Implementation Strategy for Urban Water Supply Policy

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Acronyms

ADB	Asian Development Bank
AFD	Agence Française de Développement
CAU	Contract Administration Unit (MIME)
CDC	Council for the Development of Cambodia
CMDG	Cambodian MDG
CSF	Commune Sangkat Fund (Seila)
CWG	Clean Water Group
DBL	Design-Build-Lease
DIW	District Integration Workshop (Seila)
DPWS	Department of Potable Water Supply
CIPS	Cambodia Inter-censal Population Survey
CSES	Cambodia Socio-economic Survey
CWWA	Cambodia Waterworks Association
DIME	Department of Mining, Industry and Energy
EDC	Electricité du Cambodge
IFC	International Finance Corporation
ITC	Institut de Technologie du Cambodge
JICA	Japan International Cooperation Agency
JBIC	Japan Bank for International Cooperation
LAMC	Law on Administration and Management of Commune/Sangkat
MDG	Millennium Development Goal
MEF	Ministry of Economy and Finance
MIME	Ministry of Mining, Industry and Energy
MIREP	Small Scale Piped Water Systems (Mini Réseau d'Eau Potable)
MoI	Ministry of Interior
MPWT	Ministry of Public Works and Transport
MTEF	Medium-term expenditure framework
NCSC	National Committee for Supporting the Communes
NIS	National Institute of Statistics
NSDP	National Strategic Development Plan
NWASCO	National Water Supply and Sanitation Council (Zambia)
OBA	Output-based aid
ODA	Official Development Assistance
O&M	Operating & Maintenance
PIF	Provincial Investment Fund (Seila)
PPP	Public-private partnership
PPWSA	Phnom Penh Water Supply Authority
PW	Provincial waterworks
QoS	Quality of service
RGC	Royal Government of Cambodia
SWAp	Sector-wide approach
TA	Technical assistance
TWG	Technical Working Group
USAID	US Agency for International Development
WSP	Water and Sanitation Program

Executive Summary

Cambodia has made unprecedented progress in rebuilding its urban water supply sector from virtually nothing in the early 1990s. Today, the capital city and its suburbs are being served by one of the better performing water utilities in East Asia, PPWSA, which has gone through a major transformation, achieved with significant donor support over the past decade. However, efforts to reform public utilities currently entrusted with providing services in the larger towns and provincial capitals have been mixed. Outside the capital, the RGC has pursued, with various levels of success, a policy of fostering private sector initiative to expand water supply in small towns, building on the entrepreneurship of local firms. Intent on scaling up what has worked over the years and aiming to extend coverage, the RGC has put in place a policy on urban water supply which reflects the principles of good international practice. Through the Department of Potable Water Supply (DPWS) under MIME, the RGC prepared the Urban Water Supply Strategy Framework in 2004 and sought assistance from the World Bank in formulating an implementation strategy to jumpstart the growth needed in the sector to service the rest of the country and to ensure that this growth is sustainable over the long term, including pursuing investments that are cost effective.

However, Cambodia is lagging behind its target of 68 percent of urban coverage with access to safe water for 2005 under the CMDGs. Access to piped water sources for urban populations is behind in comparison with other countries in East Asia. Data from official household surveys vary as to actual access to safe water in urban areas of Cambodia, owing largely to differing definitions as to what constitutes safe water.[1] Estimates of access to piped water supply for urban areas are in the area of 40 percent in 2005, reaching to levels of about 70 percent with broader definitions of 'safe' water, i.e. including rain water and wells – sources which may be classified as safe in rural areas but are unlikely to be free from microbiological and chemical contamination in urbanized areas. Despite a substantial increase in access to piped water services overall in the last decade, and largely explained by expansion occurring predominantly in Phnom Penh, wide gaps persist across the different income groups; only 4 percent of the poorest nationwide have access to piped water and only 36 percent even among the richest households. At the same time, with a population largely residing in rural areas, expanding access to urban settlements constitutes only a slice of the larger challenge to meeting the full CMDGs.

Despite evidence of a strong link between access to piped water supply and poverty reduction, the government has not accorded high priority to the urban water supply sector in its Rectangular Strategy and in the NSDP for 2006 to 2010, in view of other competing demands on development. Indeed, data from the CSES in 2004 show that access to piped water supply is well correlated with lower infant mortality, child mortality, incidence of diarrhea and poverty incidence. This indicates that improved water supply has made a relevant contribution to better quality of life for the people, to reduced poverty and to a considerable reduction in resources required from government and households to mitigate outbreaks from waterborne diseases.

The financing needs to achieve the CMDGs in urban areas alone are significant; up to US$300 million will be required over the period 2006 to 2015 (or US$30 million annually) to meet the CMDG in the water sector for urban areas, a major increase in current investment levels. The growth needed by the urban water supply sector has been estimated based on the achievement of the MDG for 2015 of 80 percent urban coverage of access to safe water. The DPWS estimate of the financing requirement of US$300 million or US$30 million annually is deemed sufficient to meet target coverage, of which about 70 percent would be directed to areas outside of Phnom Penh. This amount would finance capital investments for new systems (estimated to be about US$10 million annually), system rehabilitation and capacity building.

While these challenges may appear daunting, providing significantly improved access to piped water supply to urban populations is not by any means an impossible task. The total urban population of Cambodia is only about two million people, of which 55 percent live in Phnom Penh. In total, only about 200,000 households in urban areas nationwide are without access to piped water; this number may grow to

[1] This implementation strategy adopts a focus on water supply in urban areas, predominantly through piped water connections.

around just 400,000 by 2015. Compared with the international situation, these numbers make it clear that urban water supply for Cambodia is not a challenge calling for a complex institutional strategy, a wide variety of financing and provider models, and a further segmentation of what is clearly a small sector. Rather, it would seem that addressing urban water services requires simplicity, adherence to a small set of consistent principles and transparent incentives which can easily be communicated to and agreed to by local governments, civil society, local entrepreneurs and utility staff, all of whom have an important role to play in the sector.

It is in this sprit that the implementation strategy retains a strong focus on what can be implemented in the short run, looking at urban water supply to the detriment of rural water supply or urban sanitation (equally serious challenges), and highlights the two major challenges facing the sector: building capacity at all levels of stakeholders involved and streamlining the funding and regulatory mechanisms applicable to the sector as well as the incentives for better management and increased efficiency.

The implementation strategy

There are two main constraints to broad-based growth in the sector. First is the absence of a comprehensive strategy to channel financing into the sector and to address weak incentives to raise more own-generated funds from user revenues. Second is the capacity of the providers to absorb public funding and utilize resources efficiently towards expanded access to sustainable services. Both of these constraints will have to be addressed in the context of the country's overall policy of promoting sustainable use of water resources and considering concerns of the poor and marginalized in the pursuit of development.

Diversifying and rationalizing sector financing: Several issues contribute to the current financing constraint: insufficient generation of funds towards investment needs by service providers themselves (public or private); heavy dependence on limited and increasingly fragmented foreign aid (the level of which is projected to go down); and insufficient budgetary allocation towards expansion of access where affordability constraints prevent such expansion being funded from user contributions alone. Financing for the sector is currently dominated by public finance and is effectively rationed by the lack of a budgetary allocation for capital investments in the urban water supply sector, owing in part to the RGC's tight fiscal position and an exclusive reliance by the RGC on donor grant funds for the sector – despite investments being able to generate higher rate of returns. Funding for investment is also constrained by the failure of providers to accumulate retained earnings owing to low tariff levels (for most provincial public providers) and overall low levels of efficiency arising from the small size of most utility operations and the weak incentives for efficiency gains instilled by the regulatory framework. As a result, most service providers are not creditworthy to access domestic capital markets. The efficiency of public expenditure overall is mixed. Limited donor funds could be used more efficiently if leveraged more consistently with commercial finance and targeted better towards utilities which expand services to a higher share of low income households. Given the wide variation in capital costs associated with sector investments in the past, one key area will be the streamlining of public expenditure to ensure higher efficiency in allocation of funds.

Clearly, one challenge will be to resuscitate donor interest in the sector. In recognition of the significant contribution of expanded water supply to poverty reduction, government will undertake efforts towards reinvigorating donor attention to the sector, by highlighting more clearly the positive impact of access to piped water supply on poverty reduction, by improving monitoring of results and by strengthening the links between donor funds and results.

Over the coming years, the financially stronger public operators will come under pressure to raise finance on less concessionary terms. The proposed long-term financing strategy assumes a scenario of a continued tight fiscal position for the RGC in the medium term and declining donor contributions to the sector, already a reality. As a result, additional funds will need to come from internally generated funds (utility earnings) and from leveraging internally generated resources to attract less concessionary funding, including (non-grant) donor funds – in the medium term – and commercial financing in the long term. While many of the small town operators already rely on – very limited – commercial sources of finance, the stronger public utilities, in particular PPWSA, continue to benefit from highly concessionary funds. Under

the proposed strategy, the financially more robust utilities will be provided limited access to concessionary funds in the future and will be provided strong incentives to rely increasingly on more costly sources of finance. Among other things, this transition will require changes to the way utilities and tariffs are currently regulated.

In the short term, the implementation strategy calls for the consolidation of individual investment projects in form of a comprehensive medium-term capital investment program (MTEF), which would serve as a planning tool for investments by the service providers, irrespective of funding source. The central government would facilitate its preparation but involve individual service providers and coordinate closely with local governments. In order to utilize public funds in a cost-effective manner, the MTEF would strike a balance, based on transparent criteria, between priority afforded in allocation of public funds to areas requiring lower capital costs because of more dense populations and accessibility to major road networks, and priority afforded to lower income areas requiring higher subsidy levels. To enable the RGC to monitor the success of investments, the MTEF would spell out clearly the results of individual investments envisaged in terms of improved sustainable access to services (CMDGs) and include a monitoring framework linked to these results and poverty reduction.

Going forward, the RGC would move towards a SWAp for mobilizing and using resources from the donors on the basis of the MTEF. In the short to medium term, this is unlikely to be in the form of true pooling arrangements of donor funds, given the capacity needs in the areas of financial management and governance. However, moving towards a SWAp would foster consensus building towards more uniform and transparent criteria – including poverty incidence in service areas and creditworthiness of providers – in establishing the specific terms of financing passed on to providers. Over the past decade, donor grants have largely benefited Phnom Penh, with a comparatively affluent population, whereas consumers in small towns have borne the full cost of private financing.

More recently, there has been a trend of a strong segmentation outside Phnom Penh into provincial capitals and medium and small towns, with efforts to devise specific funding and provider models for each of these segments and a sense of fragmentation of donor support into specific market niches. The realities on the ground include in particular the small size of towns outside Phnom Penh, even of provincial capitals, and the limited capacity of providers, communities and local governments to process these distinctions; at the same time, a differentiated strategy holds increased complexity and a loss of synergies in terms of administration. As such, this report proposes a simplified way forward, with a stronger emphasis on fewer and more consistent policy principles put into practice more effectively. Going forward, it is recommended that the RGC adopt a SWAp, with – in the long term – an increasing share of donor funds pooled towards the expenditures agreed under the MTEF. This would allow the RGC to set financing terms for providers in line with transparent criteria and independent of specific donor terms and of services in either small or medium towns or provincial capitals. This would reduce transaction costs by allowing for better harmonization of donor safeguard procedures, and would provide a framework for better donor coordination. Donor coordination and consultation for the sector would be reinforced by exploring a higher profile for the sector with the TWG, the main mechanism currently being used by the RGC for donor consultation and for formulating the NSDP.

For public utilities, the implementation strategy requires that they be converted into autonomous public enterprises and be made more accountable for specific contributions in reaching the CMDGs, but also that the operating environment, in particular the tariff-setting process, be reformed to allow for the recovery of full costs of services. Enhanced autonomy and clearer accountability would mark a first step towards effectively addressing existing inefficiencies in their operation and management by placing responsibility for better managing operating costs and for instituting proper financial accounting and reporting on the utility management, with clear rewards and penalties. This reform element would roughly emulate the successful transition made by PPWSA, which became an autonomous public enterprise in 1996 and is now able increasingly to self-finance its investments. Increased autonomy would also imply a shift in how public utilities are regulated: tariffs would be set to account more consistently for depreciation (currently at differing rates) and return on capital as a prerequisite to accessing domestic financing in the future. While the lack of capacity at utility level may prevent autonomy being granted immediately to all public utilities, autonomy for the larger utilities should remain a short-term goal. Smaller public utilities

which cannot retain sufficient capacity to be afforded autonomy should be folded into larger utilities in the medium term, allowing for a necessary consolidation in the sector.

For private utilities, providing the incentives to invest in infrastructure requires that regulations allow tariffs to recover costs, including the cost of capital, and that property rights as vested by license be strengthened, while holding these utilities accountable to agreed investment targets and service levels. Government policy envisages an increased role for the private sector in making investments in infrastructure for smaller towns. Several factors currently inhibit a vastly expanded role: the current license terms do not convey strong rights that would entice investors to make long-term investments; as part of the implementation strategy it is suggested that the rights of license holders be strengthened, not least that the validity of licenses be extended automatically to 10 years to strengthen the rights of local firms. Together with improved financial reporting, this will enhance the capability of private utilities to access domestic financing.

It is furthermore recommended to streamline and simplify the current licensing process and increase the transparency of the both the licensing process and the regulatory framework for private providers, by defining lower discretion rules for awarding licenses and setting tariffs, publishing these rules and delegating administrative functions progressively to lower tier governments. The RGC should continue with its strategy of contracting with private firms by using ODA funds to leverage equity financing, as experience from past projects shows that at least 30 percent of investment needs have been mobilized from private providers, providing much needed leverage to meet CMDG goals with scarce public funds.

Over the next years, the broader process of decentralization will have an impact on public and private providers, notably on investment planning decisions and corporate governance of utilities. Decentralization of government and administration in Cambodia is still evolving, making it difficult to anticipate specifically how decentralization will play out for the water sector. As part of the implementation strategy it is proposed that the RGC explore pragmatic steps in the short term, to allow for broader consultation and involvement of local governments while not putting further at risk economies of scale in utility operations (already small in size). Consistent with decentralization, commune councils, including through Clean Water Groups (CWGs) or other mechanisms at the discretion of commune councils, could take a role in shaping investment priorities and monitoring utility obligations (complementing central regulatory functions).

Capacity-building strategy

The capacity-building strategy attempts to address the substantial needs of the sector, for both the utilities and the institutions involved, while recognizing the resources available at PPWSA, including replicating what has worked for PPWSA. The RGC has proposed the development and implementation of an integrated capacity-building program that would include the requirements of existing and future utilities in terms of manpower skills and resources. For the capacity-building program to be sustainable, the RGC would also have to address the aspect of incentives and the overall work environment in public utilities, where salaries need to be increased and higher staff remuneration linked to earning training units, but also for trained staff to be subject to higher performance standards and accountability. This would hopefully discourage trained staff in public utilities from shifting to the private sector for better remuneration.

For public utilities, the strategy would include implementing in the short term the 'top runner catch up' approach initiated by JICA, with PPWSA as the forerunner, extending the training to other public utilities and, in the process, expanding the pool of resources until all are able to catch up to a level of operational efficiency. A national training center could initially be hosted by PPWSA and may eventually shift under the auspices of a Cambodia Waterworks Association (CWWA). Membership of the CWWA would include public utilities and extend to private utilities in the future. The CWWA would serve as a network for sharing experiences among utilities to build capacity in the industry, represent a vehicle for identifying common needs and concerns, and constitute the authority for accrediting suppliers. Beyond formal training, regional satellite facilities, including mobile training facilities, could be established to support field/on-the-job training. In the medium term, the RGC may consider collecting a fee from training participants to sustain the operations of the training facilities.

For continuous development of human resources in the sector, **licensees may be required to go for training as part of the application and renewal of licenses, incorporated into the licensing procedures and requirements.** Lastly, to ensure a steady flow of workforce, the sector could link up with institutions of higher education and technical/vocational schools so that courses on water technology are included in the school curriculum.

With regard to institutions and other stakeholders, capacity building is needed for central and local governments and the communities. In central government, regulatory skills would need to be strengthened, even prior to putting the regulatory authority in place. At local government level (province, district, commune), capacity building is needed on water-related issues such as investments, regulation, PPPS and contracting, as this would facilitate interaction in the sector and implementation of programs and projects in the field, and help ensure that services are provided according to levels of service agreed between the providers and users. Capacity building is also needed to assist the commune councils through the CWGs or some other form of organization within the commune council system, acting as interlocutors of the community concerns on water services, a critical element of effective regulation. Lastly, capacity building of consumers and communities would be in the aspects of hygiene, sanitation, clean water, water use and, in particular, enlightening consumers on the health benefits of chlorinated water.

1. Background

In 2004, the Royal Government of Cambodia (RGC), through the Department of Potable Water Supply (DPWS) under the Ministry of Mining, Industry and Energy (MIME), prepared a new comprehensive Urban Water Supply Strategic Framework. Although this document has yet to be issued officially as a government document, it laid out in broad terms the components of the strategic framework for the sector, including the need for broad-based institutional reforms and amendments to the legal and regulatory framework. The major goals for the medium term of five years reflect the commitment by the RGC to achieve interim Cambodian Millennium Development Goal (CMDG) targets towards poverty reduction. The sector policy builds upon broad strategic priorities as laid out in the RGC's Rectangular Strategy for Growth, Employment, Equity and Efficiency; formulates broad sector-specific targets; prioritizes among broader competing goals and targets; and provides some guidance as to implications in terms of allocation of funds. During 2005, the RGC also prepared its National Strategic Development Plan (NSDP) as the 'single, overarching, guiding and reference document for pursuing prioritized goals targets and actions' over the 2006–10 period.

In 2005, RGC requested assistance from the World Bank in the implementation of the urban water sector policy. This draft implementation strategy paper responds to this request. The strategy paper has four key objectives, which are to:

i) Briefly take stock of the underlying achievements and challenges facing the sector and review progress towards the objectives and goals formulated in its sector policy.
ii) Provide detailed and practical guidance for the RGC as to how, over the next years, to implement its urban water supply policy and strengthen government capacity for sector policy implementation.
iii) Define an implementation strategy, taking into account the critical need for regular, timely and accurate monitoring and evaluation of results which would take form as a results-oriented dynamic document, to be regularly revised, adapted and adjusted to reflect new annual monitoring data, and would realign implementation focus according to sector priorities.
iv) Foster, corresponding to the RGC's efforts to improve aid effectiveness and harness donor coordination, a shared understanding among the key donors in the sector regarding direction, emphasis and appropriate sequencing of implementation of the reforms laid out in sector policy and, ultimately, reinforce donor commitment for the sector.

Note that this report only deals with the water sector and only mentions sanitation aspects in passing. However, it is recognized that the scale of the sanitation challenge is similarly daunting to or even larger than the water challenge, and that progress in sanitation will be as crucial as expanded access to safe water in making a lasting impact on poverty incidence, in particular vulnerability to waterborne diseases. As such, it is recommended that the RGC, in collaboration with its development partners, also develop a comprehensive strategy for support of sanitation CMDGs.

2. Taking Stock: Progress on MDGs and Remaining Challenges

2.1 Progress to date

The government policy is building on impressive past achievements in the sector. Since the early 1990s, Cambodia has progressed in rebuilding the water and sanitation sector from scratch, with visible progress in extending safe water supply to an expanding section of its people in Phnom Penh and in enhancing technical capacity in the sector**.** This progress has, in many ways, paved the way for a solid policy foundation upon which to expand today.

