements.
514 The government's ability to fund such gap, or in other words the affordability of the PPP
515 arrangement for the government, and its willingness to assume such financial burden, are major
516 indicators for the private sector to assess the sustainability of the PPP arrangement and its
517 attractiveness.

518 Financial sustainability is especially emphasized in concessive arrangement which transfer the
519 demand risk to the private sector, whereby private sector interest would heavily depend on the
520 government's commitment to implement agreed upon tariff structures and tariff hikes and to
521 contribute through subsidies that promote "social tariffs" which would strike a balance between
522 social acceptance and a fair rate of return for the private sector.

523 In addition, the involvement and support of multilateral organizations, whether through the
524 provision of advisory services (*Manila*) or through mobilization of financing (*Buenos Aires*) has also
525 proved to send a positive signal and attract bidders, while withdrawal of multilateral support has had
526 dire repercussions on private sector interest (*Cochabamba*).

527 **4.1.3 Reliability of baseline data and contract flexibility**

528 Baseline information about the existing service levels is essential for private bidders as it forms the
529 basis for preparing their proposals. Sufficient and reliable financial and management data about the
530 utility should be available at the bid preparation stage to help the bidders assess the feasibility of
531 achieving performance targets and hence, evaluate the attractiveness of the project.

532 Many governments have fall into the trap of setting overambitious performance targets, either due
533 to unreliable baseline information or to promote the PPP project among the general public.

534 While requiring ambitious performance targets such as continuous service by the 2nd year
535 (*Cochabamba*) or treatment of 93% of wastewater up from almost no treatment (*Buenos Aires*) could
536 help build private sector acceptance among the end users, failure to meet them can weaken political
537 and public support for otherwise credibly performing private operators. Therefore, governments
538 should set realistic objectives for the scale and pace of the improvements and should set
539 accordingly achievable target indicators to attract private sector interest.

540 Performance targets could also prove to be overly optimistic during contract execution due to
541 inaccurate baseline information or unexpected exogenous factors (*Manila*) or unrealistic
542 assumptions (*Lake Pleasant*), and will require adjustment. While undertaking an upfront network
543 assessment prior to launching the tender could improve the reliability of baseline values and help in
544 setting realistic performance targets, governments should still structure some level of flexibility in
545 PPP contracts to allow adapting performance targets to new findings. Such adjustment of
546 performance targets should be limited to the case where they were based on inaccurate baseline
547 information or unrealistic government assumptions or in the case of unexpected exogenous factors,
548 all of which are beyond the control of the private sector and render set performance targets
549 unrealizable. Limiting contract amendment to these cases is crucial to avoid very attractive bids
550 based on the anticipation of contract renegotiation (*Buenos Aires and Manila*).

551 While a major shift to using Key Performance Indicators (see Annex VI) have been witnessed in recent
552 years in water and sanitation PPP contracting for tighter and more transparent control by public
553 entities, these should be limited in number to essential ones in order to facilitate monitoring and
554 contract management.

555 **5.2. Financing models**

556 A unique cost structure characterizes the water and sanitation sector, where fixed costs account for a
557 high proportion of the total costs averaging respectively 65% and 80%. Being highly capital intensive,
558 the sector cannot recover its costs based on the economically efficient marginal cost pricing which
559 lags behind the average cost with higher production levels. Another distinguishing trait of the water
560 and sanitation sector consists of the long asset life which reaches 40 years for water infrastructure
561 and 60 years for sewerage facilities. These characteristics make the water and sanitation sector
562 vulnerable to non-cost recovering pricing and deferral of capital investments, especially that the
563 resulting deterioration of the assets is slow and gradual and hence does not threaten the service
564 continuity on one hand, and maintaining untargeted price subsidies is politically tempting on the
565 other hand.

