Working Party on Global and Structural Policies

FINANCING STRATEGIES FOR WATER SUPPLY AND SANITATION

A Report from the OECD Task Team on Sustainable Financing to Ensure Affordable Access to Water Supply and Sanitation

The present document has been submitted for discussion and comments to the OECD Task Team on Sustainable Financing to Ensure Affordable Access to Water Supply and Sanitation during its meeting on 14-15 October 2008, under the cote COM_ENV_EPOC_DCD_DAC(2008)4 and is identical to this.

The principal author of this Report is James Winpenny. Chapter 4 is largely based on text supplied by Eric Buhl-Nielsen, and Chapter 3 has greatly benefited from comments and text from Michael Jacobsen. The whole Report draws freely on the Chair’s Summaries of Task Team meetings together with the substantial body of material contained in the 17 Case Studies produced for the Task Team.

Mr. Peter Borkey, Environment Directorate, tel: +33 1 45 24 13 85, email: peter.borkey@oecd.org; Mr. Rémi Paris, Development Cooperation Directorate, tel: +33 1 45 24 17 46, email: remy.paris@oecd.org
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EXECUTIVE SUMMARY

The OECD Water Task Team

This Report is about financing water supply and sanitation services (WSS for short) with a specific focus on the situation in developing and transition countries, with reference to the experiences of OECD countries for comparison. It draws on 17 case studies prepared for an OECD Task Team from countries representing a wide range of conditions in OECD, transition and developing regions.

Financing of WSS

In WSS, finance is a necessary, but not a sufficient condition for delivering water services. Attracting sustainable flows of finance of the right type depends on thorough reforms in the governance of this sector.

WSS tends to be under-financed. It poses financial risks which deter private and commercial finance. This results in poor services and starves utilities of funds needed to expand their networks. This disproportionately affects poor citizens, who have to compensate at their own expense. Low tariffs can make the poor poorer.

Capital investment and recurrent costs are funded in different ways. Investment tends to be financed by national governments, supplemented for many countries by official development assistance (ODA) grants and loans from international financial institutions (IFIs). Recurrent spending on operations and maintenance is reimbursed from tariff revenues and subsidies. In the final analysis all WSS is paid for with tariffs, taxes or transfers (figure 1), which are referred to as the ultimate sources of revenue in this report.
Financing the achievement of the Millennium Development Goal (MDG) targets for WSS in developing countries is likely to entail a doubling of investment requirements over recent levels, to a total of USD 72 bn annually. What is less widely appreciated is that the cost of maintaining and modernizing existing systems (about USD 54 bn annually), which are scheduled to grow rapidly, will grow exponentially, and already greatly exceed the annual cost of extending the networks.

Tariff revenue is the main source of finance for the recurrent costs of operations and maintenance (O&M) and in many countries needs to increase if services are to be properly funded. Although lip service is paid to the principle of Full Cost Recovery through tariffs (i.e. recovering all capital costs as well), many countries prefer a pragmatic (or opportunistic) policy towards financing capital costs. The concept of Sustainable Cost Recovery addresses these cases, advocating securing and programming financial means from all available sources in a predictable fashion, including tariffs for O&M, and government and donor support.

Subsidies are all-pervasive in WSS. They are justifiable, if they reflect public external benefits such as the benefits to public health, environment and amenity from proper collection and treatment of human waste. Subsidies to compensate for low “affordability” of certain social groups are better delivered in a targeted manner, ideally through social security payments, rather than through a general under-pricing of water. Persistent subsidies are a drug, creating dependency and with undesirable side-effects.

Devolving the responsibility for providing WSS services to local municipalities needs to be accompanied by sufficient delegation of powers and resources. Where human and financial capacity is lacking at this level, decentralization may weaken services. Financing sub-sovereign agencies and layers of administration is now high on the WSS agenda.
Solutions for the under-financing of WSS

The underlying problem of under-finance of WSS should be addressed in various ways:

- Utilities need to improve their operational efficiency, for which there is great scope.
- The development of the sector needs to be more demand-oriented, delivering services that consumers want and are willing to pay for.
- Where cost recovery from tariffs is at low levels, tariff revenue should be increased by revising tariff rates and structures, and collecting more of the revenues due.
- Political support for Sustainable Cost Recovery should be developed in order to put it into practice.
- Subsidies should be transparent, properly justified and specifically designed to achieve their purpose.
- Finance Ministries should recognize the potential contribution of the WSS sector to economic development, public health and many of the other MDGs.