The RGC, in recognition of the importance of a functioning public sector, has successfully managed the reform of public utilities. Only about half of the population in Phnom Penh had access to network water in 1997; now virtually the whole city enjoys a 24 hours-a-day water service, of quality meeting international standards. With a dedicated program to support access for low-income households, the efficiency gains made by the Phnom Penh Water Supply Authority (PPWSA) are not limited to benefiting only the middle and higher income households. As a utility with close to 150,000 connections, PPWSA has managed an astonishing turnaround, building on institutional reforms and intensive donor support over the past decade. The authority is recognized today as one of the best performing utilities in East Asia. For the government, this success story provides a wealth of lessons as to the strengths and limitations of public utility reform, on which it can draw in addressing reform issues in many of the smaller public utilities across the country. Yet, so far in other public utilities, with a combined total of about 15,000 connections, the RGC has struggled to replicate this success.

Additionally, the RGC has built on the entrepreneurship of its citizens and pursued innovative ways of involving domestic private firms in the provision of services. For small towns across the country, the RGC in the past adopted a decidedly *laissez-faire* approach to service provision, allowing for rapid entry by the domestic private sector that is unparalleled in East Asia, although this is largely informal. Not only has this enabled service provision to households that would otherwise have been deprived, but also it has provided valuable lessons to the RGC as to how best to work with the private sector in the future. Building on the prevalence of domestic informal service providers in small towns and on international experience, the RGC is working on formalizing these service providers and has more recently experimented with a range of contracting approaches. The latter method provides funds to small operators with the intention of expanding their services from the wealthier households in small towns towards lower income households, and of harnessing private sector involvement for towns that have previously not been commercially attractive for entry of local firms. This now puts the government in a position of being able to evaluate how the different models have worked in the Cambodian context, and to combine the strengths of the individual models going forward.

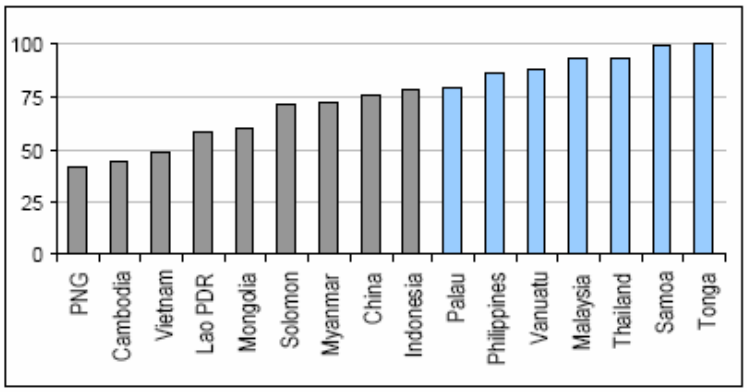
2.2 Significant challenges ahead

Despite these improvements in the sector over the past years and the strength of the RGC's innovations, tremendous challenges remain.

Access to safe water remains low

Access to safe water remains well below CMDG targets both nationwide and solely for urban areas. It is difficult to obtain reliable information here, but according to the first consolidated sector performance review published by MIME in 2005, only about 37 percent of the urban population has access to 'safe' water, i.e. water supply by means of a metered network connection subject to government quality standards. This is in contrast with the CMDG goal for 2005 of 68 percent. In comparison with other economies in the East Asia region, these revised access figures put Cambodia firmly behind all other countries apart from Papua New Guinea.

Figure 1: Water supply access (%) by country



Other official figures are available from comprehensive household surveys. Figures for access to safe water sources differ considerably in household surveys, largely driven by discrepancies in the definition of what constitutes safe water for consumption.[2] Two major surveys indicate levels of access to safe water somewhere between 40 and 60 percent nationwide, based on varying (and inconsistent across both studies) definitions of what is a source of safe water; they confirm consistently that access by the urban population to piped water supply is between 20 percent for the urban areas outside Phnom Penh (CSES 2004) and about 37 percent for the urban population overall (CIPS 2004) (see Table 1).[3]

Table 1: Government data on access to safe water, % of population

	CSES 2004				CIPS 2004		
Water Source	**Total**	**Phnom Penh**	**Other Urban**	**Rural**	**Total**	**Urban**	**Rural**
Safe water sources							
Piped water and public standpost	9.8	80.6	20.3	1.8	8.2	37.4	3.3
Tubewell	24.9	5.1	25.9	26.7	26.3	20.5	27.3
Protected dug well	16.5	1.1	15.4	18.1	3.0	4.5	2.7
Rainwater	12.3	1.8	10.0	13.6	-	-	-
Vended water	-	-	-	-	6.7	9.6	6.3
Sub-total	**63.5**	**88.6**	**71.6**	**60.2**	**44.2**	**72.0**	**39.6**
Unsafe water sources							
Unprotected dug well	11.0	0.6	5.8	12.6	26.6	11.6	29.1
Ponds, springs, rivers, etc.	18.6	1.2	12.2	21.1	28.5	16.1	30.5
Others	7.0*	9.8*	10.4*	6.2	0.7	0.3	0.7
Sub-total	**36.6**	**11.6**	**28.4**	**39.9**	**55.8**	**28.0**	**60.3**
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

* Others include vended water in the CSES.

Interpretations in both major household surveys regarding which sources constitute safe water are not reflective of international good practice. In addition, there is broad evidence that even where households have access to a water source, stipulated as safe by the interpretation adopted by the surveys, water may in fact not be safe for consumption without pretreatment. The definition of 'improved' or 'safe' water adopted includes, for example, rainwater (in the case of the CSES survey considered safe): this could well be classified as a safe water source for the purposes of rural water supply but there should be more caution for urban areas without more detailed information as to the actual gathering technology and pretreatment prior to

[2] The surveys refer to the Cambodia Inter-censal Population Survey (CIPS) and the Cambodia Socio-economic Survey (CSES), respectively, both carried out by the National Institute of Statistics (NIS), Ministry of Planning. A detailed discussion of the discrepancies in findings that is broadly applicable to the findings of both studies in urban areas can be found in Levisay and Chea Sameth (2006).

[3] It is not certain whether these two government surveys used the reclassification of urban areas adopted in November 2004 and, therefore, the re-estimated urban population. This could partially explain the difference in estimates with that of the DPWS, which was prepared based on the reclassification of urban areas.

consumption. Both surveys (in particular the CSES) adopt definitions of dug wells as protected and safe which, especially in an urban context, would not constitute safe water supply sources according to international practice. The CIPS includes vended water as a safe water source which, again, reflecting the realities on the ground – with very little accountability and oversight of water vendors in urban areas and consequently often unsafe practices in sourcing, storing and transporting water – is likely to overstate coverage.

Partly attributable to the lack of safe water**,** infant mortality remains high and the economy expends considerable resources on the treatment of waterborne diseases. Diarrhea remains widespread and is one of the major causes of child mortality in Cambodia, as shown in Table 2 below. Improved water and sanitation as well as hygiene education would be one of the single most effective prevention measures. A review of studies of the health impact of water, hygiene and sanitation shows that improving water quality alone reduces diarrhea risk by an average of only 16 percent, whereas sanitation and hygiene promotion are twice as effective (Curtis et al, 2000).

Table 2: Estimates of access to piped water supply, health and poverty indicators by province

Region/province	**Access to piped water supply** (% of population)*	**Infant mortality** (per 1,000 live births)†	**Child mortality** (per 1,000 live births)†	**Incidence of diarrhea** (% of population)*‡	**Poverty incidence** (% of population)*
Phnom Penh	**83.7**	**16**	**13**	**2.2**	**4.6**
Plains	**3.8**	**38**	**29**	**3.5**	**32.5**
Kompong Cham	5.1	34	33	3.5	37.0
Kandal	6.7	35	27	4.2	22.2
Prey Veng	0.0	49	38	2.7	37.2
Svay Rieng	0.7	31	23	4.5	35.9
Takeo	4.3	39	15	3.0	27.7
Tonle Sap	**3.6**	**49**	**33**	**3.9**	**42.7**
Banteay Meanchey	4.6	33	41	2.5	37.2
Battambang	8.0	68	40	2.4	33.7
Kompong Thom	0.1	34	25	4.4	52.4
Siem Reap	0.9	41	30	3.8	51.8
Kompong Chhnang/Pursat	3.2	61	27	5.2	39.6
Coast	**9.4**	**36**	**23**	**3.2**	**28.8**
Kampot	5.3	28	29	3.2	30.0
Sihanoukville/Kep/Koh Kong	15.3	48	15	10.7	23.2
Plateau/Mountain	**3.5**	**63**	**33**	**2.5**	**51.8**
Kompong Speu	3.5	63	33	2.5	57.2
Other Plateau/ Mountain	**6.3**	**40**	**44**	**4.0**	**46.1**
Kratie	9.7	27	38	4.7	n.a
Mondulkiri	0.0	22	67	6.7	n.a
Preah Vihear	0.0	39	39	0.9	n.a
Ratanakiri	0.0	62	56	7.9	n.a
Stung Treng	18.0	44	70	1.7	n.a
Oddar Meanchey	0.0	58	25	3.0	n.a
Pailin	6.3	33	26	2.9	n.a

Source: Based on raw data from CSES (NIS, 2004b).

* Household size is 5.1 persons.

† Estimates are based on raw data on fertility, i.e. recall on infant and child births and mortality for the past 12 months when survey was conducted.

‡3 Diarrhea reports (from recall data) are uncharacteristically low; diarrhea accounted for only 3.4 percent of illnesses nationwide in the four weeks prior to the survey.

Access to water is linked to poverty

Access to services strongly parallels poverty incidence, although it is seen across income groups. Despite a substantial increase over the past decade, only 4 percent of the poorest people have access to piped water. Even among the richest households, only 36 percent have access to this basic service.

Despite the seemingly positive impact that improved water supply would have on poverty reduction (decrease in waterborne diseases and infant mortality, better school attendance, reduced hospitalization rates and healthcare expenditures), the RGC is faced with many development issues and has not focused on this as a priority. The RGC has not yet recognized the significant contribution of improved water supply to poverty reduction and economic growth on a par with other infrastructure sectors.

Funding needs are significant

Investment requirements for the urban water and sanitation sector have been estimated on the basis of achieving Cambodia's MDG targets for the sector. The 2015 targets are to provide access to safe water to 80 percent of the urban population and access to improved sanitation to 74 percent of the urban population. The total investment required to meet these targets fully, on the basis of individual capital improvement projects included in a Capital Improvement Program, has been estimated by the RGC at around US$600 million, or about US$60 million annually. However, based on progress to date and on recent revisions to data on actual coverage, fully achieving the target for water by 2015 is viewed in the policy framework as not being likely. Instead, the RGC views providing 50–60 percent of the urban population with access to safe water by 2015 as more realistically achievable. The estimated total investment required to meet this scaled-back target would be about US$300 million, expressed in constant 2005 prices, or US$30 million each year between 2006 and 2015.

Available financial resources are low

Planned government funding for the sector is below MIME's estimated investment requirements. Even the limited public funding has not been secured and needs to be compensated by other sources of financing, such as self-financing or private investment. The policy framework provides projections for sector funding that reflect the growing role of retained earnings and self-financing at the utility level as well as private sector investment. These broadly reflect good policy practice. However, for the immediate future, these figures appear rather optimistic and will probably not be achieved.

The policy states as a short-term target for 2008 that about 63 percent of sector investment is to come from ODA, 27 percent from the RGC (mostly through retained earnings of public utilities) and 10 percent from private sector investment. Assuming an annual investment of about US$30 million as envisaged by MIME, this would imply about US$3 million from the private sector, three times the average historic levels. The RGC envisages funding for public investments to come predominantly from contributions by development partners rather than their own budgetary resources. This reflects tight fiscal space and competing demands on budgetary resources; it also implies an increase in disbursements to the water sector over historic levels, which have been well below necessary CMDG funding. However, going forward, donor funding (at the highly concessionary terms sought by the RGC) has not been secured even at the historic levels. Similarly, the more than tenfold increase to about US$8 million per year in retained earnings at the utility level seems very ambitious. Over recent years, the utilities in the sector have not contributed any significant amounts to the financing of investments. PPWSA, the financially strongest utility, currently projects retained earnings as a contribution to its investment program in the order of less than US$1 million per year for the 2006–9 period, or about 16 percent of its planned investments.

2.3 Putting the challenges in perspective

Although these challenges may appear daunting, providing significantly improved access to piped water supply to the urban population is not an impossible task. The total urban population of Cambodia is only

about two million people, of which 55 percent live in the capital and dominant city, Phnom Penh. This number may grow to about four million people by 2015. Altogether, the country comprises 37 urban areas according to the latest surveys and planning. This includes only one city, Phnom Penh, of over one million; the next biggest town, Battambang, has a population of only about 125,000. 10 other urban areas have a population exceeding 30,000, 12 have more than 10,000 and 13 have less than 10,000. In total, about 200,000 households in urban areas are without access to piped water; this number may grow to about 400,000 by 2015.

Compared with its much larger and more urbanized neighboring countries, these numbers make clear that the challenge of urban water supply for Cambodia does not call for a complex institutional strategy, a wide variety of financing and provider models, and further segmentation of what is clearly a small sector. Rather, it would seem that addressing urban water services requires simplicity and adherence to a small set of consistent principles and transparent incentives that can easily be communicated to and agreed to by local government, civil society, local entrepreneurs and utility staff, all of whom have an important role to play in the sector.

It is in this spirit that the implementation strategy retains a strong focus on urban water supply only and addresses rural water supply or urban sanitation only at the margin. As such it avoids over-complication through unnecessary segmentation and focuses on the two major challenges facing the sector: building capacity at all levels of stakeholders involved; and streamlining the funding and regulatory mechanisms applicable to the sector as well as the incentives for better management and increased efficiency.

3. Moving from Policy to Implementation: Key Elements of an Implementation Strategy

How best to respond to the above-mentioned demands represents a complex challenge. To move forward with the implementation of the policy, it is crucial to identify, prioritize and sequence specific actions. The RGC must establish a set of targets and incentives for the stakeholders in the sector. The following sections provide detailed and practical guidance for the RGC in implementing key elements of its urban water supply policy in three main areas:

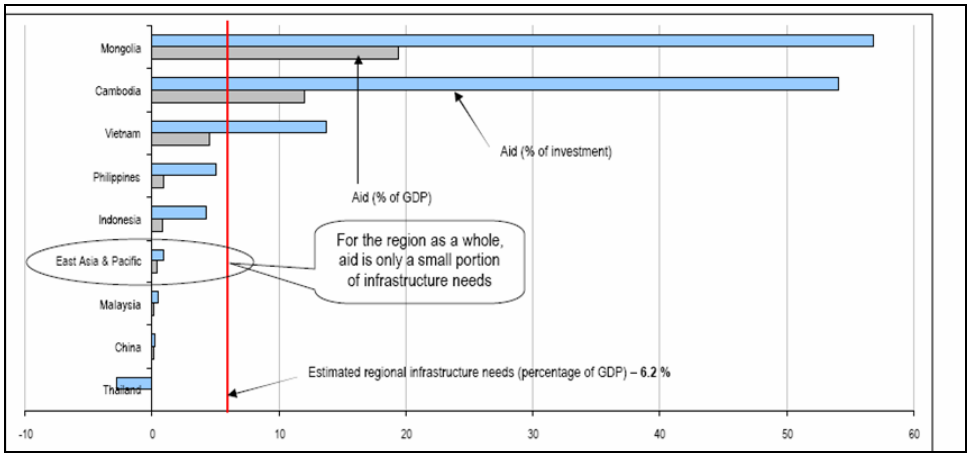
- Reforming the way the sector is funded and tariffs are regulated (Section 3.1);
- Reforming the institutional framework for improved provision of services (Section 3.2); and
- Boosting capacity at various levels of government, providers and civil society (Section 3.3).

3.1 Reforming how the sector is funded and tariffs are regulated

Financing for infrastructure can come from a combination of sources: the state budget and concessionary financing provided by multilateral institutions as supported by taxpayers, or the service providers and capital markets as supported by user tariffs. Applying this framework to the urban water supply sector in Cambodia reveals gaps that have contributed to current financing constraints. First, there is no budgetary allocation for capital investments in the urban water supply sector outside of the budget provided for ODA-funded projects, partly because of the government's tight fiscal position. Second, (most) public and private providers do not accumulate sufficient resources based on tariff revenues to invest in and improve services on their own. Third, the poor financial position of the service providers and the lack of collateral (coupled with the weak domestic capital market) do not allow sufficient creditworthiness to access domestic (and international) capital markets.

So far, the Cambodian water sector has been heavily dependent on ODA for its investment needs. As shown in Figure 2 below, this reliance on ODA can be noted across infrastructure investments and is not restricted to the water sector.

Figure 2: Aid (% of GDP and % of investment, 2003)



Below we examine in details what is likely to be required in terms of capital investment to fund the development needs of the sector and examine where financing could come from.

What is likely to be required in terms of capital investment?

Expanding and improving service in line with the CMDGs will require substantial investment. This section looks in more detail at how robust the estimates are for developing a funding strategy and what they include.

As mentioned in Section 2.2, investment requirements for the urban water and sanitation sector have been estimated on the basis of achieving Cambodia's MDG targets for the sector (access to safe water for 80 percent of the urban population and access to improved sanitation for 74 percent of the urban population). We saw above that total investment required to meet these targets fully was estimated by the RGC at roughly US$600 million, or about US$60 million annually. As providing 50-60 percent of the urban population with access to safe water by 2015 is considered by RGC to be more realistically achievable, the estimated total investment required is about US$300 million, expressed in constant 2005 prices, or US$30 million each year between 2006 and 2015.

The bases for this revised estimate are summarized in Table 3 below. Capital investments in Phnom Penh (whose population accounts for approximately 12 percent of the country's population) are projected at only 32 percent of the total (as opposed to 68 percent over 1997–2005) of the total for the sector. The remaining 68 percent is spread among provincial, medium and small towns and across planning, training and technical assistance (TA), most of which is focused outside Phnom Penh.

Table 3: Estimated capital investments and TA requirements 2005–15 (US$m, constant 2005 prices)

Category	Estimated investment	%
Phnom Penh	94	32
Provincial towns	57	19
Medium towns	77	26
Small towns	40	13
Planning, training and TA	31	10
Total	**299**	**100**

Source: RGC Urban Water Supply Strategic Framework, November 2004.

These estimates are high if compared with the historic costs for smaller towns outside Phnom Penh and using global benchmarks for investment costs. On this basis, it would appear that annual investment flows of about US$10 million should suffice to achieve the CMDGs by 2015. These revised estimates are presented in Table 4, with an explanation for the sources of savings in the notes below the table.