566 Full cost recovery from tariffs would theoretically emerge as an optimal solution from a sustainable
567 business perspective. However, in low and middle income countries, the substantial level of
568 investments needed to achieve people first objectives of universal and equitable access to safe
569 drinking water and sanitation services, coupled with the social dimension of tariff affordability,
570 create a financing gap that should be bridged by tax and transfers revenues.

571 As such and independently of private sector participation, cost recovery in the water and sanitation
572 sector depends on the sufficiency and reliability of revenues generated from taxes, tariffs and
573 transfers, or what the OECD has coined as the “3Ts”.

574 **4.2.1 The 3Ts**

575 4.2.1.a Tariffs

576 The recommended model of performance based management contract and / or affermage does not
577 transfer the revenues risk to the private sector and therefore, the tariff level and its evolution might
578 not constitute an integral element of PPP arrangement. However, sustainable water and sanitation
579 financing should remain the objective of governments to be able to support people first objectives
580 beyond the SDGs term of 2030, and this long term financial sustainability requires a tariff level which
581 would ultimately fully recover the operation and maintenance costs.

582 In light of the above, and prior to entering into any PPP arrangement, the adequacy of the tariff level
583 should be examined from the perspective of its ability to recover costs. For this reason, clarity on the
584 different cost centers is essential. As such, it requires estimation of the different costs, whether
585 operation and maintenance costs or required investment costs or even environmental, and

586 forecasting their evolution over the short and medium terms. In this respect, it is worthwhile to note
587 that the estimation of the maintenance cost may be difficult in the water and the wastewater sector
588 especially that the assets lie mostly underground and might lack accurate asset registries.

589 This financial exercise would feed into a financial model, which consists of the main tool to estimate
590 and monitor the financing gap. Accordingly, the financial contribution of Tariff revenues in cost
591 recovery can be established, taking into account the social dimension. For example, it would be
592 unfair, especially for the poor, to use tariff revenues to recover operational costs artificially inflated
593 by overstaffing and inefficient operations. In parallel, any remaining financing gap would be bridged
594 through Taxes while taking into account government affordability and through Transfers while taking
595 into account how easily the government can access them. Any operational efficiency expected to be
596 brought in by the private sector should also be incorporated in the financial model through its impact
597 in cost reduction, and therefore its role in bridging the gap.

598 Given that tariff setting is task of political nature, it should be undertaken prior to entry of a private
599 operator and should constitute an “input” in the PPP tender process. In this respect, a social impact
600 analysis is imperative to separate consumers into groups in terms of their ability and willingness to
601 pay.

- 602 • Ability to pay would be assessed based on the percentage of households where expenditure
603 on a subsistence quantity of water would represent hardship⁶ if a (O&M or full) cost
604 recovering tariff were to be adopted.
- 605 • Willingness to pay, on the other hand, depends on existing alternatives of water provision
606 and on how the consumers value the new service in terms of quality and reliability. It is
607 essential that affordability remains in check and social tariff be maintained. (Senegal)

608 As such, water pricing should not only be regarded as a tool for revenue generation and incentivizing
609 efficient water use, but also as a powerful tool to ensure fair treatment among consumers: for
610 example, providing water for free at common standpipes or adopting a “life line pricing” in the tariff
611 structure for the very low first block (Senegal) are essential to achieve equitable treatment for
612 vulnerable groups, especially in light of the low subsistence quantities consumed and their associated
613 high public health value.

614 Cross-subsidies are also a popular mechanism to restore some level of equity across consumers,
615 which could be type based (e.g. industrial consumers subsidizing residential consumers or urban
616 consumers subsidizing rural consumers) or volume based (achieved through increasing block tariffs)
617 or new connection being subsidized by existing consumers who would finance through the tariff the
618 expansion of the network to unserved areas. The success and sustainability of cross-subsidies depend
619 on the price elasticity of demand, which should be carefully assessed, prior to transferring the
620 financing burden across consumer categories. In cases where the cross-subsidizers’ demand was
621 relatively price elastic, cross-subsidies schemes collapsed due to the disconnection of the cross-
622 subsidizers from the public network and reliance on own private, cheaper supply of water⁷.