Choices to be made

National and international commitments to the upgrade and extension of WSS services leave scope for choice and interpretation in how these commitments are implemented. The targets need to be realistic to make them affordable for public budgets and beneficiaries alike. The choice of hardware and technologies makes a big difference to costs. Likewise, policy targets and scenarios have different cost implications, involving trade-offs (see box 1 and figure 2).

<table>
<thead>
<tr>
<th>Box 1. Experience from the financing strategy for Moldova’s Water supply and sanitation sector</th>
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<tr>
<td>An EU Water Initiative Policy Dialogue on the financing of urban and rural water supply and sanitation in Moldova took place in 2006 and 2007 with support from the OECD/EAP Task Force.</td>
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</table>

The work demonstrates how household affordability is going to be a major constraint for the achievement of even modest WSS improvement targets, and how crucial the availability of public budget and ODA funds is going to be.

The graph presents the annual cash flow needs for different WSS infrastructure development targets and the available financial resources from user charges, public budgets and ODA under certain assumptions. The so called “baseline scenario” essentially assumes the maintenance and rehabilitation of existing WSS infrastructure, with no extension of service to previously not connected populations. To achieve financial sustainability it has been assumed that user charges would increase to an average of 5% of household income (with social protection measures to support the poorest who would pay more than this average). Even with this very heavy burden on consumers, user charges would only generate about 50% of cash flow needs for the foreseeable future, eventually covering up to 95% in 2028.

Achieving the MDGs ((1)+MDGs scenario in the graph) would require additional financial resources and even larger infusions of public budget and ODA resources.
Every WSS system strikes its own balance in its reliance on the three ultimate sources of revenue – tariffs, taxes and transfers (the 3 Ts, see figure 1)). This is as true of “mature” countries as of developing and transition economies. Although certain trends in WSS financing are evident as countries develop (e.g. growing self-finance from tariff revenue, use of local capital markets, less ODA, etc) subsidization and dedicated financing agencies persist in many developed countries.

Because the WSS “sector” is so diffuse, hard choices are entailed in the allocation of public funds between different agencies, geographical regions, functional programmes and hierarchical layers. There is a choice to be made between water supply and sanitation (plus the related matter of household hygiene), and between urban, peri-urban and rural communities. Funding needs to be shared between infrastructure and the “softer” functions involved in WSS services, such as planning, policy making, research, monitoring and regulation. The division of funding between central and sub-sovereign agencies is also a topical concern.

Financing Strategies

Everything said so far highlights the value of having a Financing Strategy for WSS. A FS is not a panacea, and is not a substitute for reforms in policy and governance. It does, however, provide a framework for policy makers and practitioners to interact to produce WSS programmes that are clear, consistent, sustainable and financially feasible, compared with uncoordinated and improvised approaches.
A FS has been offered as follows:

“A time-bound plan for sustainable financing of capital investments and O&M costs in WSS adopted by a national, regional or local government and embraced by major stakeholders involved in WSS management and operation in the country, region or municipality in question with a view to achieving a set of targets that are SMART1. ‘Sustainable financing’ implies that expenditures (investment expenditure and operation and maintenance expenditure) are balanced with revenues (from public budgets, user charges and loans/grants from domestic and international sources).2”

A number of FSs to date have incorporated one or other of the generic models that have been developed for this purpose. FEASIBLE is a user-friendly tool with a clear user interface that has been applied mainly to the Eastern European, Caucasus and Central Asian countries (EECCA). The other model, SWIFT, is also very comprehensive, with many possibilities for analysing and presenting financing flows. SWIFT is still being piloted in the African region, but FEASIBLE is publicly available for testing and use3. A number of the FSs produced recently have been drawn up by, or with the considerable help of, consultants. However, the process involved in their preparation should, and usually does, involve a quite lengthy period of dialogue and consultation with all major parties (stakeholders) concerned. The assembly of information, clarification of goals, and negotiation of options, are just as important for the FS, perhaps more so, than the end result – the production of a document and model.

Objectives

The objectives of a FS are

- Providing a structure to enable a policy dialogue to take place, involving all relevant stakeholders, with the aim of producing a consensus on a feasible future WSS;
- illustrating the impact of different objectives and targets in a long term perspective
- linking sector policies, programmes and projects
- facilitating financing from public budgets and ODA by providing clear and transparent data on financing requirements.