Table 4: Revising estimated investment figures based on historical data

	Phnom Penh	Provincial capitals	Medium towns	Small towns
RGC estimated investment requirement over 2005–15 (US$000s)	94,077	57,069	76,620	39,600
Households currently without access to piped water supply☼	~ 30.000	~ 160.000		
Additional households by 2015 (assuming a growth rate of 4%)	96,000	96,000		
Implied investment per unserved household (by 2015)‡	745	677		
Historic levels of investment per new connection (US$)	1000*	150-500†		
Estimated investment requirements to achieve full coverage by 2015 (based on global benchmark investment costs) (US$000s)□	55,125	112,000		
Estimated investment requirements to achieve CMDG 2015 (based on global benchmark investment costs) (US$000s)□	**33,600**	**68,600**		

* PPWSA made 79,409 new household connections in 1997–2005 and invested about US$82 million; this reflects significant investments in rehabilitation of assets and service improvements to about 40,000 existing customers in 1997.
† Based on the range of capital costs from small town projects in Cambodia, AFD report; does exclude as outlier the US$ 15,000/ connection for the water supply project in Siem Reap funded by the Japanese Government
‡ Assuming 100% coverage with piped water supply by 2015.
□ Investments costs for urban water supply per household as US$473.5 (per person of US$87.50; household size five persons): Global Water Partnership, quoted in ADB/JBIC/World Bank (2004).
☼ Assuming a total urban population of two million, with about one million residing in Phnom Penh and one million residing in urban centers outside Phnom Penh.
Estimates are for new capital investment only and do not include possible rehabilitation needs, as most of the assets in the sector are fairly new and should not require major rehabilitation investment over the next decade.

However, these estimates need to be interpreted with caution. First, global investment cost benchmarks are highly indicative by nature. In addition, these revised estimates do not account for rehabilitation investments in existing assets that may be required in most provincial centers. They also exclude the considerable need for capacity building in the sector (included in the US$300 million estimate presented in Table 3). As a result, they provide a lower bound estimate in terms of reasonable investment to achieve the CMDGs in urban areas of Cambodia.

In any case, making as much progress towards the sector goals as possible within a realistic budget framework will require key decisions to be made by the RGC for implementing the Urban Water Supply Strategy, including:

- **Defining appropriate construction and service standards:** Historically, investment costs have fluctuated widely, not least because of a wide variation in asset quality and technical standards. This variation is being reinforced by the project-by-project approach in the sector, which currently leaves the setting of project-specific standards to the dialogue between individual donors and the RGC. In implementing urban water policy, the RGC may wish to review the adequacy of applicable standards for ostensibly high cost water supply schemes and ensure better harmonization across the sector. For example, expansion appears significantly more expensive in Phnom Penh compared with many provincial capitals and smaller towns. This may reflect the higher asset quality and design standards applied to many of the donor-supported projects in Phnom Penh.
- **Prioritizing schemes on the basis of costs:** Capital costs also fluctuate widely among schemes, as there is currently little prioritization of expanding access where it is less costly first and moving to higher cost projects later. A recent review of approaches in small towns' documents the variations in capital costs associated with projects in more densely populated town centers as opposed to attempts to provide 100 percent coverage for rural towns with low density in fringe areas. Similarly, bid results over a sample of small towns clearly indicate lower costs for towns accessible by the major road network. One option for dealing with funding constraints would therefore be to place a higher emphasis on expansion through projects that involve lower capital costs.
- **Requiring contributions from users commensurate to their ability and willingness to pay:** Capital contributions financed ultimately by users have fluctuated considerably across the different projects implemented by RGC in the past. Tariffs are consistently higher in small towns where investments are financed by private operators than in small towns with public utilities, and have allowed higher levels of private co-financing in these smaller towns than in larger towns, including Phnom Penh, Sihanoukville and Siem Reap, even though poverty levels are typically higher in the smaller towns. One consideration for dealing with funding constraints would be to assess higher levels of co-financing for system expansion in locations with higher income levels.

What are feasible sources for financing and what can the government do?

In planning the long-term funding framework for the sector, the policy framework provides a review of the different sources of potential finance, including budgetary contributions and donor funds (ODA), utility financing (or self-financing), private investment and domestic lending.

In particular, the policy assumes that subsidies provided by donors (either through grants or highly concessionary loans) will decline, losing their dominant role as a source of public funding for the sector. The policy projects that by 2015 ODA resources will amount only to about 10 percent of overall funding. This means that public and private utilities will need to provide the rest of the financing, including through recourse to commercial sources of financing. In addition, tariff revenues from users would need ultimately to be sufficient to provide funds for about 90 percent of investments.

Such a transition is ambitious, albeit one which is already a reality for consumers in many towns served by private providers. Managing this will hinge on the ability of the RGC to create conditions in the sector that increase access to long-term finance for both private and public utilities; the ability of the RGC to attract donor financing (on less concessionary terms); and on the willingness and ability of households to shoulder increasing user contributions. The latter will require that households have an explicit say in determining what level of services they want and are willing to pay for. The RGC will have to make provisions to differentiate between better off households and lower income households, as detailed below.

Here, we examine the projected contribution from each sector and what the RGC could do in order to improve the impact of such contributions, in areas such as improving donor coordination and dialogue, strengthening utilities financing and mobilizing private financing.

Budgetary contributions and donor funds

Evaluating past donor contributions

Making detailed projections as to how much donors will ultimately contribute to investments is difficult, partly because the current practice of working with donors is fragmented and project-specific rather than focused on the mid-term.

Total ODA disbursements in the urban water supply and sanitation sector are estimated to have been at least US$146.8 million over the 1997–2005 period, totaling an average of about US$16 million a year. However, annual disbursement levels were uneven: 80 percent of the total was disbursed over the past five years of the period in question. This information may reflect limitations in data available before 2000, but a more significant factor is likely to be the relatively long lead time between project preparation and implementation. Donors developed substantial assistance programs in the late 1990s which were implemented over the first five years of the new millennium.

As shown below in Table 6, the three largest donors (Japan, the ADB and the World Bank) accounted for 95 percent of total disbursements. Although this may be somewhat of an overestimate because of the more limited availability of disbursement data for other donors, it is still likely that the three major donors represent at least 90 percent of disbursements in the sector. The single largest donor is Japan, with a total of almost US$69.6 million, or about 47 percent. Total disbursements by the ADB and the World Bank were US$36.7 million and US$33.2 million, respectively. With the exception of 2004, disbursement levels have been relatively constant over the past five years, ranging between US$21.3 million and US$32.1 million, at an average of US$19.9 million.[4]

Evaluating future donor contributions

Existing plans by the major donors do not indicate major increases in ODA to the urban water supply sector over the medium and long term. In fact, little funding is secured in terms of the policy framework for the planned investments at this point. Given the track record for significant lead times for project development by donors, whether ODA disbursements to the sector can be sustained at the rate envisaged by the policy framework or even at the levels over the past five years is questionable. The RGC should undertake a number of steps to broaden the appeal of the sector for external development partners, as detailed below.

Improve donor coordination and dialogue

Reinforcing donor consultation and donor coordination through a formalized mechanism should be a priority, in particular through the Technical Working Groups (TWG). The RGC has now positioned these groups to become the main channels of development planning and coordination with external partners. The TWGs also deal with formulating the NSDP. Putting water back ‘on the radar screen’ of development partners will mean enabling the water sector to gain a seat at the table, i.e. the TWG for Infrastructure (which is currently dominated by transport and road infrastructure). It will also require bringing water supply to the forefront of poverty reduction in the form of a sectoral approach, which should lead to better monitoring of anti-poverty results.

Seek less concessionary funds in order to relax the current credit rationing in the sector

The RGC is currently relying exclusively on highly concessionary funds (grants and ODA credits). Clearly, the pool of grant funds will remain limited, and this government practice is effectively rationing credit for the sector. At the same time, indications are that the sector can bear higher financial costs. Both PPWSA and small private firms have a positive return on capital from user fees which exceed the terms of grants; there is no obvious reason why this should not be feasible for other urban utilities. In fact, government policy is to attract more private financing, which obviously comes on significantly more expensive terms. This should

[4] In 2004, disbursements totaled only US$11.0 million after the completion of a number of large projects in 2003. They then increased to US$27.5 million in 2005, primarily because of the Japanese-funded project in Siem Reap.

enable the RGC to shift to less concessionary funding sources on its own and pass the more onerous terms on to the sector. To some extent, this is already taking place, with PPWSA exploring a soft loan from the French development agency (AFD). Provided that such funds are spent prudently and that incentives are in place to ensure they consistently yield returns commensurate to the terms of the donor funds, such a shift could relax the current rationing of credit in the sector.

Shift towards a sector-wide approach (SWAp)

The RGC is currently fostering a fragmentation of donor assistance. The prevalent project-by-project approach tends to muddle incentives in the sector (some consumers benefit from capital investments funded on grant terms whereas others have to pay tariffs that compensate for the high costs of private financing). Segmentation into provincial capitals, medium-sized towns and small towns contributes to this fragmentation, which has a detrimental impact on the RGC's ability to formulate and communicate effectively its policy intentions to other stakeholders, including private firms and local government. This also makes engagement in the sector difficult, particularly for smaller donors without a large field presence. Therefore, the RGC should attempt to reduce fragmentation by moving towards a SWAp framework, based on an agreed common funding envelope supported by a rolling three to five year expenditure projection.

Given the capacity requirements in terms of financial and expenditure management as well as governance concerns, pooling of donor funds may be a strategy feasible only in the long term. However, under a more cohesive sector approach, funds provided by donors at various (more or less concessionary) terms to government would be passed on to the sector on uniform terms to preserve consistent incentives.

Adopt a medium-term expenditure framework (MTEF)

Adopting a SWAp approach to donor financing would require the RGC to plan for the sector on the basis of a medium-term expenditure framework (MTEF). Given the relatively minor complexity and size of individual investments anticipated in the near future, it is recommended that the government explore pooling of ODA funds with government funds (both limited funds allocated through the budget process and funds earmarked for sector investments and generated through return on capital from public utilities or lease fees or equivalent from private utilities). The RGC should develop a consistent approach to allocating these across public and private utilities.

Allocation of funds to utilities should be based on medium-term expenditure plans as presented by utilities, rather than on the presentation of one-off individual investment projects, as it is currently the case. This MTEF would also serve as the basis for setting tariffs. It would allow the RGC to make an *a priori* assessment of investments and to provide incentives for utilities to request tariff increases. It could also be used to estimate the affordability levels of the currently served population.

Harmonize funding terms

As part of such a sector funding framework, the RGC should harmonize terms for funds passed on to providers, both public or private, and ensure that funds allocated represent only a portion of annual capital expenditure plans by utilities, to match funds raised by the utilities themselves and beneficiary communities. The portion of funds passed on by government on concessionary terms should better reflect prevailing poverty levels among the beneficiaries of service expansion or improvements.

Improve capacities to handle funds

Financing is a major constraint to sustainable expansion of water access, but it is neither the only one nor the most important one. Despite improvements over the past decade, technical capacity is very weak across levels, including both in public utilities and private service providers. This is true at local government levels, in particular at commune levels but also in central government in terms of policy and nascent regulatory functions. Absorption of donor funds has been concentrated in the past on PPWSA; mitigating capacity constraints at the level of provincial utilities will be crucial in absorbing funds made available by donors and in ensuring that investments are made and assets managed in a way that ensures the sustainable delivery of services.

Utility financing: equity and retained earnings

The policy framework projects a steep increase in funding from the utilities themselves, backed by user revenues. In principle, this reflects good international practice in the water sector in providing utilities with a more robust and stable basis for planning and funding of investments. However, taking into account RGC estimates of total investment needs (US$30 million per year); utilities would need to raise about US$27 million per year by 2015. Even for lower estimates of investment needs (US$10 million per annum), this contribution would need to be around US$9 million per year. These amounts exceed by a large margin the funds that are generated for investment at utility levels today. Financial data for the 2003–5 period show that self-financed investment by public utilities was negligible and appears to have been limited to minor emergency repairs. Virtually all capital investments undertaken have been with ODA support; any required counterpart funding has been provided by the national government rather than by the utilities.

However, there is clearly scope for generating more investment funds from retained earnings and it is possible to achieve the ambitious goals set by the sector policy. To do so, government efforts should focus on ensuring that utilities start generating funds for investments, with priority efforts in the following areas.

Improve the efficiency of public utilities

Tariffs need to be set to enable adequate expenditure on operations and maintenance (O&M). Tariff levels currently charged to consumers mask significant inefficiencies. Adequate expenditure levels on O&M are defined as those that ensure that the operating standards set for the system, and reflected in system design, can be fully achieved. Past and current expenditure levels on O&M by most water supply systems in the country outside Phnom Penh are inadequate, in many cases grossly so. Although the operating performance and physical condition of provincial water supply systems indicates serious and chronic under-funding, the cost of water sold is very high relative to other countries in the region. As shown in Table 5, the direct cost of O&M for the 13 provincial utilities ranged between the equivalent of US$0.16/$m^3$ and US$0.59/$m^3$ of water sold in 2004. The average for the 13 utilities was $US0.27/$m^3$. These levels are two to four times greater than those for comparable utilities in Vietnam and Laos.

Table 5: Cost of water sold for provincial water utilities, 2004

Utility	Unit cost of water sold (US$/$m^3$)		
	Direct O&M	**Depreciation**	**Total**
Battambang	0.32	0.02	0.34
Kompong Cham	0.16	0.01	0.17
Kompong Chhnang	0.27	0.00	0.27
Kompong Thom	0.24	0.09	0.33
Kampot	0.34	0.02	0.36
Kratie	0.23	0.06	0.29
Prey Veng	0.26	0.00	0.26
Pursat	0.23	0.00	0.23
Ratanakiri	0.19	0.00	0.19
Siem Reap	0.25	0.04	0.29
Sihanoukville	0.27	0.28	0.54
Stung Treng	0.59	0.00	0.59
Svay Rieng	0.21	0.06	0.27
Average	**0.27**	**0.09**	**0.36**
PPWSA	**0.10**	**0.10**	**0.19**

There appear to be two main reasons for these very large differences in cost structure. First, electricity costs are significantly higher in Cambodia than in neighboring countries. The proportion of direct O&M costs accounted for by electricity is higher for Cambodian utilities than for utilities in Vietnam, Laos and Thailand. However, this does not fully explain the drastic difference. A second factor appears to be gross inefficiencies in funding expenditures.

A detailed tracking survey of expenditure for the provincial utilities, which would allow for a more accurate pinpointing of sources of inefficiencies, has been carried out but the results are not yet available. Clearly, reviews into the efficiency and prudence of expenditures should be undertaken regularly by the RGC. Results should be made public for the benefit of civil society and be used for the purposes of utility governance, i.e. for assessing the performance of utility management and for the regulatory process.

Expenditure tracking for other public services in Cambodia has revealed drastic delays in public funds being passed to operators or actual expenditures authorized. Providers are forced to purchase necessary inputs on credit and to accept premiums by suppliers for goods and works. This reflects the payment risks associated in doing business with government entities in Cambodia.[5] Furthermore, at least some of the provincial authorities in Cambodia appear to use their water utilities to cover expenditures incurred by the government that are unrelated to water supply. These unrelated expenditures are recorded by the utilities as part of their operating expenses and, therefore, form part of their cost structure.

Encourage greater self-financing by utilities

Full cost recovery is a principle for setting tariffs in the sector policy (especially when it comes to depreciation and cost-of-capital components in the tariff). The current tariff-setting process applies this principle inconsistently. Moving to a more rigorous application of full cost recovery would provide some scope to increase the revenues generated for investments by the sector overall. However, there is a glaring mismatch between the utilities which have a realistic revenue-generating capacity and those which are in need of investments. This represents a funding imbalance that the sector needs urgently to reconcile.

Some of the larger utilities have been endowed with high-quality assets through past ODA projects and benefit from the low capital costs for these (having been financed by highly concessionary funds). Currently, these benefits are being passed on to consumers in the form of lower tariffs. Others do not have access to piped water because of the lack of new capital. Increasing capital costs and depreciation expenses faced by these utilities over time could in many cases make services more affordable to existing consumers and create significant revenues in the sector that could be used to fund future investments. Initially, this may not generate large funding flows or contributions to the required investments in most utilities, particularly for utilities which have a small consumer or asset base but large growth needs, or which have been endowed with a large asset base that serves few consumers (e.g. Siem Reap). However, in the utilities with a significant customer base, in Phnom Penh, Sihanoukville and Siem Reap, comparatively small increases in tariffs could yield quite significant resource flows. The need for such strategy to be adopted by PPWSA is described in Box 1 below.

Box 1: Trend towards greater self-financing by PPWSA

PPWSA projects that it will self-finance about 18 percent of its capital investments in 2006. Over the following next three years, 2007–9, it expects this ratio to increase to 51 percent of its capital investments, although in absolute terms these figures are dramatically below what is stipulated by the policy framework.

Disbursements for PPWSA's largest ODA funded projects all peaked in 2001 and 2002, as shown in Table 6. ODA then decreased to much lower levels, from US$8.9 million in 2003 to US$3.2 million in 2004 and US$2.7 million in 2005. Total investments (and ODA disbursements) for PPWSA are expected to increase again slightly over the current levels up to about 2008, as a €9 million loan by France to PPWSA is expected to be approved in 2006 and to be disbursed over the 2007–9 period. However, total investments will remain well below the peak years of 2001 and 2002.

In absolute terms, the level of earnings generated by PPWSA for investments is currently projected in the order of US$1–2 million per year in the short to medium term. There may be scope to increase the levels of funding generated from cash flows, given its large customer base, its endowment with high-quality existing assets and the low cost of capital. This reflects its access to concessionary funding over the past decade, the low tariff levels compared with the rest of the country and, not least, efficient management. Consumers living in the capital benefit from past subsidies in the form of low tariffs and, in fact, PPWSA has been foregoing tariff increases owing to a lack of imminent need for funds. As a result, it has one of the lowest tariffs in the country.

[5] A detailed survey of expenditures in the education sector revealed that costs paid by schools for material readily available in the market (e.g. paper sheets) exceeded reference market prices by significant margins (of up to). For water utilities which purchase works and goods for which reference prices are less readily available, it can be expected that similar premiums would be demanded by suppliers, causing some of the obvious inefficiencies.

Table 6: ODA for PPWSA by donor (US$ millions)

	Actual								Est.	
Donor	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**Total**
ADB	0.6	2.0	1.0	2.8	5.0	3.6	1.7	-	-	16.9
AFD	-	-	-	-	-	-	-	0.6	1.1	1.7
IDA	-	0.5	3.5	3.4	7.0	5.4	2.9	2.0	1.1	25.9
JICA	0.7	9.4	-	0.6	6.1	12.1	3.1	0.6	0.5	33.1
Other	-	-	-	0.5	0.3	2.2	1.1	-	-	4.1
Total	**1.4**	**12.0**	**4.5**	**7.3**	**18.3**	**23.4**	**8.9**	**3.2**	**2.7**	**81.7**

The trend towards somewhat greater self-financing of capital investment requirements observed for PPWSA (even though modest) has so far not extended to the 13 public water utilities serving the provincial towns outside Phnom Penh.

Move towards greater clarity in defining the costs that should be taken into account for tariff setting

At present, the recovery of capital invested in fixed assets through depreciation is very uneven in the sector (see Table 7). Five of the 13 provincial water utilities expensed no depreciation whatsoever in 2004. Consistent application of depreciation charges could generate funds for investments made by the individual utilities within their service areas. Depreciation is currently determined based on the book value rather than on the replacement value of the utilities' assets. Therefore, depreciation expense is low for most existing systems which have not participated in an ODA-funded rehabilitation or expansion project and which have low book values. A move towards the use of replacement values for tariff setting would provide a more realistic picture of rehabilitation and replacement needs. However, part of the problem is the wide variation in depreciation rates. Although these are standardized by government regulations, the variation in rates applied by the different water supply entities can not be explained solely by differences in asset composition. For example, the weighted average rate applied by Sihanoukville is 8 percent, whereas that applied by Phnom Penh is only about 2.5 percent. Typically, depreciation rates for water utilities would be in the order of 3–4 percent.

Also, the government's tariff policy states that user charges should allow for a return on capital. However, the policy does not specify the allowable return or set any objectives or criteria for determining it. Presently, none of the public water utilities in the country, including PPWSA, sets tariffs in relation to a clear objective for the return on capital. As such, there is a need to establish appropriate criteria and then to apply these more rigorously in the course of the tariff-setting process for all utilities. Introduction of cost-of-capital charges would generate funds. These may not initially be significant amounts, but would provide funds reverting to the government to be utilized for investments in the sector as a whole. This would also ensure that the past bias towards the three larger utilities with access to highly concessionary funds is not perpetuated. Instead, users that have benefited from such investments in the past could now contribute their fair share to sector investment outside the main urban agglomerations. Of course, this would require the establishment of a national solidarity mechanism, which may be complicated to put in place.

Prepare capital investment plans, especially in smaller utilities, together with greater utility autonomy

The absence of well defined capital investment plans for the public utilities outside Phnom Penh has been another obstacle to greater self-financing of these investments. Without such plans, it is difficult for the utilities to justify clearly the need to set tariffs at levels necessary to fund such investments. Therefore, tariff setting needs to be undertaken within the context of clearly defined investment plans. If tariffs could be set to fund a portion of capital investments, this would generally mean accumulating modest cash surpluses over a number of years. However, given the present lack of autonomy of the utilities, there is no guarantee that the utilities could actually retain these funds. Therefore, introducing greater self-financing of investments needs to be linked to progressively greater autonomy of the utilities.

Table 7: Summary operating and financial performance for provincial water supply systems, 2004

	Provincial Water Supply System													Total/
	Battambang	Kampong Cham	Kampong Chhnang	Kampong Thom	Kompot	Kratie	Prey Veng	Pursat	Rotanakiri	Siem Reap	Sihanoukville	Stun Treng	Svay Rieng	Average
A. Operations														
Production (m3/day)	3,750	1,680	500	770	3,030	1,020	220	670	230	1,930	3,790	290	240	18,120
Sales (m3/day)	2,160	950	430	500	1,470	620	220	510	130	1,260	2,720	230	170	11,370
NRW (%)	42%	43%	14%	35%	51%	39%	0%	24%	43%	35%	28%	21%	29%	37%
B. Revenue (MM Riels)														
Tariff Revenue	1,077	192	155	182	643	203	71	148	41	572	1,342	104	55	4,784
Other Revenue	12	55	19	-	104	57	12	-	6	33	28	96	-	423
Total Revenue	1,089	246	174	182	747	260	83	148	47	606	1,370	199	55	5,207
Average Tariff (Riels/m3)	1,370	550	980	1,000	1,200	900	900	800	840	1,240	1,350	1,210	900	1,150
C. Recurrent Expenses (MM Riels)														
Operations & Maintenance1/	999	219	174	172	738	204	81	170	37	458	1,054	203	50	4,560
Depreciation	76	20	-	65	39	53	-	-	-	81	1,105	-	16	1,455
Total	1,075	239	174	236	777	258	81	170	37	540	2,158	203	66	6,014
Unit Cost (Riels/m3)2/	1,365	686	1,099	1,303	1,450	1,143	1,024	922	772	1,170	2,177	2,371	1,079	1,450
D. Cost Recovery (Riels/m3 sold)														
Profit (Loss) - excl depreciatior	114	78	2	55	17	247	33	(122)	191	319	320	(40)	76	156
Profit (Loss) - incl depreciation	18	21	2	(303)	(56)	11	33	(122)	191	143	(795)	(40)	(179)	(195)

1/ Includes expense for operations, maintenance, management and administration, and taxes.
2/ Total recurrent expense per m^3 of water sold.

Establishing clearer mechanisms for cost recovery

Existing policies for cost recovery and tariff setting are not being fully and consistently applied. For the large majority of private operators, there is no regulation of tariffs by government. For public systems, tariffs are approved by government but the basis for tariff setting is often arbitrary and not fully consistent with existing policies. In part, these shortcomings reflect the need for clearer implementing mechanisms for cost recovery and tariff setting. These mechanisms should be based on the following principles and objectives.

Applying consistent cost recovery objectives: Currently, tariffs vary widely across utilities in Cambodia. To the extent that discrepancies in tariffs reflect differences in economic costs, such variance should be expected and is consistent with a decentralized system of autonomous utilities. However, the root cause for tariff variations in the Cambodian water sector is not so much the variation in true costs of providing the service, but an inconsistent application of the cost recovery principle. Although some utilities have moved towards tariffs that recover costs to a significant extent, others have not. This trend not only deprives the utilities that have not set high enough tariffs of urgently needed funds to rehabilitate and expand their asset base, but also has negative repercussions for the utilities that actually try to do so and, as a result, suffer from public misperceptions of exploiting users. These discrepancies are particularly marked between private and public utilities but also within the public utilities, where some apply government policies for tariff setting more prudently than others. Thus, the tariff requirements of the utilities need to be reviewed and set on the basis of consistent objectives regarding cost recovery. For example, existing government standards for depreciation need to be consistently applied by all water utilities. Depending on the precise asset mix, average depreciation rates for water utilities would typically range from 3 percent to 5 percent. Furthermore, consistent with existing government policy, tariffs should also be set to recover a return on capital. Based on international benchmarks, a return in the range of 5 percent would be appropriate. Such a return is currently not priced into tariffs by any of the provincial utilities in Cambodia.

Establishing a financial reporting structure: The scope, quality and availability of financial and operating data for both the public and private water utilities are presently insufficient for effective financial regulation and tariff setting. With the exception of PPWSA and Sihanoukville, the quality of reporting by the public water utilities is very poor. Most of the public utilities do not routinely provide financial statements or operating data to MIME. The information that is provided is often of questionable reliability. Almost no financial data are available to the government for the private water operators. As an initial step, MIME should establish a utilities database for the 13 provincial water utilities, incorporating the financial and operating data needed for basic tariff regulation. This database would not only provide the basis for tariff determination, but could also be used to compare and benchmark the operating and financial performance of

the utilities. A similar database should then be established for the licensed private operators. Annual reporting to MIME, and later to the sector regulator, based on the requirements of the database needs to be established as an obligation for the provincial utilities and for the mid-sized and larger private water operators.

Organizing regular tariff reviews: With the exception of PPWSA, and possibly Sihanoukville, the public utilities lack the capacity to undertake an adequate assessment of their tariff requirements. Therefore, capacity building within the provincial water utilities will be required. For many of the utilities, this is likely realistically to be achieved only over the medium to longer-term. Therefore, central government, initially through MIME and later through the regulatory authority, will need to take the lead in this process. This will require a much more proactive approach to tariff setting and regulation than is presently the case. This should include an annual review of tariff requirements for each of the 13 provincial water utilities, which should be undertaken as part of an annual performance review of the utilities.

Private financing: scaling up what has worked best in mobilizing private funding

Approaches for encouraging private financing that have been tested in the past indicate that there is potential in securing co-funding of investments through the private sector, particularly in small towns (funded from user tariffs). Although no precise figures are available, the increased presence of private operators, mainly across small provincial towns, has been funded almost entirely from domestic capital market sources. This funding has mostly been informal and, to a large extent, in the form of equity.

With an estimated 300 private operators and an initial capital investment of roughly US$10,000–40,000 per system, cumulative private sector investment would be in the range of US$8 million. The bulk of this investment has probably been provided over the past five years, averaging about USUS$1.5 million per year, significantly exceeding retained earnings from public utilities.

Over the past few years, the RGC has experimented with various approaches for attracting private sector investment through the award of contracts that contain private investment obligations for parts of the upfront capital investment needs (from 10 percent for the DBL approach up to 30–40 percent for the MIREP and OBA approach). These pilots have been subject to various evaluations supported by donors over recent years and have consistently been found to provide good service and to form an important complement to public utilities. They also indicate that it is feasible to leverage private investments of about 20–30 percent of investment needs. It is remarkable that these co-funding rates have been achieved for greenfield projects, i.e. in the absence of an existing customer base and revenue stream that could have contributed through retained earnings. Naturally, these leverage rates have depended a great deal on the poverty level and economic growth prospects of the small towns in question, as well as the specific obligations imposed on the private firms to connect all households in small towns or only the ones located towards the center of town (which, on average, have tended to be less costly to supply and better off in terms of household income).

The RGC should continue its strategy to scale up contracting with private firms: All the approaches explored have shown some strengths. It is recommended that the RGC ‘merge’ the individual approaches of contracting with private operators into a uniform and consistent contracting model that combines the strengths and advantages of the individual approach and scales up the use of this instrument. Such a model should combine elements of *ex-post* disbursement of funds against results (outputs), to indicate that lower income households would (at least) benefit equally from improved and expanded services.

Rather than pursuing segmentation of urban areas into different areas in what is in international terms a fairly small total urban population and tailoring specific provider and contracting models to small towns of varying size, collapsing the differing approaches into one ‘standard’ contracting approach would be a suitable strategy for RGC. This would simplify contracting greatly and would allow the government to communicate more effectively with small firms (which have to spend considerable resources familiarizing themselves with model contracts) and local government/communities (which may otherwise be easily overwhelmed by a complex set of contracting options) and to enhance transparency/consistency.

Many of the private operators charge tariffs at levels that allow for depreciation and return on capital and, consequently, tariffs for private water providers are consistently higher than for public utilities (which often do not account for such charges), albeit without an indication that the higher tariffs would be unaffordable.

This is often because they are providing services in areas that were not previously served and local communities understand the need of cost-covering tariffs to ensure the utilities' financial sustainability (cases of 'predators', i.e. private providers charging considerably more than their costs are rare at present owing to a high level of competition). However, with modes of public and private provision of services converging, it may become more difficult to convey to consumers the fairness of such a discrepancy. As such, although it may arguably be more difficult for the public utilities to access upfront, private financing for investments, the principle of upfront matching contributions should not be limited to private utilities.

The RGC should strive to ensure consistency of funding conditions across the sector as a whole with, for example, a similar margin for upfront funding to be required for new investments in public utilities. Tariffs need to be raised to levels that compensate for depreciation and debt service. In prioritizing investments, public funding should go towards public utilities which can provide some level of matching fund; efforts should be made to improve the ability of public utilities to gain comparable access to capital markets in order to secure co-financing for investments at similar levels to private utilities in small towns.

Improving access to domestic financing for private and public utilities

Access to domestic credit by the water sector has been constrained by a number of factors. With 90 percent of private providers operating without a license, there are concerns by lenders regarding investment security. Furthermore, with most of these private providers being unincorporated businesses, there is no legal entity to lend to, other than to owners on a personal basis. Except for PPWSA, public utilities do not have the distinct legal status needed to enter into commercial loan agreements. Conventional lending facilities are currently limited to relatively short maturities, a maximum of three to five years, resulting in a mismatch between loan repayment and asset life, which is typically much longer. Although interest rates have declined over the past few years, they remain high in real terms, about 9–10 percent, which may be affecting demand for such credit. Largely because there has been so little lending by the commercial banks to water providers, the banks' knowledge of the sector is limited. This in turn affects both the capacity and interest of the banks to lend to the sector. This is further compounded by the limited presence of many of the commercial banks outside Phnom Penh, which makes it difficult and costly for the banks to appraise loans in the provinces. As a result, the water providers, most of which are based in smaller communities, are at a disadvantage in securing commercial bank loans relative to Phnom Penh businesses.

However, the most important constraining factor is the demand for collateral by domestic banks. Collateral requirements for conventional bank loans are typically 100–150 percent of the loan principal. Acceptable forms of collateral are almost always limited to immovable assets – land and buildings – and most private operators have significant difficulties meeting such requirements. Without distinct legal status from the government, the public utilities also lack the authority to pledge assets as collateral.

Partial credit guarantees have proven to be an effective means of addressing the collateral requirement. Existing guarantee programs implemented in Cambodia in cooperation with IFC and USAID have enabled the commercial banks to make term loans secured by collateral of 50–100 percent. However, these programs have not been targeted at the water sector and, as a result, no water providers have accessed credit in this way. Based on the MIREP experience, there appears to be a demand for credit by the private water providers. Therefore, the RGC should consider the establishment of a partial credit guarantee program specifically aimed at the water sector on a pilot basis.

This constraint to accessing credit is not unique to the water sector or utilities, and is one of the core complaints by private firms when assessing Cambodia's environment for doing business.[6] Efforts to correct these deficiencies and to build a sound financial system, particularly for term finance, go naturally beyond the scope of the water sector policy. However, they are particularly relevant here because of the need for long-term funds and because of the lack of recourse to other financing instruments compared with other sectors. Broader efforts are required from the RGC to improve credit delivery in terms of the policies, laws, institutions and skills that a modern financial sector demands. However, the RGC already has a number of

[6] In fact, Cambodia ranked worst out of over 154 economies in terms of access to credit in 2005. Key deficiencies included legal rights for lenders and the scope, access and quality of credit information available through public registries or private bureaus, both which Cambodia scored 0 on a 0-6 scale.

options in terms of improving access to credit in the short and medium term for providers in the sector. Focal points of efforts in implementing the sector strategy are detailed below.

There should be a move to improve credit information, in particular about public utilities, by strengthening financial management and reporting by the provincial water utilities. The capabilities of PPWSA in this field are strong: PPWSA accounting records are maintained in accordance with domestic accounting laws and regulations. Its financial statements are prepared on the basis of International Financial Reporting Standards with the exception of its treatment of government grants and staff retirement plan provisions. The situation for other public utilities is bleaker. Weaknesses in financial management prevent meaningful analysis of creditworthiness of utilities, increasing costs and risks for domestic lenders. Such weaknesses have also been an important factor in undermining the government's ability to regulate the sector adequately.

Public utilities are currently required to produce annual financial statements, but few actually do so. The level of detail of statements is generally insufficient for a meaningful analysis of financial performance. The financial statements prepared by some of the utilities are incomplete and at least some of the data provided appear to be of questionable reliability. This also applies for private providers: despite little comprehensive evidence, it appears that most funding for companies has been on an informal and equity basis. Given that most of the private operators are small and informal, there is generally no external financial reporting. Small businesses are limited to family members and operate on a cash basis. The extent and quality of financial records is determined by the capabilities of those involved and the perceived need for such records. Since the large majority of these businesses are unincorporated, there are no statutory requirements governing financial management and reporting.

One of the priority areas for policy implementation will be to improve information on utilities, for the benefit of future lenders but also for reasons of corporate governance and regulation. This will require a mix of capacity-building efforts, strengthened corporate oversight for these utilities, and improved incentives for management staff to take financial reporting obligations seriously.

Strengthen property titles for private providers with respect to the licensing practice

One constraint for private firms in accessing credit to finance system construction and further expansion is their weak legal title for the rights to provide services and collect revenues. It is therefore recommended that the RGC, in line with the policy objective to maintain a role for the private sector in the provision of services, particularly in small towns, extends the terms of licenses it grants to service providers to a more appropriate duration, about 10 years. Not only would this provide more security for the firms, but also it would reduce the costs of doing business for these firms in terms of interactions with bureaucracy and improve transparency in the license renewal process.

Authorize and provide incentives for public utilities to access domestic credit sources

As ODA continues to shift out of Phnom Penh and into the less developed areas of the country, PPWSA needs to begin developing other sources of financing. This should include the domestic credit market. By borrowing, even in small amounts, from the commercial banks, PPWSA would be establishing itself as a creditworthy borrower within this market. It could then position itself for larger borrowing in the future as the local market continues to develop and as terms improve. Beyond its own need to develop new sources of funds, PPWSA could play an important role in creating a market for commercial bank lending to the water sector. By borrowing, PPWSA would foster much greater knowledge of the water sector within the commercial banks, which would then facilitate borrowing by other water providers, both public and private. Doing so may require PPWSA to shoulder foreign exchange (forex) risks, and therefore should be subject to careful oversight by the Ministry of Economy and Finance (which has historically directly borne the foreign exchange risks associated with financing for the sector).

Leverage donor funds effectively as collateral for private credit through partial risk or credit guarantees

Currently, the RGC acts largely as 'lender-of-last-resort' for utilities unable to access credit because of lack of creditworthiness. It does this by on-lending donor funds that are provided at highly concessionary rates and passed on to utilities with a mark-up that is meant to compensate for foreign exchange risks but does not systematically reflect the underlying credit risk of the public utilities. On-lending rates are inconsistent across utilities and reflect the differing conditions imposed by individual donors. The RGC is considering

alternatives to ensure better access to financing for utilities, including a water fund that could lend to utilities. However, this may not be the only option and is quite possibly not the best.

There is broad international evidence that such a government role rarely induces incentives for utilities to reduce credit risks, not least because projects are too often not scrutinized for their political relevance rather than their financial viability. Utilities do not have to fear penalties for credit defaults, and terms of credit are rarely adjusted through triggers to enforce management decisions that would safeguard the financial integrity of projects or firms. Also, there is often the impact of 'crowding out' rather than inducing lending to the sector by domestic banks, and little is delivered in terms of leveraging the government to expand the pool of funds available to finance investments in the sector. In very general terms, international evidence suggests that government lending, including to infrastructure projects, is rarely a sustainable strategy.

Rather than direct on-lending, the RGC may want to explore forms of sharing credits risks (it is fully bearing today) with domestic private banks. This should be tailored to the latter's current ability to assess the variety of risks fully (the risks are impossible to anticipate at this point) including, for example, regulatory risks associated with the renewal of licenses and the tariff-setting process. Sharing these risks can take various forms, e.g. partial risk guarantees (that protect creditors against specific risks that may cause default on the loan) or partial credit guarantees (that protect the creditor against default for a part of the loan amount). Some of these structures have been explored (e.g. in the context of the MIREP program – albeit with transactions of a size which would not commonly warrant such complex structures). The RGC may want to utilize such instruments more actively (with fiscal prudence) in order to facilitate credit for larger private providers and for public providers which are currently able to access domestic credit, in particular PPWSA. This would thus facilitate 'crowding in' more private funds, possibly in domestic currency.

Improving the targeting of public funds

A transition towards increasing the funds available for investment in the sector, possibly requiring rises in tariff, will mean policy choices. The main concern is sharing the burden between existing consumers (i.e. the beneficiaries of concessionary ODA funds in the past) and future consumers (i.e. the beneficiaries of future service expansion) and, among the latter, between the poor and the better off households.