623 In instances where financial modeling has proved the need to increase the general tariff level, hikes
624 should be introduced gradually (Senegal) and should be initiated well in advance of the entry or even
625 the announcement of private sector participation (Manila) to avoid their association with profit
626 making and public anger against the private operator (Cochabamba). Caution should also be

⁶ Affordability is set at 3% of median household income as a rule of thumb.

⁷ Côte d’Ivoire during the 1980s

627 exercised around packaging tariff increases in connection fees as these will negatively impact
628 expansion of service access and would fire back in public opposition and result protests, especially
629 that new connections consist mainly of poor households (Buenos Aires), and should be subsidized by
630 the government (Senegal).

631 Since the financial model is as reliable as its underlying assumptions, its adaptability is crucial to
632 allow some flexibility for annual revision based on actual achieved numbers after contract award,
633 and to monitor progress towards financial equilibrium and undertake required upward or downward
634 fine-tuning of tariffs. (Senegal)

635 In concessional PPP models, the financial model also plays a role in bid evaluation (Senegal), as it
636 allows the government to set a “ceiling rate” for the price to be bid by the private operators beyond
637 which private sector participation would not bring value for money. The financial model also allows
638 to identify bids based on unrealistically low tariffs (at times lower than existing tariffs – Buenos Aires)
639 and to test their sustainability in light of bid assumptions. Financial structures where the financial risk
640 is heavily pushed onto the private sector, for example by bearing the burden of public arrears and
641 utility’s existing debt and investment program, cannot be sustained based on a price bid lower than
642 the prevailing non-cost recovering tariff (Cochabamba and Buenos Aires) and such bids are mostly
643 based on the private sector’s underlying assumption and expectation of contract renegotiation in the
644 future (Buenos Aires).

645 In leases and concessions, the tariff level and its evolution over the contract term are established at
646 the bidding stage and constitutes an integral part of the PPP agreement, which should also provide
647 for the rules of tariff adjustments, in terms of initiation and approval. (Casablanca). Such clauses
648 governing tariff adjustments reflect the extent of financial risk sharing; as such, the private sector
649 might require that some costs be passed on automatically to the consumers such as increases in bulk
650 water tariffs and in electricity tariffs (Casablanca), or might require annual tariff adjustments based
651 on parameters such as inflation, exchange rate fluctuations, changes in the electricity tariff and in the
652 level of water consumption (Yerevan). Tariff adjustment is primordial for the concessionaire and
653 cases where the public entity has denied requests for tariff hikes have witnessed the exit of the
654 concessionaire or the termination of the concession (*West Manila concession, Buenos Aires*
655 *concession*). Concession contracts identify the initiator of the tariff adjustment which could be the
656 concessionaire and / or the public entity, and can grant the public entity the right to unilaterally
657 impose a tariff adjustment as long as it compensates the concessionaire for any resulting losses. In
658 some cases, concession contracts have been renegotiated to restore balance between the partners,
659 and have led to capping the rate of return of the concessionaire or freezing tariff adjustments and
660 only allowing passing on any increase in the cost of bulk water or energy (*Casablanca concession*).

661 In lease contracts, generated sales revenues have to be sufficient to cover operation and
662 maintenance costs as well as the lease fee and to achieve some profits or reinvest in the operations.
663 As such, it requires a tariff level allowing at least the cost recovery of operation and maintenance
664 expenditures.

665 Proper risk sharing has proved to be essential in the financial viability of some concessions in
666 developing countries: indexing water tariffs to inflation has allowed the private sector to achieve
667 challenging investment and efficiency targets, such as full cost recovery of water distribution,
668 including asset replacement, interest on debt, and profit (Manila), while the disconnection between
669 the tariffs and the inflation rate and the exchange rate has led to the failure of other concessions
670 (Buenos Aires).

671 In the process of progressively moving towards operation and maintenance cost recovering tariffs,
672 some financing gap will prevail and will need to be bridged through taxes and transfers; otherwise,
673 utilities will have to absorb the financial loss which will gradually erode the infrastructure and
674 deteriorate service levels.

675

676 4.2.1 b. Taxes

677 In light of the financing gap resulting from the generalized underpricing of the water and sanitation
678 services, governments could resort to untargeted subsidies sourced from general tax revenues to
679 fund the shortfall. However, these fiscal transfers do not constitute a reliable revenue stream and
680 might fail at times to fully absorb the utilities' financial losses: the fact that such tax revenues are
681 generally not earmarked puts the water and sanitation sector in a position where it has to compete
682 with other sectors and government expenditures, and its share of this revenue stream would vary
683 across periods depending on government priorities and fiscal constraints. In addition, such subsidies
684 are not recommended as they tend to be absorbed by the inefficiencies of the utility rather than
685 being passed on to the consumers.

686 Charges, as contrasted to taxes, do not flow into the general budget and constitute a regulatory
687 instrument which restricts the appropriation of the ensuing revenue stream and as such earmark it to
688 the water and sanitation sector. At the same time, charges are required which implies that they are
689 tied to the ecological harm caused by the use of the services. For example, water utilization charges
690 can be linked to the extent of groundwater withdrawal while wastewater charges depend on the
691 quantity and quality of the effluent (*Polluter Pays principle*).

692 Governments could also adopt consumer targeted subsidies such as quantity based consumption
693 subsidies (through increasing block tariffs or volume differentiated tariffs) or one-time connection
694 subsidies which have proved to be promising in expanding coverage to poor households.

695 Subsidies can also be designed along a third dimension which is service level, whereby a less reliable,
696 less convenient service and lower quality service level is made available at a lower cost, through
697 communal or public water taps for example. While this service carries a considerable risk of
698 contamination and involves physical effort and time, it might be the preferred option for poor
699 households who are more concerned about cost than convenience and quality and for whom a
700 private connection is prohibitively costly. Service level subsidies also perform well in terms of
701 targeting poor households and excluding wealthier ones from benefitting from them.

702 Government funded subsidies remain an important element of the equation to bridge the financing
703 gap and guarantee affordability, especially for poor households. While subsidies' design depends on
704 many factors such as the level of coverage and the consumers' profile, these should be considerable
705 effort should be made to ensure that such subsidies are "smart" in terms of being captured by the
706 intended targets.

707 In addition to consumer targeted subsidies, government can also financially support utilities through
708 grants towards capital investments. Such funding is primordial especially that water and wastewater
709 tariffs typically do not fully recover the costs, and any underfinancing of maintenance and capital
710 programs will lead to the deterioration of the infrastructure and service quality. This issue gains more
711 importance if the government intends to embark on PPP arrangements: in non-concessive PPPs, the
712 private sector's ability to achieve performance targets depends on the government's funding and
713 implementation of an investment program, while in concessive PPPs, the commercial viability of the
714 project depends in many cases on government funding (Viability Gap Funding scheme), granted to
715 the private sector at financial close to be used during construction.

716 In lease arrangements, the private entity is responsible of planning, designing, tendering and
717 supervising the works of the investment program financed by the government. The investment
718 program should be balanced between works that improve operational effectiveness and capital
719 works for the expansion and rehabilitation of existing infrastructure. Given the impact of the
720 investments on the private entity's revenue levels, the availability of funds for the government to

721 finance the investment is of prime importance; as such, contracting loans from international financial
722 institutions prior to the lease signature would boost private sector interest.

723 Finally, governments' financial contribution can come in the form of sovereign guarantees, to boost
724 the creditworthiness of water entities and institutions.

725 4.2.1.c Transfers

726 In addition to tariffs and taxes, transfers or foreign donor assistance constitute the third financial
727 flow which can contribute to the financial equilibrium of water and sanitation utilities. Such
728 international aid can be provided by international financial institutions, whether multilateral or
729 regional development banks, for financing of development projects. Their involvement has proved to
730 create a "halo" effect and boost the bankability of projects with other lenders.

731 Governments can also seek transfers in the form of government to government soft loans and grants,
732 which are sometimes sector-specific. For example, the Oudin-Santini Law in France, permits local
733 water authorities to impose a 1% charge on water bills, and such revenues are earmarked as aid for
734 overseas water projects.

735 Private (NGO) aid and corporate philanthropy are also emerging as a more innovative source for
736 financing water and sanitation projects.

737 Finally, with rising urbanization, a new trend for financing urban water infrastructure is emerging:
738 with the aim of boosting their property value, real estate developers are investing in household
739 connections and decentralized water distribution systems coupled with maintenance service
740 contracts.

741 **4.2.2. Access to Project Financing in Water and Sanitation PPPs**

742 Concessional type PPPs can help governments gain access to alternative market based repayable
743 debt and equity that traditional finance (public funding and/or public debt financing) cannot provide.
744 Nevertheless, this access to capital is a function of the project's ability to generate predictable and
745 stable revenues that ensure the positive Net Present Value (NPV) of the project and an acceptable
746 Internal Rate of Return (IRR) for the lenders and operators. This approach seems to be difficult for
747 the water and sanitation sector in low and middle income countries, where massive investments are
748 needed and the tariff level typically falls short of the O&M cost recovery, let alone capital
749 investments.

750 **4.2.3. Innovative Financing Instruments**

751 Innovative financing instruments that may become more and more relevant for WASH projects are:

- 752 • Carbon Markets: A relatively novel instrument to generate climate finance can be found in
753 cap-and-trade schemes, which set a limit to the overall emissions, thereby creating carbon
754 credits (emission allowances). Any surplus carbon credits can be traded at carbon markets,
755 thereby generating a new revenue stream. In equal manner, project developers can invest in
756 low-emissions projects generating carbon-offsets which can be sold at voluntary carbon
757 markets—to private consumers and companies who want to reduce their carbon footprint.
758 Carbon credits are being used to fund a variety of development projects.
759
- 760 • Resources-for-Infrastructure (Rfi) Deals in Fragile States: Under Rfi, oil or mineral extraction
761 rights are exchanged for turnkey infrastructure, complementing standard tax and royalty
762 regimes. The Rfi financing model has been adopted by some countries, mainly in Africa, to
763 overcome obstacles related to limited capital market access and domestic capacity to
764 implement large infrastructure projects. It should be noted that it remains to be seen if this

765 model is to be used in combination with PPP models or limited to the more traditional
766 project delivery models.

767 **5.3. Legal, regulatory and institutional requirements**

768 PPPs are not an end in themselves. Local policy makers have to determine how private participation
769 can be an efficient tool to achieve the public authority's objectives. For this reason, national and
770 regional governments should establish a plan/strategy/policy with clearly defined goals and allocated
771 resources, before having recourse to PPPs. Context-specific policy goals should reflect national KPIs,
772 complemented by local ones (see Annex VI). They should be time-bound, and in line with financial
773 means.

774 **5.3.3 Legal requirements**

775 The challenge with the legal framework is to balance public and private interests: the legal
776 framework establishes conditions that ensure effective and efficient operation, while protecting
777 consumer and public interest in the availability, affordability, and sustainability of water and
778 sanitation services.

779 An appropriate legal framework should include a water code, consumer protection law, and other
780 sector-specific legislation that enables private-sector involvement in the management of water
781 utilities, as well as any texts that govern private-sector participation in the economy, including
782 regulators and laws governing procurement, taxation, insolvency, dispute resolution and other areas.
783 The legal context plays a major role through the incentives and protections it provides to investors,
784 both domestic and foreign. Investment laws should be aligned with national investment policies and
785 priorities and at the same time meet international standards in order to be attractive to investors.

786 It is preferable to have a separate law to regulate PPP tendering, as opposed to relying on standard
787 public procurement regulations for capital works, which have often proved to be restrictive in
788 attracting international companies and impeding innovation and the transfer of technology. Any
789 existing restriction needs to be carefully investigated and remedied well before initiating the PPP
790 tender process. However, it is important that such elimination of legislative barriers and
791 uncertainties should not target or be perceived to target a particular PPP project or benefit a
792 prospective bidder. The same applies to tax legislation. Strict regulations for processing unsolicited
793 proposals and subjecting them to competitive tendering should also be in place to ensure value for
794 money for the public purse.

795 PPPs are particularly sensitive to regulations or their absence. Any exogenous risk (such as usage
796 rights, resource availability or quality, environmental quality controls, etc) not borne by the public
797 entity under regulations will have to be transferred through the contract provisions.

798 **5.3.2 Regulatory requirements**

799 In the cases of concessive arrangements, a sophisticated regulatory framework is required to provide
800 effective oversight and ensure equitable distribution of benefits to users and the private partner.
801 However, establish an effective, fully independent regulator in the timeframe required by most
802 reform processes have proved to be often challenging and could result in a weak regulator with no
803 previous regulation experience (Buenos Aires).

804 In cases where an independent regulator is fully established and is implementing rules and
805 regulations, these should be clearly defined and specific to particular service areas, predictable and
806 stable, empowered and enforced equally on public and private operators. These should not replace
807 contractual relations and contract management between the parties to the contract themselves.

808 In non-concessive arrangements, the contract is largely self-regulating by direct monitoring and
809 control by a government representative (Yerevan) or through a local supervisory commission
810 (Casablanca), and and can include a provision for an independent “conciliateur” in cases where the
811 opinion of a third neutral party is required (Senegal).

812 **5.3.1 Institutional requirements**

813 An adequate institutional framework is crucial for the success of PPP arrangements in any sector and
814 more so in the water and sanitation sector, where utilities are typically overstaffed and yet, lack the
815 necessary knowledge and skills needed to design the PPP contract, manage the tendering mechanism
816 or monitor the implementation of the PPP contract.

817 Given the complexity of structuring PPP transactions and their difference from traditional
818 procurement deals, the existence of a specialized PPP unit would prevent flaws in contract design
819 and tendering processes.

820 Following contract signature, some institutional hurdles might hamper the proper implementation of
821 PPP arrangements, among which institutional complexity (*Tripoli management contract*) such as for
822 example the fragmentation of responsibilities between two contracting authorities, the resistance of
823 the water utility to surrender some of its administrative and operational responsibilities or
824 interference by the public entity in the private operator’s management of services. The existence of a
825 sound working relationship between the parties to the contract is of prime importance, and such
826 should be perceived as true partnership. In addition, the lack of expertise at the level of the utility
827 would prevent proper contract monitoring and can be detrimental to performance based
828 management contracts. This issue can be addressed through setting up local supervisory
829 commissions with necessary skills to monitor performance.

830 In countries which adopted affermage type of contracts (Senegal), an institutional framework based
831 separation between asset ownership and operation has helped in managing the tradeoff between
832 maintenance and major renewal investments and clarifying asset ownership (fixed assets are owned
833 by the state asset holding company, while moveable assets by the operator). In addition, this
834 segregation creates financial autonomy and accountability to the asset holding company to properly
835 design and execute a sustainable investment program and lobby the government for adequate tariff
836 increases, disconnecting as such private sector participation and tariff hikes.

837 In affermage institutional arrangements where the municipality was at the same time owner of the
838 assets and majority shareholder in the operating company (Cartagena), the lines of accountability
839 were blurred and as such, this complex institutional arrangement had a detrimental impact on
840 management transparency.

841

842 **5.4. Feasibility for low and middle income countries**

843 Public perception plays a key role in the success or failure of water supply and sanitation PPPs in low
844 and middle income countries. Raising awareness and managing public perception is the responsibility
845 of the government and therefore, strong political will and good leadership within the government
846 are essential enhance the feasibility of such projects.

847 It is essential for governments to foster a relationship between the private partner and the
848 consumers which is built on trust and confidence. This is particularly true for poor communities, to
849 whom special attention was paid in the sustainable development goal of universal and equitable
850 access to safe and affordable drinking water and sanitation services. Paying special attention to these
851 vulnerable groups brings them recognition and elicits their participation in economic activities. In

852 fact, PPP arrangements which included innovative social initiatives targeting disadvantaged
853 neighborhoods and informal settlements, whether based on private initiative (East Manila
854 concession) or through collective billing systems (Cartagena) or in coordination with the government
855 (Casablanca concession), were successful in forging a partnership between the private operator and
856 the community groups and in creating a relationship based on confidence. This approach was also
857 followed by concessionaires in crisis to rebuild credibility (Buenos Aires) through a participatory
858 management model in order to expand access to poor communities living in slums.

859 Given the role that O&M cost recovering tariffs play in the path to achieve financial sustainability,
860 governments should manage ongoing perceptions of “free water” and water as a human right that is
861 to be provided without a direct cost and raise awareness about the costs of extraction, treatment,
862 distribution and maintenance. Governments should encourage a payment culture at the level of
863 poor communities, especially that their work in the informal sector does not guarantee income
864 security and as such they tend manage their expenses on a daily basis and prefer to buy their water
865 from informal private providers even if it is effectively more costly on an aggregate basis (Cartagena).

866

867 **5.5. Other issues - Allocation of risks**

868 Allocation of risks should be defined in a clear, unambiguous way in the PPP contract, and should
869 include who takes them, how they will be mitigated, and outlines the consequences of and actions to
870 be taken when the risk event actually occurs, or the risk profile changes over time.

871 Sustainability of water and sanitation services should always be the first concern. Therefore, rapid
872 early identification of any upcoming risks, events or trends and their mitigation is essential to assure
873 the quality of service.

874 The PPP Project Life Cycle as described in this chapter provides a roadmap for projects from
875 inception to completion and closeout over a long period. There will almost inevitably be changes in
876 the external environment, political, economic and operational requirements during the life of a PPP
877 contract. It is therefore necessary for both parties to review the real situation on a regular basis and
878 formalize any adjustments that these changes may require in the contract and the way it is carried
879 out.

880 In order to avoid loss of sustainability or quality of service, the Public Entity should engage in periodic
881 contract reviews in order to maintain the economic balance originally agreed in the contract and risk
882 allocation.

883 Listed in Annex V - Table I, are some common risks (both public and private) that may be mitigated
884 from an early stage of tendering preparation, namely, population and demand growth, finance,
885 design, technology, construction, operation, maintenance and commercial risks.

886 Neither public nor private partner will be able to fully foresee all risks and their consequences. The
887 partners should review the partnership regularly. If either partner falls victim to the consequences of
888 a risk that it was meant to bear, or the consequences would be greater than could reasonably be
889 anticipated, they should modify the contract terms. Failure to do this would otherwise create a risk
890 of failure for the services and the final consumers.

891 Some exogenous, unforeseen risks need to be taken into consideration and mitigation is still
892 possible, as described in Annex V - Table II. Such risks are: legislative, social, regulatory,
893 environmental and sovereign or political risks.

894

895 **6. Indicators of compliance**

- 896 - Access to tap water and sewerage, in particular for the poor
- 897 - Service quality levels
- 898 - Tariffs level evolution and affordability
- 899 - Efficiency of service provision as measured by water losses, labor productivity and operating
- 900 costs
- 901 - Subsidies to utilities
- 902 - The corporate culture of the utility and management styles

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