Outcomes

Based on experience so far, the following outcomes can be expected:

- A shared understanding of issues
- Consensus on realistic WSS infrastructure targets
- More objective discussion of tariff policy
- Reflection of the realism of social and environmental objectives

1 specific, measurable, agreed, realistic and time-bound.
2 EUWI FWG, July 2007
3 From www.oecd.org/env/eap
• An opportunity to improve the dialogue with the Ministry of Finance

• The possibility of incorporating results into the national Medium Term Expenditure Framework and into Poverty Reduction Strategy Papers and to support the development of sector-wide approaches (SWAps).

The report identifies lessons and “good practices” for conducting FSs.

Recommendations to developing country governments

The basic recommendation is to improve financial planning for WSS in order to achieve more financial sustainability and better access to public budget resources and ODA. This should be done through a Financing Strategy based on sound research and analysis and a policy dialogue with all relevant stakeholders. In order to ensure effective implementation of the FS, public expenditure management systems should be strengthened and linked more strongly to WSS sector-level planning.

Governments should take a “holistic” view of the various elements in WSS and its links with other sectors and the wider economy, and create awareness of the potential social and economic benefits of reformed and properly funded WSS services. The aim would be to ensure that all aspects of WSS, including “overhead” and “soft” activities, are properly and sustainably funded.

Although each country has its own water institutions and policies, which make each financing system sui generis, each country can benefit by taking a critical interest in the WSS financing systems prevalent in other countries, including OECD member states, and take away the appropriate lessons for use in their own situations.

Recommendations for development agencies

Agencies should support the production of FSs by all means, technical and financial, whilst not undermining the “ownership” of the process by development partners. They should help to develop relevant capacity, aligning their assistance with FSs, e.g. through SWAps, participating in policy dialogue, contributing to better coordination, and supporting local capacity development. A key part of the latter is the promotion of benchmarking and peer-group assistance (e.g. through the new Water Operators Partnership and bilateral “twinning”).

OECD Member States should draw on their domestic experience of strategic financing of WSS and share this experience with developing countries. They should also be ready to provide technical assistance to support efforts of developing countries to strengthen their public expenditure management systems.

Recommendations for other stakeholders

Ministries of Environment and other agencies and companies in OECD countries responsible for WSS services should engage in dialogue with their counterparts in developing and transition countries to debate their experiences of good practice in strategic WSS financing. Where appropriate, they should promote the exchange of personnel.

Civil society representatives and NGOs in developing countries should lend their advocacy to the production of FSs as an essential tool for the implementation of WSS programmes, and should take part in the dialogues involved in the production of the FS.
Future work

The Report points to several potentially valuable future work programmes in which the OECD and other appropriate bodies could advance the recommendations in this Report:

- helping developing country governments to incorporate WSS plans more effectively into national budgets and the budgeting process, specifically by supporting the development of relevant tools, models and approaches;

- expanding the scope of FSs to the broader water sector, including water resource development and management, other use sectors and the other supporting and complementary activities in the ambit of IWRM;

- study of the political economy of reforms, such as the timing, sequence, content and prioritisation of different reform steps, and how to reconcile the sources of political and social resistance to reform;

- comparative analysis of OECD members’ experience with strategic water financing, assembling evidence of OECD practices, identifying any common trends or features worthy of wider interest, and considering their potential relevance to developing or transition partners.
CHAPTER 1: THE CHALLENGE OF FINANCING WATER AND SANITATION

1.1. Sustainable finance, key to tackling the MDG WSS targets.

In discussions about implementing the MDGs for water and sanitation it is often taken for granted that finance is the major constraint. The sums entailed in reaching the 2015 targets are typically much greater than current flows entering the sector and all current sources need to increase, together with new types and hybrid forms.

However, it is now widely realized that though finance may be a necessary, it is not a sufficient condition for successful implementation. In many cases, it may not even be the main bottleneck. It is not unusual for allocated funds to be under-spent. Looking ahead, certain types of finance are likely to be available in elastic supply, given the right conditions. Attracting more finance, continuing to receive sustainable flows, and making effective use of what is available are likely to depend on widespread reforms in policies, institutions, management and behaviour in the sector.

Recent reports on water financing have devoted much space to the question of water governance. This is no coincidence; placing water finances onto a sound footing can only be done when the sector as a whole is properly governed, that is, when its laws, institutions, policies and management structures are robust and well-grounded (fit for purpose). Such topical issues as tariff reform, efficient management of WS&S services, the role of private sector participation, pro-poor initiatives and affordability, extending services to unserved communities, promoting sanitation, discouraging water pollution, etc. can only be progressed as part of a comprehensive policy framework.

With this in mind, this opening chapter sets the scene by describing some of the special features of water and its financing, the various contexts in which the subject arises, the size of the financing task and why the problem is particularly acute for water and sanitation. The work of the OECD Task Team is outlined, stressing its value added compared to previous reports.

1.1.1. Introduction to water and sanitation financing.

The term “water sector” is commonly used to denote the management of the basic resource (storage, transportation, catchment & environmental protection, and infrastructure entailed by this) as well as services involved in providing water to consumers and removing wastewater safely. As a “sector”, water is diffuse and pervades many other social and economic domains. To describe sanitation as a sector is equally problematic: for some purposes it is sensible to bracket water and sanitation together, but for other purposes they are best treated as distinct services.

This report focuses on water supply and sanitation services (WSS for short), though the different parts of the “water sector” are closely inter-related. Effective services depend on the sound management of the basic water resource and all this implies, including the collection, treatment and disposal of household waste and wastewater that is involved in sanitation. If one part of the water spectrum is neglected and

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4 In this report water supply and sanitation are referred to more briefly as WSS. WASH is another common acronym, including hygiene as well as water and sanitation. For convenience of discussion water and sanitation will often be bracketed together in the report, but there are difference between the two which require them to be considered separately for certain purposes, as the report will explain.
under-funded, the damage will soon be felt elsewhere, and its effects will quickly become obvious to consumers.

In an MDG context, where many citizens lack access to safe water and sanitation, the type of service envisaged is typically:

In *urban* and *peri-urban* areas:

- for domestic water supply, providing household connections and/or local public standpipes, providing or rehabilitating distribution networks to upgrade services and extend them to unserved populations, plus associated treatment facilities;

- for sanitation, facilities for safe household disposal of excreta and household wastewater, and, for more developed networks, connections to mains sewerage and waste water & sludge treatment and disposal

In *rural* areas: enhanced access to safe water of various kinds, e.g. household water points, community taps & wells, standpipes, etc.; for sanitation, various kinds of latrine (pit, VIP, pour-flush etc), community latrines, etc.

Countries in development transition (e.g. in the EECCA\(^5\) region) are typically in a different situation. Many of them have nominally high levels of service coverage (at least for urban water supply) but face deteriorating infrastructure, poor water quality and declining service standards.

In network systems typical of towns and well populated rural areas water supply is a *distribution* service, while sanitation involves *collection* and *disposal*. Consumers perceive the benefits of the two services differently, which has implications for charges and financing.

**Financing WSS: distinctive features**

Water and sanitation is an aspect of public infrastructure that poses particular financing challenges in developing countries. These services are at the boundary between *economic and social infrastructure* and politicians and water users alike are ambivalent how far water should be treated as a basic right, to be provided free or with a subsidy, or whether it is a scarce economic product to be charged for. The result is often an uneasy compromise where water services are priced below economic levels and the sector is poorly managed & chronically under financed. Many water authorities exist on a financial hand-to-mouth basis reliant on infrequent and inadequate government subsidies.

The majority of water authorities in developing countries depend on public funding for their capital investment in network extensions and upgrading installations. Many do not even cover their recurrent costs of operation and maintenance through sales revenues. Raising water tariffs is a sensitive local political issue\(^6\). Water providers are mostly publicly owned bureaucratic monopolies, subject to extensive political interference over staffing and operations. In fairness it should be said that in some developing countries public water service providers have become commercially and financial successful, though they are still the exception.

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\(^5\) Eastern Europe, Caucasus and Central Asia

\(^6\) This has been expressed as : “turkeys don’t vote for Christmas: mayors don’t vote for tariff increases”.
Other features of W&S hinder its access to commercial loan finance or private equity investment. Important benefits of water are not reflected in its price. The infrastructure required for water supply is costly, and amortised over long periods. Once built, it is a sunk cost with little or no alternative value. