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7 **UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE**
8 **WORKING PARTY ON PUBLIC-PRIVATE PARTNERSHIPS (WP PPP)**
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14 **Proposed Draft**
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16 **DRAFT UNECE STANDARD ON PPPs IN WATER AND SANITATION**
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22 **Implementing the United Nations 2030 Agenda for Sustainable Development**
23 **through effective**
24 **“People-First Public-Private Partnerships”**
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55 **1. Introduction**

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

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

71 Well designed and executed PPPs, which are supported by sound institutional structures and both
72 public and private parties who are actively engaged and invested in the outcomes, can deliver very
73 significant improvement and extension of services to water users. Examples from around the globe
74 include the East Manila concession where access to continuous potable water supply increased from
75 26% to 98% and the Senegal affermage where the access ratio went up from 58% to 76% and is now
76 considered as a model of public-private partnership in sub-Saharan Africa. Further examples are
77 available in Annex VII.

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

- 84 • Overarching issues relative to water and sanitation PPPs
 - 85 • Institutional framework required for success in water and sanitation PPPs
 - 86 • Alternative models of water and sanitation PPPs tailored to different situations
 - 87 • Questions to consider in the selection of the appropriate model
 - 88 • Managing a water and sanitation PPP project through the typical steps of a project lifecycle
 - 89 • Financing for water and sanitation PPPs.
 - 90 • Risk management for water and sanitation PPPs.
- 91

92 **2. Objectives of the standard**

93 **2.1. The agenda for water and sanitation services**

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

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

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

104 **2.2. PPPs linking public and private efforts**

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

119 **3. Scope of the standard**

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

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

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

136

137 **4. Central Question**

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

- 144 • 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water;

145 • 6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end
146 open defecation, paying special attention to the needs of women and girls and those in vulnerable
147 situations; and

148 • 6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and
149 minimizing release of hazardous chemicals and materials, halving the proportion of untreated
150 wastewater and at least doubling recycling and safe reuse globally.

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

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

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

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

182 **4.1. Project Types and Examples**

183 There are a significant number of potential project types and examples that have been used to create
184 water and sanitation partnerships between public authorities and the private sector. These range
185 from the outsourcing of service contracts to complex project finance structures. Each is associated
186 with, and defined by, a particular set of objectives, allocation of responsibilities and risks and should
187 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

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

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

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

195 In water short countries, acute water scarcity drives the cost of water supply very high. In
196 order to boost the efficiency of the water and sanitation system, the government can initiate
197 sector reform by entering into a management contract, which targets reducing the level of
198 unaccounted for water and improving the operation and maintenance of the system.
199

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

211 Affermage type contracts have improved operational efficiency in countries where access to
212 safe supply of piped water was limited to half of the urban population and where water
213 supply was intermittent and of poor quality. Private financing of new connections and
214 contributing to repair and maintenance investments was key in decreasing the levels of
215 unaccounted for water and improving revenue collection. (*Senegal affermage contract*)
216

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

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

226 Where successfully implemented, lease contracts have improved water supply duration and
227 quality, metering and collection efficiency, as well as energy efficiency in instances where
228 the energy cost constitutes a major O&M cost center. When tariff programs resulting from
229 the bids are within government expected range, leases do not entail major financial
230 implications on treasury and have even allowed for phasing out of subsidies in some cases.
231 (*Yerevan Djur lease contract*).
232

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

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

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

250

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

252

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

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

276

277 • Build-Operate-Transfer (BOT)³ are contracts where the private entity undertakes to finance,
278 build, operate and maintain a new facility and transfer it back to the public entity at the end
279 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.

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

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

285 **4.2. Advantages and disadvantages of PPPs in water supply and sanitation**

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

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

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

308 Disadvantages to PPPs in water and sanitation include:

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

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

318 **4.3. PPPs Meeting People First Objectives – Replicability, Scalability, Equity, Efficiency,**
319 **Sustainability Effectiveness Demonstrated**

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

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

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

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

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

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

⁵ Cochabamba Concession

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

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

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

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

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

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

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

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

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

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

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

431 **5.1. Project selection / Baseline requirements for private interest**

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

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

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

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

453 **4.1.1 Sustainability of Operations**

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

461 4.1.1.a Public Perception

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

479 4.1.1.b Existing Employees

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

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

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

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

505 **4.1.1.c Informal Water Providers**

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

514 **4.1.2 Financial Sustainability**

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

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

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

533 **4.1.3 Reliability of baseline data and contract flexibility**

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

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

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

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

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

561 **5.2. Financing models**

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

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

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

580 **4.2.1 The 3Ts**

581 4.2.1.a Tariffs

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

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

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

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

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

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

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

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

629 In instances where financial modeling has proved the need to increase the general tariff level, hikes
630 should be introduced gradually (Senegal) and should be initiated well in advance of the entry or even
631 the announcement of private sector participation (Manila) to avoid their association with profit
632 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

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

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

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

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

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

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

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

681
682

4.2.1 b. Taxes

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

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

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

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

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

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

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

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

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

731 4.2.1.c Transfers

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

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

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

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

747 4.2.2. Access to Project Financing in Water and Sanitation PPPs

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

756 4.2.3. Innovative Financing Instruments

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

- 758 • Carbon Markets: A relatively novel instrument to generate climate finance can be found in
759 cap-and-trade schemes, which set a limit to the overall emissions, thereby creating carbon
760 credits (emission allowances). Any surplus carbon credits can be traded at carbon markets,
761 thereby generating a new revenue stream. In equal manner, project developers can invest in
762 low-emissions projects generating carbon-offsets which can be sold at voluntary carbon
763 markets—to private consumers and companies who want to reduce their carbon footprint.
764 Carbon credits are being used to fund a variety of development projects.
- 765 • Resources-for-Infrastructure (Rfi) Deals in Fragile States: Under Rfi, oil or mineral extraction
766 rights are exchanged for turnkey infrastructure, complementing standard tax and royalty
767 regimes. The Rfi financing model has been adopted by some countries, mainly in Africa, to
768 overcome obstacles related to limited capital market access and domestic capacity to
769 implement large infrastructure projects. It should be noted that it remains to be seen if this
770

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

773 **5.3. Legal, regulatory and institutional requirements**

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

780 **5.3.3 Legal requirements**

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

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

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

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

804 **5.3.2 Regulatory requirements**

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

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

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

818 **5.3.1 Institutional requirements**

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

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

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

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

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

847

848 **5.4. Feasibility for low and middle income countries**

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

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

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

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

872

873 **5.5. Other issues - Allocation of risks**

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

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

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

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

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

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

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

900

901 **6. Indicators of compliance**

- 902 - Access to tap water and sewerage, in particular for the poor
- 903 - Service quality levels
- 904 - Tariffs level evolution and affordability
- 905 - Efficiency of service provision as measured by water losses, labor productivity and operating
- 906 costs
- 907 - Subsidies to utilities
- 908 - The corporate culture of the utility and management styles

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