More even distribution of financial support

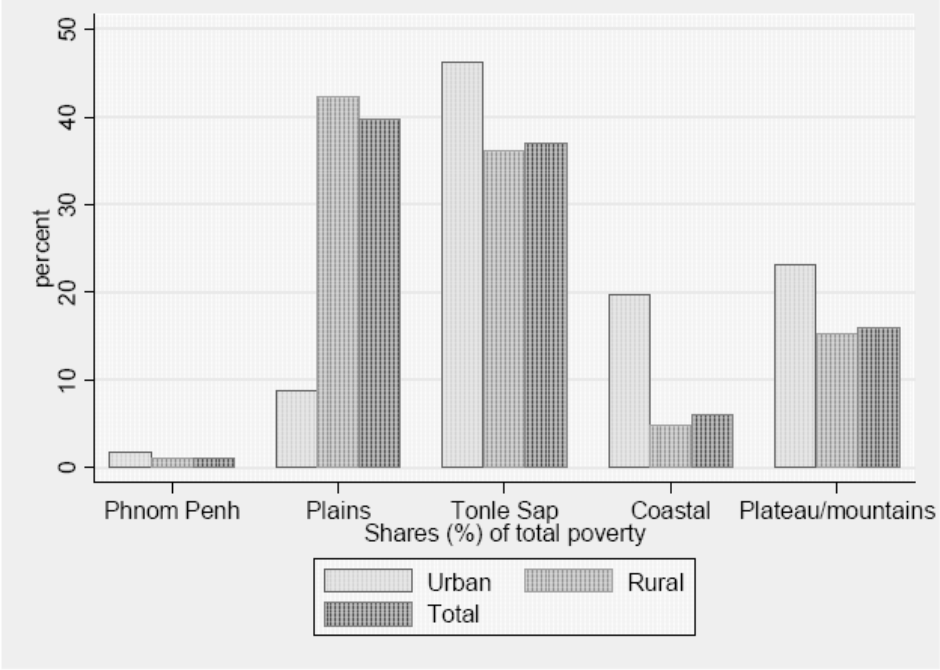
Over the 1997–2005 period, ODA support to the sector was highly concentrated in Phnom Penh and a few other smaller urban centers. As shown above, ODA disbursements to projects in Phnom Penh were US$99.8 million over this period, about 68 percent of the total. Outside of Phnom Penh, Siem Reap and Sihanoukville were the largest ODA recipients, with almost US$16.6 million and US$7.5 million respectively, as shown in Table 8 below.

Table 8: ODA for urban water supply and sanitation by province (US$ millions)

Province	*Actual*								Est.	Total
	1997	1998	1999	2000	2001	2002	2003	2004	2005	
Battambang	-	-	-	0.2	0.3	0.2	0.4	0.8	1.3	3.1
Kampong Cham	-	-	-	0.1	0.2	0.2	0.3	0.8	1.3	2.9
Kampong Thom	-	-	-	0.1	0.2	0.2	0.3	0.8	1.3	2.8
Kampot	-	-	-	0.1	0.2	0.2	0.3	0.8	1.3	2.9
Prey Veng	-	-	-	0.1	0.1	0.1	0.1	0.1	0.1	0.5
Pursat	-	-	-	0.2	0.3	0.2	0.4	0.8	1.3	3.1
Siem Reap	0.3	0.3	0.4	0.4	-	-	-	0.7	14.5	16.6
Krong Preah Sihanouk	-	0.4	0.5	0.4	0.5	1.2	2.3	0.9	1.3	7.5
Svay Rieng	-	-	-	0.1	0.2	0.2	0.3	0.9	1.3	2.9
Takeo	-	-	-	0.1	0.1	0.1	0.1	0.0	0.0	0.4
Phnom Penh	1.4	12.0	4.5	7.3	18.9	29.5	20.3	3.2	2.7	99.8
Nationwide	-	0.0	0.1	0.1	0.2	0.2	1.3	1.2	1.2	4.3
Total	1.7	12.7	5.4	9.2	21.3	32.1	25.9	11.0	27.5	146.8

Including Phnom Penh, the three provinces accounted for 84 percent of total disbursements. Virtually all of the disbursements in Siem Reap province and Sihanoukville were concentrated in the provincial capital towns. As such, ODA has been highly concentrated in only three urban centers, which have by far lower poverty incidence than other urban areas in the country, as shown in Figure 3 below.

Figure 3: Shares (%) of the poor by zone (urban rural and total), 2004



The RGC initiated a shift in ODA support away from Phnom Penh beginning in 2003. Between 1997 and 2002, Phnom Penh accounted for 86 percent of total disbursements. This dropped to 78 percent in 2003, 29 percent in 2004, and only 10 percent in 2005. In absolute terms, disbursements to Phnom Penh declined from a peak of US$29.5 million in 2002 to only US$2.7 million by 2005. To what extent the shift away from Phnom Penh is indicative of the evolving pattern of ODA in Cambodia is not clear. Much of the decline in ODA share for PPWSA is accounted for by the lumpiness of investments in the water sector, especially with the completion of specific investments in Phnom Penh. The urban water policy envisages a major share of ODA until 2015 going towards Phnom Penh. Even if the shift away from Phnom Penh is maintained, there will remain significant imbalances in ODA distribution. Of total ODA disbursements outside of Phnom Penh between 2003 and 2005, Siem Reap accounted for 44 percent. This was entirely attributable to US$16.6 million disbursed for the water supply project in Siem Reap town, funded by the Japanese government. ODA to the other provinces in the country was much lower, in almost all cases less than US$1.5 million per year.

As a result of this general imbalance,[7] the higher income strata of the urban population has benefited disproportionately from highly concessionary ODA support in the past. As a result, although PPWSA recovers its financial costs fully from user revenues, it does so based on the low financial costs of ODA funds, which means that Phnom Penh households can benefit from lower tariffs. Given the lenient terms of development funding, this means that most (implicit) subsidies to the sector are currently captured by consumers in the capital city, irrespective of their income and poverty levels. Consumers being served by private firms have to pay tariffs that compensate providers for capital costs that are significantly higher (for example, about 60 percent of the asset base has to be financed at commercial terms for OBA towns or MIREP towns).

To spread the benefits of past ODA funds more evenly across urban populations (and raise the funds needed for expansion in the sector), it is recommended that the RGC explore mechanisms to increase the cost of capital provided to these utilities and 'claw back' in part the concessionary terms for capital provided in the

[7] A more detailed distributional analysis would go beyond the scope of this report.

past. This can be implemented by means of return on capital elements in the tariffs (as already provided for in the tariff policy but never implemented). Funds generated in this way could be used to provide grants to expand access to services more evenly in provinces that have so far been left out.

Improving targeting of poor customers within each locality

Income levels in Cambodia vary not only among provinces, but also significantly among urban households, often within individual communes. In terms of targeting individual households and shifting subsidies more clearly towards ensuring improved access to services, the RGC has piloted ways to target subsidies explicitly in the sector and sharpen the incentives for utilities to deliver tangible improvements to the poor, including through output-based connection subsidies (OBA approaches) to the lower income households in small towns. In connection programs in the capital, PPWSA has successfully explored targeting subsidies among households with different incomes, including through innovative mechanisms to defer over extended periods or reduce connection payments to low income groups.[8] These programs have worked quite well in ensuring that lower income households get a higher share of subsidies than higher income consumers within the customer clientele of individual utilities. The challenge now is how careful evaluation of lessons learnt can lead to scaling up in a programmatic fashion what has worked in such pilots as integral elements of donor assistance.

The RGC may therefore want to ensure that disbursement of grant funds is tied, at least in part, to utilities, including the public utilities that submit evidence of providing access to services to low income households. This mechanism should be mainstreamed as an integral part of a more programmatic approach to sector funding.

3.2 Reforming the institutional framework for improved provision of services

Over the next decade, the institutional framework for the urban water sector, as laid out by the sector policy, will be subject to a broad transformation, as three major types of institutional reforms take hold in Cambodia:

- Decentralization and devolution of government functions, a stated government objective that reaches well beyond the sector scope;
- A move towards more autonomy for existing public utilities; and
- The transfer of regulatory functions currently exercised by MIME to a sector regulator, to be established on the basis of a law pending at parliament at this time.

All three trends pose complex challenges. Managing simultaneous transition along these three trajectories in a way that does not undermine what has worked in the sector thus far, while capitalizing on the improvements that could be obtained from reforming the institutions, is probably the most fundamental challenge the sector faces over the next decade.

Balancing utility autonomy with accountability

One widespread strategy for governments seeking to improve the performance of public utilities is some form of corporatization, a process of utility restructuring with the aim that the utility be guided by management practices and internal incentives that 'mimic' those of private businesses while maintaining public ownership of companies. Details of how such strategies are applied vary internationally, but all typically include some of the following principles:

- **Establishing clear commercial objectives:** This requires the 'unbundling' of conflicting commercial, social, policy, advisory and regulatory functions which may currently be imposed on the public utility. Separating the functions and giving the utility clear commercial objectives gives management a direct focus and ensures that performance targets can be set for the organization.
- **Establishing appropriate managerial authority and autonomy:** This involves giving boards of directors and management greater responsibility and authority for accomplishing utility objectives

[8] For details, see PPWSA Water Supply to the Poor Vol. 13.

within the defined commercial objectives, which would move towards cost-covering tariffs in order to achieve financial sustainability. This principle requires that the board and management make key internal operating decisions and that both be insulated from external political interference to the greatest extent possible.

- **Implementing effective performance monitoring:** There must be a rigorous monitoring regime independent of the board of directors and management, one which permits comparative assessment of the utility's performance against agreed targets.
- **Providing rewards and sanctions for performance:** A vigorously applied system of rewards and sanctions must operate in order effectively to promote good commercial performance and discourage poor performance. Examples include executing remuneration and employment agreements, tightening or relaxing reporting and monitoring requirements, and easing or restricting management's decision-making ability regarding future investments.

One of the key governance concerns surrounding extension of autonomy of utilities is the perceived loss of accountability that this may imply, in particular where sector governance is weak. Key to countering this perception and preserving or, in fact, strengthening accountability through the reform process is the establishment of clear authority for the functions 'unbundled' from the utility, and the set up of effective oversight mechanisms.

While the most pressing concern for government is typically preserving the 'upward' accountability of public firms, i.e. the accountability towards ministries as representatives of the government as owner (typically ministries of finance) and policymaker (typically the sector ministry), one key international lesson learnt is the need for a strong link of accountability towards users ('downward accountability'). A weak link here explains unsatisfactory performance of infrastructure services which are monopolistic in nature and which therefore do not provide users with the opportunity to switch suppliers. Both issues are clearly of high relevance to improving sector governance in Cambodia.

Strengthening accountability towards government

PPWSA has been granted significant autonomy, although this is limited on paper

Lessons learnt in Cambodia mirror the broad international experience of autonomy as one of the prerequisites for successful reform of public utilities.[9] PPWSA was the first utility to be granted autonomy and its turnaround from a failing firm into a modern utility has been a success. PPWSA has been well publicized as one of the few cases in East Asia of successful reform of a public water utility. Public utilities not granted such autonomy in day-to-day management show far lower levels in terms of actual performance, technical capacity and financial viability, despite some modest improvements (e.g. Sihanoukville). Box 2 shows the composition of PPWSA's board of directors.

Box 2: Scope of autonomy of PPWSA

i) PPWSA is constituted as a public enterprise and governed as such by a board composed of representatives from MIME, the Ministry of Economy and Finance (MEF), the Ministry of Public Works and Transport (MPWT), the Ministry of Interior (MoI), Phnom Penh Municipality, the Director General of PPWSA, and a representative of the PPWSA employees. A government controller appointed by MEF sits on the board but does not have voting rights.
ii) Operational authority, that is, daily management of the operations of PPWSA, is delegated to the Director General, who is appointed jointly by MIME and MEF.
iii) The PPWSA board decides on: an annual investment program; budget and financial management; organizational structure, including salaries and benefits of its personnel; and an annual work program.

PPWSA is allowed to keep the revenues it collects and to allocate any profits generated according to the principles stated in its legal mandate. PPWSA is subject to tax and its accounts are subject to independent audits.

Clearly, other factors contributed to the PPWSA outperforming other utilities in the country but its higher level of autonomy has undeniably been one of the key drivers for success. What is particularly remarkable is that the level of autonomy that was originally granted is (on paper) in fact quite limited in international

[9] A World Bank evaluation of about 130 water supply projects singled out experience in countries as diverse as Botswana and Singapore that shows the value of giving water utilities substantial operational and financial freedom, with regulatory oversight by parent ministries to ensure appropriate policy direction.

terms. For example, while the PPWSA board is granted formal authority over major decisions, including an investment program, operating budget and financing plan, these require additional, final authorization by both MIME and MEF beyond their representation on the board.

MIME and MEF also retain special 'no objection' rights on the minutes of board meetings, financial management reports and financial audits. This special status provides an additional layer of accountability, but also assigns *de facto* to the board a consultative rather than decision-making role on many essential issues and constrains 'true' autonomy in making binding decisions. MEF, as the 'owner' of PPWSA, is focused on its financial viability and financial returns from investment to the national budget; MIME is the sector 'policymaker', with broader objectives that include social policy and poverty alleviation. Under the present arrangements, the diverging interests of MEF and MIME are not spelled out openly but resolved informally.

Altogether, this 'Cambodian model' for autonomy has worked very well in Phnom Penh. As a matter of practice, the board has been able to delegate day-to-day management to the Director General and has vested sufficient latitude in the PPWSA management team to undertake a drastic reform of the utility, including attracting more highly skilled staff, considerably reducing overall staff numbers, and introducing incentive-based salaries and merit-based promotion. Any efforts to refine this model further should proceed with caution so as not to unwind the features that determined its very success.

At the same time, some areas may offer scope for some improvements. In the short to medium term, the RGC may want to explore building on the current arrangements by broadening the *de facto* autonomy of the PPWSA board. This could be achieved even without modifications to the decree establishing PPWSA, by phasing out *ex ante* supervision by the two 'peer' ministries and replacing it with a more explicit set of medium-term performance targets which MEF/MIME could jointly agree with the PPWSA board. The board could then be granted incrementally higher autonomy in making final decisions on, for example, the investment program. MEF/MIME's role (over and above their representation on the board) would shift to a periodic *ex post* evaluation of achievement of the above-mentioned agreed targets.

Internationally, the use of such 'performance contracts' which utilities sign with their 'owners' has proven useful, particularly in developing consensus and sharing among stakeholders the medium-term strategic goals in terms of specific results. This is an area which could conceivably be strengthened in PPWSA; it would give PPWSA management a better foundation for long-term planning and differentiate better between the (conflicting) policy objectives of MEF and MIME.

Looking ahead, international experience shows that it is very difficult to sustain levels of autonomy for public firms even where initial government reforms have ascertained limited autonomy. Political interference in utility management has often 'crept back', particularly once utilities start to perform better, once the sense of crisis that spurred reforms dissipates, and once utilities accumulate cash reserves that allow politics a strong motivation to intervene in how these resources are allocated. How to sustain the success at PPWSA should therefore be one of the key considerations for the government in the medium to long term. This is likely not to be a short-term priority, given that the current arrangement works well; as such, any reforms should be carefully vetted so as to not to undermine that which has worked well in recent years.

There are no 'blueprints' for how to achieve this. Governments worldwide have explored different mechanisms, all of which would need to be tailored to the specific political realities of Cambodia. Some of these mechanisms relate to the actual composition of the PPWSA board and the terms of board members. Rather than *ex officio* appointments of ministry staff, the appointment of board members by ministries based on individual technical qualifications and longer membership terms, de-linked from terms for political office or positions within ministries may help reduce susceptibility to short-term political pressures. Others relate to broadening the range of board representatives to include parties that may pursue more limited commercial objectives. This may include allowing for the divestiture of a minority stake in PPWSA to domestic or regional institutional investors, who would nominate board members with a clearer commercial focus who would enhance the credibility of corporate governance arrangements at PPWSA and the long-term autonomy of PPWSA from political interference.

Granting more autonomy to public utilities outside Phnom Penh

Granting increasing autonomy to utilities outside Phnom Penh should be a high priority for the RGC. Despite the success of PPWSA, the shift towards more autonomy has not extended beyond the capital, even for utilities which have improving management practices and good technical management in place, e.g. Sihanoukville. MIME, through its provincial departments, retains direct responsibility for the provision of water in urban areas outside of Phnom Penh and operates water supply networks in 14 provincial capitals. The RGC has not pursued a shift towards even the 'limited autonomy model' tested in Phnom Penh.

In terms of performance, all other utilities have fallen far behind PPWSA over the past 10 years. Furthermore, the lack of formal autonomy has led many utilities to develop informal arrangements which provide for more flexibility, including accounts managed at utility level (without the burdensome *ex ante* oversight by MEF) or the increasing recourse to contract employees (likely to sidestep stringent salary rules for public sector employees). While such informal arrangements may mitigate the constraints imposed on utility management by the lack of formal autonomy and create some scope for efficiency gains, they do, by their very nature, undermine transparency and accountability and increase the risks associated with budget transfers.

It is strongly recommended that all public utilities move, in the short term, to more formal autonomy arrangements accompanied by capacity-building initiatives. Building on the PPWSA model, this could include an oversight board with representatives including the MEF and MIME, both with rights of no objection on items, and with local government as well as staff and management representation. For the provincial utilities with weaker management capacity and weaker governance arrangements, autonomy could be phased in slowly by reserving more decisions for special no objection or by implementing stricter fiduciary arrangements for utility funds. In any case, a set of specific short and medium-term objectives would be identified for each utility in terms of operational improvements and service expansion. These objectives could then form a proper basis for monitoring the performance of the utility and its management.

Clarifying the regulatory framework for private providers

Another area for action is the regulatory framework for private providers, which currently constrains their autonomy. Internationally, one of the key factors for improved efficiency of private service providers has been the fact that broad autonomy surrounding management decisions is embedded in the license and contract provisions which, to some extent, protect companies from political intervention in management decisions. In Cambodia, it is questionable whether private providers currently benefit from such autonomy. The licensing arrangements for small providers are comparatively cumbersome, in that applicants for licenses must submit detailed business plans and technical designs prior to being granted a license rather than be measured against their track record and/or results. Detailed issues of a technical nature are thus subject to review and clearance by authorities, an approach which:

i) Would appear heavy-handed in the light of the small size of the vast majority of these providers.
ii) Allows for significant discretion by the authorities and reflects significant regulatory risks in the absence of any published guidelines or reference documents.
iii) Does not apparently offer significant benefits given the low capacity of government officials in the area of utility management and technical design; on the contrary, the licensing regime provides incentives for these officials to critique even acceptable designs (stifling innovation to the extent that operators feel obliged to follow recommendations made by government officials).
iv) Raises concerns about rent seeking. The current process is opaque, requirements and fees are not subject to full public disclosure, and approval requirements and criteria are not published and subject to significant discretion. It is well known that officials, against payment of formal (and informal) fees, provide guidance on improving technical designs in order to facilitate approval.

It is recommended, therefore, that regulatory processes for license award and renewal be streamlined and the submission and approval requirement for detailed technical designs or business plans that constrain the autonomy of operators (with no obvious benefits) be removed from the review process. Already, the RGC has moved towards competitive tendering of licenses, in particular where public funds have been made available to private operators, and should move to competition also for licenses that do not include a subsidy payment or financing contribution by the government. Tendering licenses would vastly increase the transparency of the licensing process and possibly reduce the scope for rent seeking. It is also recommended to extend the license term to at least 10 years with the aim of enhancing the property rights of licensees; to

adapt low discretion rules for tariff adjustments; and progressively to explore delegation of some of the functions (tendering, tariff reviews) to lower tiers, particularly for very small systems (smaller than 500 connections).

Strengthening accountability to users

Strengthening accountability of service providers towards users of infrastructure services is widely recognized as one of the missing links in the accountability framework for utility services (see for example the World Development Report 2004: Making Services Work for Poor People). Because utility services are often monopolistic in nature, users typically have little chance to change suppliers other than by incurring significant coping costs. Unlike other enterprises, utilities face no sanctions for 'losing' customers and have little incentive to gain them back. The water supply sector in Cambodia exemplifies this dilemma, in that:

- Most residents and private enterprises that need reliable water supply resort almost exclusively to their own boreholes and continue to do so even where the government has invested heavily to improve infrastructure facilities. For example, in Siem Reap, despite a major government effort to rehabilitate water supply infrastructure supported by Japan, hotels are sensitive to the rigorous demands of their tourist clientele and continue to rely on their own water production facilities rather than switch to the public water supply. The hotels are skeptical about local water utility capacity to manage new assets effectively and provide reliable services. Even though this imposes high costs on residential customers (who then have to bear excessive depreciation charges through tariffs), there are no specific incentives for the management of the local utility to win back hotel customers.
- While availability of water is good for most users for most of the year, i.e. outside the dry season, providing users with recourse to alternative sources of supply comes with high coping costs, supply difficulties during the dry season and, ultimately, a high incidence of waterborne diseases.
- Many communities which feel inadequately served by public utilities, but which lack recourse to management, have taken the initiative of investing in communal assets or contracting with private, local service providers (often bypassing the formal licensing requirement imposed by the national government). There are about 300 providers across the country, largely small, informal businesses, which avoid formal licensing and registration because of the high cost of doing business. There is not much advantage for them in the formal process, as they have little access to government financing and subsidies and little scope for building up technical capacity. Despite this 'vote of no confidence' in public service providers and their ability to expand access, there is no sanctioning for management in public utilities (in the absence of any clear expansion targets).

Prioritizing direct strengthening of accountability of utility management to (potential) customers

This should in no way replace the accountability of public utilities to government as the owner of assets and as the entity responsible for policymaking and regulation of services. Rather, prioritizing strengthened accountability to customers should enhance, complement and support supervision by central government authorities.

Over the past few years, the RGC has explored innovative ways of strengthening user involvement in the sector, including through Clean Water Groups (CWGs), created under a World Bank project. CWGs have started to play a valid and effective role in monitoring the obligations of private sector providers under several of the private sector schemes pursued by the RGC. Moreover, they are becoming instrumental in advocacy at the community level in terms of hygiene promotion, including public awareness as to the benefits of chlorination and methods of dealing with the taste, currently deemed unacceptable by large parts of the population. (This is one reason why many private providers abstain from chlorinating drinking water.) CWGs are currently only being established where services are contracted to private providers, to assist the Contract Administration Unit (CAU) in MIME with the management of contracts. No equivalent mechanisms exist where no funding is provided by MIME to private providers, or where services are provided by public utilities. However, the commune council could also choose to create a subcommittee for water or appoint the village chief or some organization within the commune council system to take on the responsibilities of the CWG.

It appears from early lessons that this mechanism has functioned well. Although it is clearly not a panacea for solving governance problems in the sector,[10] the RGC may want to consider establishing a similar mechanism for enhancing accountability to users for private and public providers.

However, establishing CWGs alone will not be sufficient to empower users. The lack of accountability towards current (and future) users, even where formal mechanisms for user involvement may exist, is often rooted in the absence of 'actionable' information for users. Such information could include the specific obligations of a utility (over a defined period of time) and its performance in delivering results (in comparison with peers). There are few unambiguous and transparent obligations imposed on utilities in Cambodia which users could monitor and for which utility management would be held accountable. There have been rudimentary efforts to introduce such indicators, such as the OBA contracts pursued by government, where there have been obligations to private firms to provide connections to specified households. This is an example of an obligation that CWGs can understand and easily monitor.

As in the above case, the RGC should develop and formalize a set of performance objectives through multi-year performance contracts. This should be achieved through consultations with users (current and potential) as represented through CWGs. The CWGs would then have a growing role in monitoring those indicators and in determining to what extent utilities have actually achieved the set objectives.

Balancing decentralization, effective service delivery and sector coordination

Over the next years, the broader process of decentralization will have an impact on public and private providers, notably on investment planning decisions and corporate governance of utilities. Decentralization of government and administration in Cambodia is still evolving, making it difficult to anticipate specifically how decentralization will play out for the water sector. As part of the implementation strategy it is proposed that the government explore pragmatic steps. In the short terms to allow for broader consultation and involvement of local governments, while not putting further at risk (in light of already small utilities) economies of scale in utility operations. Consistent with decentralization, commune councils, including through 'Clean Water Groups' or other mechanisms at the discretion of commune councils, could take a role in shaping investment priorities and monitoring utility obligations (complementing central regulatory functions).

In addition to strengthening the accountability of service providers to users, decentralizing the accountability of public service providers towards local government would provide an opportunity for more effective oversight of autonomous service providers by officials directly representing those affected by planning and budgeting decisions.

Yet, both effective decentralization and utility autonomy are challenging goals in themselves and, moreover, may at times be conflicting. International experience shows that decentralization processes should be carefully managed, require sustained support to the institutions and processes of local governance beyond a single sector and point to the continued need for central planning and coordination functions in the sector. Judging the right balance between these complementary functions in Cambodia is, as a matter of sector practice, still not finely tuned. Many communes may not yet be in a position to take on responsibility, for example, to manage a relationship with a private service provider.

Partly in response, MIME has been hesitant to cede effective control of water supply systems to lower tiers of government. Many public-private partnerships (PPPs) are being managed not at commune but at central government level, even though communities are assuming increasing responsibilities in the oversight of these arrangements. Similarly, in recognition of the low capacity to manage water systems in provincial

[10] Comparable with the notion of CWGs, School Support Committees have been established in the education sector to provide civil society oversight over school management and spending. A survey on their effectiveness raised significant concerns both in terms of their capacity and knowledge as well as authenticity of representation. Lessons learnt included that, while these efforts may have increased accountability slightly for school directors, the direct impact on transparent use of funds and accountability for results will naturally be modest in the short term, owing in large part to capacity constraints – which ongoing support in terms of capacity building can help to mitigate – but also to the social and cultural fabric of Cambodia.

towns, the RGC is pondering how better to leverage the existing capacity in PPWSA to ensure sustainable management of infrastructure assets in these areas. This section provides a summary on the decentralization policies introduced to date in Cambodia and in the water sector in particular and, based on this, outlines a phased approach for the RGC's dual objectives of autonomy and decentralization.

Historically, there has been a rapid shift from centralization to decentralization

Following elections brokered by the United Nations in 1993, Cambodia initially underwent a process of centralization, as the RGC quickly moved to consolidate powers previously held by provincial governors – in part to reduce fragmentation and impose administrative consistency and discipline within the intergovernmental system. Since 1996, the RGC has moved to relax efforts to control government tightly and has embarked on a process of deconcentration and decentralization of government functions with the broad support of development partners. These efforts serve the political objective of strengthening the legitimacy of the state at the local level through democratically elected local councils which replaced commune chiefs appointed by government. They also serve the development objective of promoting participatory economic development and contributing more effectively to poverty reduction.

There are, at present, two sub-national government levels in Cambodia, namely the provinces (and municipalities) and the communes. There are currently 20 provinces (*khett*) and four Municipalities (*krong*). The provinces are divided into 171 districts (*srok*) and 1,510 communes (*khum*) (which are themselves divided into villages). The municipalities are divided into 14 districts (*khans*) and 111 urban communes (*sangkats*). Overall, there are 185 districts and 1,621 communes (both urban and rural). At commune/sangkat level, councils were formed following free elections in February 2002. Each commune council has between five and 11 councilors according to demographic and geographical situation. The size of jurisdiction varies widely, with an average of about 7,600 inhabitants; all but 15 communes represent a population of less than 25,000 inhabitants. This raises legitimate concerns regarding the viability of communes directly assuming service delivery responsibilities in the water sector. Just a few years into their existence, commune councils have limited resources and administrative or technical capacity. In fact, the vast majority employ one single civil servant, typically a commune clerk whose salary is paid by the MoI. While vested by law with the authority to raise (limited) revenue, in practice the communes remain dependent on the central government for resource allocation.

These two sub-national levels of government are complemented by departments/offices of national agencies at the provincial/municipal and district/khan levels, i.e. DIME offices in the case of water supply which, in addition to their duties towards national agencies, are as a matter of practice accountable to provincial governors. The latter are appointees by the national government.

The Law on Administration and Management of Commune/Sangkat – LAMC (March 2001) sets out a broad framework for decentralization. Article 43 stipulates the duties of the commune councils with respect to local affairs in broad terms, including to 'arrange necessary public services and be responsible for good process of these affairs'. However, the actual responsibilities of the councils in service delivery remain extremely vague. Given the nascent stage of decentralization in Cambodia, there are legitimate concerns as to the viability of most commune jurisdictions as actual service providers given their small size and capacity constraints. This level of discretion given to communes may indeed have been deliberate; instead of imposing on them a wide array of demanding functions, it allows them to choose to handle initially relatively simple administrative tasks and gradually build confidence, capacity and legitimacy to deliver more complex services. However, this ambiguity has also led to difficulties in interpreting the factual authority of commune councils, for example with regard to contracting local private providers where such contracts appear in conflict with other laws. [11]

[11] For example, communes currently are prohibited from signing (investment) agreements with private service providers without the prior approval of the central government, including the MoI, MEF and the Council for the Development of Cambodia (CDC). Under a proposed law on concessions, such approval powers would be transferred to the provincial level for concession contracts of a value below a certain threshold (US$250,000 is the sum under consideration). The provincial governor would be in charge of signing the project whereas the commune would be asked to co-sign the contract. Though not yet in force, these 'co-signature' provisions were already used in the case of donor-funded projects within the MIREP program, to ensure that communes had a say in the choice of private sector provider.

The law also established a National Committee for Supporting the Communes (NCSC) (Article 87), headed by the MoI. The NCSC has responsibilities for formulating recommendations to the MoI in a number of key policy areas relating to the decentralization process, such as: the determination of commune boundaries; the allocation of functions at different levels of government; the modalities for coordination among several communes; organizing commune revenues; or providing TA to the communes. They can also formulate recommendations for the development of new legislation in this area.

Box 3: Decentralization without formal power transfers: the Seila Program

The Seila Program is a funding mechanism supporting decentralization reforms in Cambodia. From its roots as a pilot initiative, the program covers, as of April 2003, all 24 provinces in support to all 1,621 communes. A core element of the program involves the allocation of funds to the commune councils for local investments according to commune priorities, e.g. rural roads, water supply and irrigation infrastructure. This transfer is complemented by technical cooperation and administrative/logistical support to sub-national planning, programming and budgeting procedures.

The program includes two general purpose financial transfer facilities: the **Commune Sangkat Fund** (CSF) and the **Provincial Investment Fund** (PIF). Each commune council receives an annual development grant through the CSF, on average US$8,000 per commune per year. In order to receive such funding, the communes have to assume their responsibilities, including completing a local planning process, identifying priorities, conducting a bidding process, supervising construction and authorizing payment. Coordination with national government programs takes place through a District Integration Workshop (DIW). As a result, all commune councils have developed three-year rolling investment plans and annual budgets, with considerable support and supervision from district and provincial officials.

The Seila Program (see Box 3 above) has been the major vehicle for government and development partners to build support for and refine specific options for decentralized local governance. In June 2005, the RGC published its Strategic Framework for Decentralization and Deconcentration, which sets out a framework for mainstreaming and institutionalizing decentralization. A draft organic law meant to formalize lessons learnt through the Seila Program is under preparation.

Current policies with respect to decentralization in the water sector

The RGC's policy is supportive of broader autonomy for utilities as well as stronger decentralization of the sector. Decentralization has the potential to improve governance across a broad range of state functions by bringing decisions about planning and budgeting closer to those affected by such decisions, and decreasing the number of links in the chain of accountability. However, international experience shows that decentralization processes need to be managed carefully (see Box 4 below).

Box 4: Experiences with decentralization in East Asia

Decentralization reforms swept throughout East Asia in the mid to late 1990s, accelerated by the combined pressures of the economic crisis (which led to the questioning of the 'Asian' economic model) and calls for political liberalization (particularly in Indonesia following the fall of Suharto and in the Philippines at the end of the Marcos regime). Decentralization processes are under way in almost all East Asian countries, from China to Thailand, Indonesia or the Philippines. The record of decentralization reforms in East Asia has been uneven; early expectations that decentralization would lead to improved services in short periods of time have not been met. Profound problems remain, particularly in the area of provision of basic services such as primary healthcare, education and potable water.

Issue 1: the speed of decentralization: Indonesia and the Philippines have both adopted a 'big bang' approach and decentralization has progressed rapidly. Sweeping legislative reforms, utilizing brief 'political windows of opportunity' devolved responsibilities for service provision to the local government level, which in both countries was not sufficiently prepared to take on these challenges. The implementation exposed flaws in the original reform designs which often fell short of providing a coherent intergovernmental system. Decentralization has been much more gradual and piecemeal in Vietnam and China, with no clear long-term policy from the outset. Thailand, on the other hand, has established a relatively detailed policy framework for decentralization but implementation has been slow. In the decentralization of service provision, it appears that a progressive approach has merits: gradually building capacities, both institutional and financial, at the local level. For both the Philippines and Indonesia, the sudden devolution of responsibilities to local governments, including the responsibilities for often defunct and bankrupt public utilities, has had the effect of 'freezing' investments required to expand services. This has particularly been the case for water and sanitation, as local governments struggle to access financing provided to improve services, to attract and retain the necessary technical capacity to manage services, and to deal with local politics often preventing agglomeration of local

utilities where this may have made economic or technical sense. In both countries, failures in original designs have been difficult to correct. Once powers have been transferred to lower levels of government, it is usually difficult to take them back, as municipalities are reluctant, for political reasons, to be seen as relinquishing newly acquired powers.

Issue 2: The depth of decentralization: One central challenge in designing decentralization strategies is the allocation of responsibilities across tiers of government. In Indonesia or the Philippines, decentralization reforms transferred responsibilities to the lowest level of government, irrespective of economies of scale in service provision. This led to 'spillovers', i.e. consequences for one local government arising from actions taken by another, which exposed a gap, 'the missing middle' in the institutional framework which could provide intermediation between conflicting interests of local governments or facilitate joint investments and coordinate initiatives among local governments. In many cases, decentralization to local governments has resulted in an excessive fragmentation of market structures, with utilities which are suboptimal in size and too small to attract financing and skilled staff and to be efficient in terms of operating costs, resulting in high tariffs. Findings from international surveys (Tynan and Kingdom, 2005) of utilities suggest that in fact smaller municipalities (equivalent to the status of communes) face higher per customer costs; neighboring small providers may be able to lower customer charges by operating as one utility. This has important implications for the water sector and for trends towards transferring responsibility for providing water and sanitation services to commune levels, driven in part by the motivation that this makes providers more responsive to customers' needs. This may still be the case, but fragmentation may not be the only and in fact not necessarily the most desirable way to achieve this.

To work well, there is a need for sustained and broad-based support to the institutions and processes of local governance and, in particular for infrastructure services, for continuous centralized planning and coordination in the sector to complement decentralization. The right balance among these complementary functions in Cambodia, as a matter of sector practice, is still emerging. The RGC, together with its development partners, is pursuing an ambitious deconcentration and decentralization strategy that has at its heart the empowerment of local communes, a major political development initiated in the 2002 commune council elections. Commune councils have started to deliver services, helped by the transfer of resources through the Commune/Sangkat Funds. However, the capacity to deliver a broad array of services effectively continues to be constrained by embryonic local administration; limited financial resources; lack of inter-communal arrangements that would address the viability of individual commune jurisdictions sufficiently; and the absence of effective oversight arrangements.

Partly as a result of this, MIME has been hesitant to cede effective control of water supply systems to lower tiers of government, including such responsibilities as managing relationships with private service providers. Many PPPs are managed in central government, even though communities are taking increasing responsibilities in the oversight of these arrangements. Similarly, in recognition of the low capacity of provincial towns to manage water systems, the RGC is pondering how best to leverage existing capacity in PPWSA to ensure sustainable management of infrastructure assets in these areas.

In addition to being challenging, decentralization and increased autonomy may also at times be conflicting. While it may be easier for larger utilities to insulate themselves from political interference and gain some degree of autonomy, entrusting utilities with service provision responsibilities on a regional scale may be perceived as running counter to the government's goals of empowering local choices and decisions. One of the lessons learnt from other countries in the region, including the Philippines and Indonesia (see below), is that efforts by newly appointed local governments (which often stayed in office for very short tenures) to assert their authority over local utilities have even further eroded the autonomy and financial status of water utilities. It is therefore important for the success of the sector policy that a sensible implementation strategy be defined, one which effectively balances autonomy for service providers and decentralization in the sector. This will inevitably require capacity building at both the utility and local government levels.

This should proceed in various stages. As a first stage, there could be either delegation or devolution of powers from central to local level. In the short term, there should be a delegation of powers which means that the board of directors of the utility would have members from the central government, as is currently the case with PPWSA. Under the devolved set-up, the board would be made up entirely of local representatives, but this could only be a solution for the longer term in order to ensure a smooth transition. As far as the composition of the board is concerned, the law limits the number of members to between five and seven. The strict interpretation of the law currently makes it difficult to have an autonomous, regional scale set-up of operations, although for utilities involving many communes, representation in the board can be made on a rotating basis. If this creates difficulties, the law may have to be revised in the future.

Decentralization, oversight risks and corruption

Decentralization is often perceived as a means to make government more responsive to the people, increase accountability for results or failures and, thus, reduce corruption. Cross-country empirical studies broadly confirm its potential to achieve this and to reduce the incidence of grand corruption (Shah, 2006). However, most studies caution that this is not necessarily the case and that where institutions of participation are weak or ineffective and captured by local elites, localization of expenditure decisions in fact has the potential to increase opportunities for corruption. This suggests that decentralization in Cambodia needs to be accompanied by a strong and unambiguous focus on mitigating the risks of inadequate financial management. Setting up procedures for appropriate financial management is difficult in a decentralized service environment, a case highlighted by the experience with decentralization of the education sector.[12]

Making decentralization work in the water service sector

In terms of the organization of the urban water service sector in Cambodia, the existing institutional set-up remains highly centralized and concentrated, with responsibilities for water supply resting on MIME. All public providers are directly supervised by the national government ministries, in particular MIME and MEF. Although responsibility for service provision in the provincial capitals is not formally deconcentrated, i.e. delegated to regional departments (DIMEs) of MIME, the way that this delegation has taken place provides regional departments with little autonomy (see above).

Building on the lessons learnt about the decentralization processes in the region and the sector, it is recommended that MIME retain for the foreseeable future a central role of coordination and planning, capacity building in strengthening financial management controls, and mobilizing funding for the sector. A specific recommendation, in order that communes get involved in the planning processes and that MIME assess the realism and demand responsiveness of master plans (which form the core tool for sector planning as envisaged in the sector policy), would be to align planning processes conducted by MIME more closely with the participatory processes fostered under the deconcentration and decentralization policy, specifically the DIWs.

One of the challenges in making decentralization work is to develop a market structure that balances the need for viable utilities with the motivation to allow for more direct control by locally elected governments. Currently, most existing public and some private providers serve multiple communes, and the RGC should strongly support this trend towards regional, multi-commune utilities. The motivation for decentralization, to improve service delivery, would be ill served were the government to pursue aggressive decentralization by mandating individual communes more explicitly to establish commune-level service providers. Providers covering multiple jurisdictions, even if these are separate isolated water supply networks, are better positioned to exploit various synergies and economies of scale and should be encouraged.

Among private operators, the trend towards agglomeration of individual systems is slowly progressing, and a few providers have gained the critical mass to supply multiple locations under government-let contracts. This critical mass will be crucial to enhancing necessary technical skills, to developing the capacity to interact with the licensing and regulatory regime in development, and, in the medium term, to meeting financial and auditing requirements to access financing. As a result, the RGC may want carefully to encourage this process in the long term, mainly by eliminating the reasons for firms to seek informality, i.e. by improving the formal business environment for firms in the sector but also by packaging small, single-commune licenses into larger, multi-commune and multi-village contracts.

To ensure that private operators meet the needs of local governments, these contracts should allow for active involvement by communes in the governance process. This can be achieved through involvement in the licensing process, or by the active involvement of user groups (CWGs, as described earlier).

Among the public utilities, the transfer of responsibility for Takemao-Kandal to PPWSA has set a precedent for more agglomeration in the public sector, although PPWSA remains a small utility if compared with

[12] The recent expenditure tracking survey in primary education, prepared by the World Bank for the RGC, noted that, despite schools being required to prepare spending reports and maintain adequate supporting records, such documentation was almost non-existent; at best, schools produce receipts for only a small percentage of their spending.

international benchmarks. Moreover, none of the public systems outside Phnom Penh currently serves more than 4,000 connections. Conceivably, over the medium term, some of the large public utilities, e.g. Sihanoukville, could take responsibility for provision of services in neighboring towns as well, both through expansion of their own networks and by taking over management of smaller isolated systems. However, this should take account of the potential for cost savings from network expansion and any technical limitations encountered. Network expansion was possible for PPWSA because i) it is owned by the central government and therefore representation of the expanded areas in the board of directors was not an issue; i) the expanded areas are of close proximity to its service area; and iii) PPWSA has the capacity to extend its services. This may not be true of other large public utilities.

Leveraging the stronger technical capacity of 'regional hub utilities' for service improvement in other towns can be a good thing. Some transfer may in theory be achieved through softer forms of collaboration, including forms of direct TA by the larger utilities to the smaller utilities. However, international experience with various 'twinning models' shows that these typically do not provide lasting improvements, in large part because of a lack of accountability on behalf of the larger utility.

Policy issues that arise from such strategy are often rooted in the potential lack of involvement of local governments in the governance (and correspondingly lack of attentiveness to local priorities) of what could result in regional 'behemoths' and the difficulties in meaningfully regulating and governing such utilities, even for the national governments (often because of cross subsidies between different parts of the utility business). Also, wholesale transfer of responsibilities for other urban capitals, as initially contemplated by the government, may have also carried risks for PPWSA and the very sustainability of its success. Its highly educated and motivated workforce may end up stretched too thin, its autonomy threatened by its increasing political visibility, its financial viability undermined by the notion that cash reserves necessary for maintenance and rehabilitation could be used to fund operations with deficit in provincial capitals.

It is therefore recommended that the RGC explore a full handover of management, but only over the longer term, as capacity constraints on human resources would not make this possible in the short to medium term. In the medium term, (of at least three but no more than 10 years), contracts could be signed between the utility and MIME (possibly co-signed by commune council representatives), which would provide for separate accounting for individual systems. After expiry of these contracts, local governments would have the choice to renew these or similar contracts, organize local utilities as standalone, autonomous utilities, or transfer management responsibilities to other service providers, including private firms. It is recommended that the RGC proceed gradually with such expansion of the role of its larger utilities rather than through a 'big bang' approach, and monitor progress carefully.

In order to ensure responsiveness to local priorities and a sense of local accountability of PPWSA, the RGC may want, in analogy to monitoring provisions embedded in contracts with private providers, to allow for a role for CWGs in the monitoring of obligations under such delegated management arrangements.

Sub-national tiers of government have little formal involvement in the sector. Provincial governors retain informal influence through their supervision of regional departments and their political status as representatives of central government. They are allowed to contract out service provision to private operators, subject only to licensing requirements and ongoing regulation by MIME, frequently bypassing formal requirements. Formal ownership of utilities rests with the national government, and there is no representation of lower tier government interests in the governance of public utilities. As the only utility in the country, PPWSA provides a seat on its board for a representative of the Phnom Penh Municipality (equivalent to the status of a province). One option for expanding the role of elected local governments in the corporate governance of utilities, as opposed to relying on their role in nominating CWGs alone, may be to expand their representation on the board. MIME may want to explore this as a possible option for the smaller public utilities serving provincial capitals: a seat on the board may be reserved for a commune council representative (including, for example, a rotating seat on the board for multi-commune utilities).

This may be logistically (and politically) more challenging for the larger utilities, given the multitude of communes served, e.g. by PPWSA at this time. Given that the NCSC, headed by the MoI, has responsibilities for formulating recommendations in key policy areas relating to the decentralization process, such as the determination of commune boundaries, the allocation of functions between different levels of

government and the modalities for coordination between several communes, it may be prudent for MIME to await the outcome of such broader consensus building.

Making the emerging regulatory framework work

An important element towards the financial viability of the sector and its ability to attract financing is a predictable regulatory framework. The sector policy explicitly recognizes the need for better regulation. Much of the policy focus in reforming the regulatory framework is on the establishment of a dedicated sector regulator which will constitute a major institutional transition in the medium term. The law establishing the regulatory entity is still under deliberation at the Council of Ministers.

As a matter of practice, the regulatory system and the extent and exercise of formal regulatory functions are indeed still emerging. The most significant shortcoming is probably not the lack of an independent entity, such as that stipulated by the law pending in parliament. Nor would the establishment of a dedicated regulator, in all likelihood, provide a short or even medium-term solution to the current regulatory problems. It is recommended, therefore, that the RGC immediately initiate a more thorough review of regulatory practices and a reform of a number of key elements, without waiting for the inaction of a law establishing the regulatory entity.

Regulation is not an end in itself. Economic regulation is government control over prices charged to consumers by public and private firms by imposing costs on these firms (and ultimately on consumers); to make regulation welfare-enhancing, these costs are only warranted if there are sufficient benefits. For an emerging regulatory framework, as in Cambodia, regulation may be most effective if focused on market segments or providers within the sector, where there is sufficient potential for regulation to detect and credibly address inefficiencies, owing to a monopolistic market structure. It is by no means obvious that the current focus of regulatory efforts on small private firms, rather than on the larger public utilities, is sufficiently justified on these grounds and whether or not a much more light-handed approach to regulating these small firms may be more appropriate. As such, it is recommended that the RGC review more thoroughly the benefits of the current focus of regulation.

At least initially, the regulation of private and public utilities will be different in the sense that regulation of private utilities will be through the licensing regime while regulation of public utilities will be through MIME's delegation of powers to these, mostly through its participation in the board of directors. Even if they are different, the two regulatory regimes would need to be consistent, particularly with respect to the definition of tariff-setting principles.

Many governments internationally have explored economic regulation of private firms that enjoy monopoly status as a means to control excessive rent seeking and profits by these firms. However, there is much less credible evidence of the benefits of economic regulation of loss-making public enterprises.[13] Many of the regulatory processes and mechanisms developed internationally are not geared towards public utilities that may face political pressure not to increase prices. In the short and medium term, the impact of improved corporate governance for public utilities may be more tangible than effects brought about by a separate regulatory agency.

[13] In fact, some evidence shows that establishing an independent regulator may be counterproductive. In Zambia, the government established a regulator (NWASCO) for the water sector in 1997. NWASCO was authorized to license all service providers, including public utilities, and to review tariffs charged by these. Motivated by a narrow objective to enforce efficient tariff levels, NWASCO has denied virtually any tariff increase since, pointing to a lack of service improvements that would justify such increases vis-à-vis the existing consumers. Today, utilities are virtually bankrupt and virtually none have managed to accumulate sufficient reserves to finance system rehabilitation or system expansion to improve access.

The key to effective regulation will be to generate information that enables the regulator to make well informed decisions and allows interest groups to monitor regulatory activity. The current practice in Cambodia for setting and reviewing tariffs is seriously handicapped by the lack of reliable data provided by utilities, in particular financial, the lack of medium-term financial planning, and the lack of transparent and consistent regulatory rules. It is recommended that the RGC conduct a thorough review of its current tariff-setting process and formalize and issue more specific rules, particularly for public utilities, as to the quality and format of information, and the frequency of tariff resets, requiring a full review by MIME as opposed to automatic tariff adjustments (in line with inflation). In part, these shortcomings can be explained by the lack of capacity of staff in utilities, public and private, and in the regulatory department in MIME. MIME has undertaken extensive efforts in the past to strengthen its competence in this area and has made good progress. However, it is recommended that capacity building for the regulatory staff at MIME be continued and these efforts be expanded to include staff in the utilities who are the interlocutors of the MIME regulatory department.

Regulatory functions need not be centralized in one entity; where capacity constraints pose significant hurdles to an effective regulatory regime, contracting out of regulatory functions may be a viable option. Increasingly, governments explore new forms of institutionalizing regulatory oversight, by allocating different regulatory functions to different entities or by contracting out selected functions. For example, while there is a case for continued oversight of the licensing process of private providers at national level, not least to ensure consistency of licenses and to provide a focal point for key skills in the design and management of licenses, the RGC may want to explore the issuance of a standard license. The licensing of small firms could be managed directly by provincial authorities or commune councils. Commune councils or CWGs entrusted by councils with this task could provide day-to-day supervision of the obligations of service providers under the license (or contracts); at the same time, a national entity entrusted with regulatory functions and oversight (currently MIME, at some point in the future the water regulator) could act more as an arbiter of conflicts between communes and providers rather than exert direct control over the licensees.

3.3 Improving performance: capacity building and staff incentives

Improving capacity in the sector, including in communities and local government, and fostering better performance of service providers are key challenges for the sector. The RGC has placed strong emphasis on capacity building for public utilities in the past, notably for PPWSA, which has contributed significantly to the successful improvement of service levels and access in Phnom Penh. Consequently, the water sector policy explicitly recognizes that dealing with the capacity gap in public utilities in provincial capitals and the sector at large is essential for RGC efforts to improve service in a sustainable way. In particular, the policy recognizes that human resource requirements for the sector will be large, and that a range of technical, administrative, managerial and regulatory skills will be needed for the sector to function. Implementing this policy raises complex issues, as described below.

Capacity building does not happen in a vacuum. Training of employees, while obviously an essential aspect to capacity building, may be a futile exercise unless staff is given incentives and the means to apply what they have learned in their daily work. Therefore, in order to provide tangible results, capacity building needs to be linked to the broader context of organizational reform and the introduction of: i) an adequate human resources policy at the utility level, with salaries and bonus systems; ii) adequate access to resources, including for rehabilitation and investments to put in practice what has been learnt; and iii) operational autonomy to make the right decisions with, of course, accountability for end results. Capacity will drain away and training will be ineffective if broader progress is lacking. Efforts to build capacity at the level of providers should therefore be closely aligned with these other reform tracks and tailored to the variety of utility types, large and small public providers, licensed and informal private providers.

There are a variety of educational institutions in Cambodia providing skills complementary to the water sector's requirements. However, the absence of technical institutes specializing in issues actually relevant for the water sector, at university level but more so at vocational education level, creates particular challenges in terms of building the capable human resources necessary for the sector to grow during the next decade. The issue at hand is not just about training existing water utilities staff whose expertise is lacking, but also – and maybe more importantly – about attracting the many new staff needed to operate expanded systems.

Building on lessons from PPWSA's experience

The successful turnaround of PPWSA into a world-class water utility provides a starting point for understanding what has worked in capacity building and what elements of the PPWSA experience could provide building blocks for a broader, national capacity-building program (see Box 5 below on capacity building as an element of PPWSA's success story).

Box 5: Human resource development at the heart of the PPWSA success story

Thorough reforms of HR management and intensive human resource development lie at the heart of the successful turnaround of PPWSA. This comprehensive effort aimed at 'changing of culture' was based on a set of activities encompassing reforms in the way the staff was educated, motivated, and disciplined. This included giving higher management more direct responsibility, promotion of a younger, more dynamic generation with better to higher levels of management, giving them more responsibilities and moving 'old timers' into more dormant roles, but avoiding open conflict by allowing them to keep their positions. The shift to a younger generation of managers was complemented by extensive training in the various skills required to run PPWSA effectively and by reforming incentives, including through higher salaries (10 times more than before) and bonuses for good performance, together with penalties for bad intentions. Responsibility of the staff was streamlined through a reorganization which increased accountability for results, while balancing individual performance measures with incentives for collaboration and teamwork.

Ultimately, the number of employees was reduced from more than 500 to less than 400 prior to reforms. But more relevant was the change in terms of skill composition and academic education. Compared to pre-reform levels (1993), the number of staff with an advanced academic degree (Master or PhD), had risen from 0 to 12 by 2002, the number of engineers from 16 to 27, accountants from 7 to 17 and for technicians and otherwise skilled workers from 19 to 116.

Source: Ek Sonn Chan (2003).

Putting human resources at the forefront of reform

Human resources reforms, beyond a narrow interpretation of capacity building, have been an essential element of the success in PPWSA; these reforms included, in addition to training: i) reorganizing the workforce and recruiting staff based on actual competence; ii) paying salaries much higher than traditional civil service to attract and keep good people; iii) promoting labor productivity through incentives and/or redundancy for poorly performing staff; and iv) creating a positive dynamic for disseminating knowledge within the company through performance monitoring of individual units.

Training must reach all levels of the company

The training undertaken at PPWSA during the past decade has been comprehensive in terms of capturing staff at all levels throughout the company. While it is difficult to track precise data on expenditure or overall time spent on training (indicators such as training days per staff used for classroom training do not properly capture the effort put into on-the-job training), training provided to staff at PPWSA has been significant and clearly not restricted to the top levels of the company. While PPWSA management and supervisors did receive intensive 'traditional' training on technical and administrative topics, the knowledge transfer did not stop there. Staff based in field offices, such as fieldworkers, had access to courses. As a result of this, over 360 employees out of a total of 430 had attended training by as early as 1998. More importantly, supervisors attending training courses were encouraged to pass their newly acquired knowledge on to subordinates.

Knowledge transfer through exchanges with peers

Training staff is not just about providing classroom training. Targeting fieldworkers is especially important in a labor-intensive activity such as piped water services. Foremen, crew members and shift workers are ultimately the ones who make a water network system operate properly or not. While courses in classrooms are appropriate for supervisors and managers, fieldworkers need on-the-job training and to learn more by interacting with peers. PPWSA undertook extensive efforts in this area. At management level, PPWSA received significant support from donors to visit other well performing large water utilities in the region (notably Japan, Australia and Thailand). The importance of such exchanges and study tours should not be underestimated. First, the selection for secondment was based on merit, providing direct incentives for performance of management staff. Second, it provided multiple opportunities for management to obtain ideas and inspiration for taking the company forward. Peers could discuss informally their respective experience and learn about what worked and what did not in practice. This also provided them with a 'vision' of what PPWSA could become in the future. This is an important element, since building human capital is a long-term effort, the results of which seldom translate into immediate improvement.

Capacity building is not a one-off activity and needs to be fully internalized to have a lasting impact
PPWSA has moved in recent years out of the 'transformation' phase and has internalized capacity building as an integral corporate function, by i) formalizing the training function within the organizational chart[14] and ii) creating a pool of internal trainers. A dozen supervisors were selected and trained on pedagogical methods, through a Japan-supported project. Retaining their usual responsibilities within the organization, they also act as trainers on a part-time basis and receive financial incentives for their efforts.[15] This has provided PPWSA with the capability to develop training material from now on that matches their exact requirements, as well as with the potential to provide training on their own for other water utilities in the country.

Understanding capacity gaps and needs at the level of public and private providers

Provincial waterworks (PW) have received little donor attention during the past decade compared with PPWSA. Significant investment plans have been implemented recently in only two cities (Siem Reap and Sihanoukville), but projects in five other capitals are currently underway. As a result, most are very small systems (total connections from 250 to 4,500), and this situation is reflected in human resources. The whole payroll of the 13 provincial water utilities does not exceed 250 employees.[16]

Almost all PW employees are in need of extensive training
A study of human resources at PWs was carried out in 2004 with Japanese support (JICA, 2004). Each PW was rated in terms of the quality of staff as well as management, showing large diversity between utilities. The study also included an assessment of training needs in terms of basic topics. Overall, it confirmed that there was a widespread lack of basic knowledge in water technology and proper operating methodologies. Most staff seem to have learned on the job without proper technical support, so need basic courses. This is well illustrated by the case of the Battambang PW, analyzed in detail by the consultants. Although one of the two better rated PW in terms of human resources, all existing staff were still earmarked for training.

Creating a pool of competent PW staff must be a priority
It would be naïve to expect that attendance of courses would be enough to capacitate current or new employees. As shown in the PPWSA case, classroom training should be complemented by on-the-job learning, whereby more experienced staff can share knowledge among themselves. This poses a challenge, given the very small number of 'competent' staff currently in PWs. A major effort must be made in the short term to create within each PW a group of properly trained staff capable of 'mentoring' their new colleagues. Otherwise, the development of a piped water network in the provinces will be faced with a major bottleneck.

Investing in human capital: PW staff needs better remuneration and incentives for performance
The first issue to be dealt with is related to the low salary levels of PW staff. Unlike PPWSA, which is an autonomous body, PWs are restricted by civil servant rules and their employees currently receive salaries between two and eight times lower than in the private sector (depending on the position). A real effort to develop human capital at PWs needs to be undertaken; otherwise, newly trained staff will leave after completing their training. Flexibility in the management of human resources must be introduced to allow managers to motivate and retain their best staff. There is widespread consensus that the current setting, using MIME to supervise and monitor performance of individual PWs, is weak and does not promote performance. While management must be more flexible in terms of human resources policy for training to be efficient, they must also have proper incentives to improve performance and be held accountable for results. Otherwise, staff selection may still be based on other factors than the actual needs of the utility, and financial bonuses may still be paid for reasons other than actual merit.[17]

Private water operators are a diverse group and have diverse capacity-building needs

[14] Under the strategic responsibility of the Assistant General Director.
[15] Four weeks per year on average, including teaching and course material, US$10 per hour of teaching.
[16] The two biggest utilities in terms of staffing are Battambang (61) and Sihanoukville (38).
[17] In addition, the per diem typically paid to participants can represent a significant portion of actual salary. As a result, training becomes another perk for well connected staff even though other staff need it more.

Private operators do not form a cohesive group but instead represent a mix of mainstream operators together with a large number of small, informal operators. In addition, several of the private companies currently building piped water systems under new DBL/OBA projects are new entrants from the civil construction industry. This diversity obviously affects the specific training needs of each category. Private companies operating under licenses from MIME represent a group similar to the public PWs in terms of system size. Their total number of connections ranges between 200 and 4,000 and they serve on average a similar population size: 28,660 people for PWs and 27,808 for private licensed operators (JICA, 2004). There is a significant difference in terms of human resources. They tend to have a smaller number of employees (150 for the 13 licensed private operators against 250 employees for the 13 PW: JICA, 2004), and they often pay their staff much higher salaries than those offered to PW employees (between two and five times depending on the job position).

Training needs of private licensed operators

As with PWs, most staff in private licensed operators have acquired basic skills by learning on the job how to operate a piped water system, without previous water technology training. Most companies actually started as family businesses, and supervision staff and management as such had less technical background than those working at PWs. For a large part, staff lack the basics of water technology and management, and would benefit as much as PW employees from basic training courses. The incentive framework is clearly different, though. Faced with better career prospects based on the growth of the firm and the chance to win more contracts, and subject to salary increases based on merit, private employees have incentives to learn and apply this new training in their day-to-day jobs. Given the shortage of specialists in the sector, the larger of the private operators have actually taken a proactive approach to investing in human capital, and built a pool of trainers providing on-the-job training to facilitate the incorporation of new employees.

New projects will need a new workforce

This is true for small towns under private management as well as for future expansion of public systems. More than 30 new piped water systems are currently under construction, to finish in 2008; it is estimated that 150 to 200 new employees will be needed to operate them. This means more than doubling the size of the private operator workforce in the country. This is a challenge of some urgency, especially as several of the leading firms have their roots in the construction business with little, if any, operating experience.

The best PW civil servants might cross to the private sector

Since there are currently no standard basic water courses in the country, private firms will have to recruit new staff with no water systems experience and then train them. If training courses became available, firms would have the incentive to send staff to study water technology and proper operating practices. Another possibility would be that the private sector recruits civil servants currently working at PWs, picking out the best and leaving the public sector with the less qualified employees. As a result, it is beneficial to both the private and the public sector to ensure that comprehensive training be rapidly put in place and be accessible on fair terms to private operators.

Human resources and informal operators

This group is made up mostly of small family businesses operating small systems that they have built on their own without any actual expertise in piped water technology. Providing training to this group raises special challenges, but recent initiatives prove that: i) there is a demand for knowledge, especially on low-cost technologies, with a focus on network dimensioning and water quality/filtration; ii) trainers must adjust to an audience with low educational background; and iii) given that systems are mostly operated by one or two persons, these companies can not afford to send staff to Phnom Penh for extended training courses.

What a national capacity-building strategy should cover

Clear leadership for a national integrated capacity-building program linked to sector reform

Clearly, efforts for capacity building need to go beyond government investment in a training facility. MIME is well positioned to lead and coordinate an integrated capacity-building effort to be directed at improving the performance and sustainability of water utilities across the country, both public and private. It is recommended that MIME delegate responsibility for management of the planned training facilities to PPWSA, given its proven track record in training for in-house staff. However, it is essential that MIME play a key role on the board of the proposed national training center network, to ensure that the capacity building

is in tune with overall water sector reform. This is especially important if the RGC moves towards linking training, through an accreditation program, with the licensing process for private providers and, possibly, with staff compensation schemes for public providers. MIME's leadership is also important because funds for capacity building will need to be raised from donors, and the relationship with donors is one of MIME's key responsibilities. Donors have recently been showing a growing interest in capacity building in developing countries (as they have become aware that capacity can be a major bottleneck for development), but they are often reluctant to fund mere classroom training without links to results on the ground. The RGC should seek to explore how to maximize PPWSA's resources here and attempt to implement the 'top runner catch up' approach initiated by JICA. MIME should also lead the capacity-building program for the sector and initiate the establishment of a Cambodia Waterworks Association (CWWA). The CWWA's mission would be to create a network of utilities and use it as a vehicle for capacity building. The association would eventually take on the leadership and management of the national training center and be the authority for accrediting suppliers in the sector in the future.

Solving the supply side of the equation: a national training center

The absence of a 'regular supply' of water courses in Cambodia is obviously the most urgent problem in need of a solution. PPWSA is the main repository of knowledge in water technology in the country, with a pool of experienced trainers, and so is the logical channel for developing a national water training center. However, care must be taken to ensure that the training offered matches the diversity of needs of the various operators (from the larger provincial utilities to small private operators).

The key challenges of designing a national training center

While the principle of developing a national water training center under the auspices of PPWSA is sound, special attention must be paid to the actual design and institutional arrangement for such a center. There are many examples of dedicated training facilities, often established with scarce donor funds, which have fallen short of expectations, running at a fraction of capacity and with courses in the offering that do not match the needs of the intended audience. In this respect, the recent establishment of a national training center for the national power utility EDC is an experience on which to it is useful to reflect. A complete new facility was developed with donor funding in 2001, which currently has 57 staff and 21 fulltime trainers providing training to 1,000 students per year (mostly from EDC). Several lessons are relevant in the context of the proposal to build a training center at PPWSA:

- Students must learn on equipments similar to those used in the field, so adequate equipment has to be procured and installed. This would be a clear priority for the proposed facilities at PPWSA, since the technical system of Phnom Penh is very different from those at PWs and small private operators (and this is therefore relevant in training their staff).
- In the EDC experience, many students came just for the per diem and were not really interested in learning; many also came without the basic capacity to understand the material. Efforts were required at the level of EDC top management to make sure that department heads were more careful in selecting students. The lack of incentives and actual absorption capacity for the training course are problems that will have to be addressed explicitly, including clear admission criteria for students.
- While classroom courses proved important for basic theoretical knowledge, the real training took place in the field after the students had returned to their jobs. EDC trainers developed a practice of visiting students on their job – post-training – to see if they were putting their training into practice and/or to correct any persistent mistakes. This was only feasible given the pool of fulltime trainers. PPWSA at this stage is relying on part-time trainers who could not carry out such follow up without affecting their normal duties.
- Many students could not leave their job to attend class for more than two days; courses had to be set up for only half a day. There were few incentives to bring training events closer to the audience by matching courses in the central facilities with decentralized courses, not least because management wanted to show that it was using the new facility.

Moving towards a training network with regional satellite facilities

It may be premature to concentrate major training facilities in Phnom Penh. The RGC may want to contemplate whether a network of smaller facilities, with headquarters in Phnom Penh and managed through PPWSA, would be more appropriate for achieving its capacity-building objectives. While it makes sense for some of the theoretical courses to take place in Phnom Penh, a significant number of trainings should be offered in provincial cities in order to allow practical training on systems similar to those of the PWs and

small private operators. Furthermore, staff in public and private utilities has limited opportunities to travel to and attend extended classroom training in Phnom Penh.

Staffing of the center: small core staff relying on a pool of part-time trainers

The key benefit of establishing a training center at PPWSA is the established pool of in-house trainers. In order to maximize leverage from this core team of trainers, the center should adopt a dual track of direct training for individual staff at the same time as 'training of trainers' at public and private utilities. This would allow the pool of trainers to expand over time and include part-time trainers at the largest provincial utilities; this is the most efficient way to ensure that knowledge can be transferred to local staff.

Budgeting for operating costs; modest expectations as to cost recovery through participants' fees

One of the typical shortcomings of training facilities is a focus on the facilities and a lack of emphasis on the recurrent costs and revenues of such facilities. While cost recovery from participants should be a medium-term goal, it would probably not be realistic, nor in the interests of the government, to expect participants from public utilities and private operators to pay for the full cost of training in the short term. There is also a rationale for this, as training water utilities should bring sizable public benefits in terms of better water quality and services. However, operating costs will be significant. PPWSA should be conservative in budgeting operating revenues from trainee fees for the initial three to five years and beyond, and the RGC should explore ways to fund such start-up costs with the help of development partners. However, to align course offerings with actual demand from utilities outside PPWSA, training should be held, as a measure of success, for enrollment by both public and private utilities. External clients should bear part of the costs for training to avoid the problem that troubled the EDC center: students enrolling for the sake of the per diem.

Building the future and linking with existing institutions for higher education

A key objective of a dedicated training center should be capturing potential staff as early as possible and establishing links with existing training institutions. Courses on water supply management, both technical and technological, should be offered for university students, based on agreement with universities or technical schools such as ITC. This would help provide a steadier supply in terms of trained workforce for the water sector in the future.

Developing a national apprenticeship program

While linkage with educational institutes is important, most staff have learned directly on the job in the past and will continue to do so in the near future. Therefore, the problem of how to ensure that capacity building occurs beyond classroom training must be addressed. Knowledge transferred in the classroom to managers and supervisors must trickle down to field employees and workers, translating ultimately into better field practices.

Although the program should be driven by the needs of individual utilities, management could be facilitated nationally by the core staff of the new water training center. These staff should be responsible for the development of a provincial network of mentors, following up on each of them as to how knowledge is transferred to fieldworkers in the region and monitoring the impact of the program both within the mentors' own utility and within neighboring utilities.

Transferring knowledge to fieldworkers

Knowledge from classroom courses will not just 'transfer down' to the field employees of the provincial utilities unless a proactive initiative is put in place. For this reason, the set up of a national water training center, which is the first stage in creating a 'supply' of water technology knowledge, should be complemented by the parallel implementation of a nationwide apprenticeship program.

Developing a body of mentors in provincial utilities

An apprenticeship program may build upon a pool of field practitioners/senior technicians, located across all large PWs and private utilities. These individuals should be given incentives to 'mentor' staff on the job and act as an easily accessible technical resource for field staff, as well as for smaller utilities located in the region. The difference between the proposed apprenticeship program and a more traditional training approach is that future mentors should be chosen not from within management but rather from among the most capable fieldworkers or foremen. This is important in the transmission of practical knowledge, as these trainers would be more able to relate to the 'down-to-earth' needs of less able fieldworkers.

- **First step: training mentors in Phnom Penh:** The first stage of the apprenticeship program should be selection of mentors, followed by training for several weeks in Phnom Penh. Training should comprise attending basic classroom courses in water technology, together with spending several weeks working within PPWSA crews, applying recently acquired knowledge and getting trained on best operational practices.
- **Second step: ongoing knowledge transfer to fieldworkers:** After the return of each trained mentor to the respective utility, training of colleagues can be undertaken in the course of normal fieldwork, either informally (small utilities) or by rotating the workers into their own crew. For training workers in neighboring utilities various options could be considered, such as receiving outside workers into a crew for several days, or being available on a more informal basis to show visiting workers certain operational practices. Financial bonuses ought to be paid to mentors as an incentive for being part of the program. Learning and being available to teach others will represent a sizable effort on their part, and they should be rewarded.

Towards an accreditation system

Beyond offering a varied menu of courses, or facilitating on-the-job training, an additional level would be to integrate these efforts in the form of a national accreditation system, either for individual staff or for firms. One option would be to make it compulsory for key staff to have attended certain courses successfully, in order either to obtain or to renew their license.

Providing incentives to get trained and apply knowledge

In addition to developing a menu of training options and opportunities, and to creating an infrastructure to deliver training, one of the key elements in translating this into actual capacity enhancements will be to accompany these 'carrots' with 'sticks'. This means incentives for utility managers for having their staff trained, for staff to request and attend training for reasons other than the per diem, and for management to ensure that trained staff are retained in utilities and apply new skills towards service improvements.

Linking capacity building with licensing of providers

There are various ways to integrate efforts to increase capacity together with the current licensing effort. For example, the licensing of providers is subject to submission of a business plan, technical drawings etc., to be scrutinized by MIME staff. The idea is to control quality of effort by small providers and, ultimately, ensure quality services. In practice, this procedure lacks transparency (in the absence of clear criteria for a good business or technical design), imposes a heavy burden on providers and is perceived by providers as an opportunity for rent seeking on the part of officials. Therefore, most providers seek to circumvent the licensing process and it is questionable if the designs that have been 'improved' by intervention of public officials are indeed built to these particular specifications. Another option to ensure some level of quality management would be to insist that firms seeking a license employ staff or associates themselves, with advisers who have passed a basic training program and/or obtained accreditation. Such a requirement would certainly need careful phasing in, to ensure that the new training center is launched and functional and that courses are actually available. This approach would also warrant special consideration for informal family businesses, including provision of training tailored to the group, drawing on recent experiences of WSP. Special materials need to be developed so that basic technical issues can be grasped by an audience with little schooling and, for maximum outreach, courses must be offered outside of Phnom Penh as much as possible. Alternatively, licensed operators could gain preferential access to advanced training courses, as well as to the apprenticeship program or vouchers that would allow operator choice between different course offerings at rebate prices.[18] This approach could foster MIME's efforts at comprehensive licensing, by providing a tangible benefit to company owners associated with the licensing.

Equivalent incentives need to be built into the corporate governance of public providers. Capacity building could, for example, form one of the explicit goals agreed with newly autonomous public providers in performance agreements. Individual staff having passed individual courses or having been accredited could be eligible for bonuses or salary increases.

[18] For a certain number of days of classroom training and 'on-the-job' training with PW mentors, to be calculated based on, for instance, total staffing, revenues and/or licensing contribution.

Balancing technical training and broader capacity building of stakeholders in the sector

Finally, a national capacity-building strategy must also address the capacity needs of other stakeholders in the sector. The progress by the sector not only will require better qualified utility management and staff, but also will hinge on their ability to relate to and communicate with educated stakeholders. In particular, these comprise the nascent CWGs, local commune councils, government officials and the public at large.

- **Supporting the establishment of CWGs:** The introduction of community participation through the CWGs has proven so far to be a very useful initiative to provide a practical counterpart for private operators. While their role has been limited so far to private operator systems, they could also play a useful role in public systems. Establishing CWGs for public systems in the provinces, as recommended in this report, would increase accountability of PW management to users as a complement to direct MIME supervision. This raises a few concerns, namely the need to replicate on a larger scale the support towards the formation of CWGs and initial training (expanding from currently about 20 CWGs to probably more than 60) and to develop a strategy to provide ongoing support and capacity building to CWGs in the light of lessons that note that, without continued support, user representation through such institutional structures is often not sustainable.
- **Developing capacity at local government level:** Equally important, albeit challenging, is developing capacity of local governments to deal with water issues. It is actually recommended that local commune councils delegate much of the ongoing monitoring of providers to CWGs, which can transcend the short election cycles at commune level and focus attention on the water sector. Nevertheless, commune councils will have an increasing role in governing the sector, including through possible representation on the board of service providers. Past efforts by development partners to build capacity (in particular the MIREP program) and to reinforce capacity in commune councils (in the MIREP case to act as a counterpart in small PPP contracts) have been a valuable experience in terms of showing how much effort this can imply. Similar to efforts to raise the capacity of CWGs, educating commune council members should be a broader effort de-linked from particular investments. The RGC, therefore, through the intended training facility, should explore capacity-building initiatives specifically geared towards the need of council members.
- **Educating the public on water disinfection: an urgent priority:** A key priority is to educate customers on aspects of hygiene, sanitation, water use and, not least, benefits of chlorinated water. For example, there is a widespread distaste of chlorinated water among customers in the provinces, to the point where many utilities, faced with public pressure, have been turning down (actively or passively, by not maintaining equipment) the disinfection systems. This has been even more the case with private operators, which have an incentive to sell water according to customer taste. Not only does this situation have a negative impact on public health, but also it may be perceived as defeating the whole rationale of developing piped water networks in the provinces to reach the MDGs, as there is no point in building water networks if the water distributed is not properly disinfected. The implementation of a public education campaign on the benefits of chlorinated water is an essential element to support the reform and improvement of the sector. Individual providers, most notably PPWSA, have undertaken extensive efforts in the past to sensitize their customers with regard to chlorination and other related issues. While managing relationships with customers may be best left to individual providers, the planned training center could play a useful role in coordinating such advocacy efforts, in developing outreach material that could be used by service providers to educate customers and in providing guidance to individual providers as to how best to manage localized information campaigns.

4. Putting the Pieces Together: Summary of Key Recommendations

The following sections summarize the key recommendations in this report for implementation of the water sector policy in terms of short-term (one to two years) and medium-term (three to five years) priorities.

4.1 Short-term priorities

- Initiate the capacity-building program via the 'top runner catch up program' approach of JICA, likely to start in September 2006 to 2010 for public utilities; for private utilities, implement the capacity-building plan likely to be supported by the WSP.
- Establish by decree the autonomy of public utilities and the corporate governance mechanism – both by means of a supervisory board and an explicit (multi-year) agreement as to performance targets of the utilities.
- Formalize a MTEF for the sector, based on rolling three-year plans for capital and operating expenditure by public utilities and rolling three-year projections by MIME for fund transfers to private providers when services are contracted to private providers in small towns. The MTEF should then become part of the Commune Development Priority Plan prepared every three years.
- Review current regulatory practice with a focus on information quality (both financial and quality of service – QoS – information) and practice of public disclosure of such information for financial information. In particular, highlight the use of forward-looking information with regard to projected capital expenditure, definition of a relevant asset base and streamlined procedures in awarding licenses/contracts to private providers, to QoS-relevant parameters for service quality and access.
- Establish a formal mechanism for donor coordination through a TWG, either by inserting the water sector agenda into the deliberations of the Infrastructure TWG, as a subgroup to the current Infrastructure TWG, or as a separate stand-alone TWG.

4.2 Medium-term priorities

- Expand the role of CWGs to include the monitoring of public utilities as to their performance agreements.
- Design a comprehensive approach to government funding in the sector and coordinate with development partners their contribution to this funding mechanisms through a SWAp.
- Establish as a backbone for a network of facilities a small dedicated training center with PPWSA and establish the CWWA as a center of learning.
- Pursue the establishment of a dedicated regulatory authority.

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Annexes

The table below summarizes the status of the CWG by respective commune council as of April 2005.

Name of town	Name of commune	Current status of CWG/ Date of CWG recognition by commune council
Peam Chi Kang	Peam Chi Kang	16 September 2004
	Angkor Ban	16 September 2004
Soung	Soung	25 September 2004
	Vihear Loung	25 September 2004
Skun	Sotip	17 September 2004
Chrey Vien	Mien	3 November 2004
	Trapianpraeh	3 November 2004
	Chreyvien	3 November 2004
Bavet	Bavet	15 November 2004
Prasath	Prasath	27 September 2004
Kandieng Reay	Kandieng Reay	18 October 2004
	Sambuor	18 October 2004
	Svay Toea	18 October 2004
Kampong Chak	Chak	25 October 2004
	Sangkhoar	25 October 2004
Kraol Kou	Kraol Kou	21 October 2004
Neak Loeung	Neak Loeung	25 September 2004
	Prek Khsay Kar	24 September 2004
	Prek Khsay Khor	25 September 2004
Me Sar Chey	Me Sar Chrey	1 March 2005
	Sopheas	14 February 2005
Ph'av	Ph'av	26 February 2005
Stung Trang	Preaek Kak	7 March 2005
Krouch Chhmar	Krouch Chhmar	3 March 2005
	Svay Khleang	3 march 2005
Psar Chub	Chub	In process; CWG elected on 22 November 2004
Srah Chik /Poy Char	Srah Chik	In process; elected CWG presented to commune council on 3 May 2005
	Poy Char	In process; elected CWG presented to commune council
Beong Trakoun	Kouk Romeath	In process; elected CWG presented to commune council on 4 May 2005
Thmar Pouk	Thmar Pouk	In process; elected CWG presented to commune council l on 4 May 2005
	Kumru	In process, CWG elected 10 March 2005
Phnom Thum Phnom Touch	Oprasath	In process; elected CWG presented to commune council on 6 May 2005
	Phnom Touch	In process; elected CWG presented to commune council on 6 May 2005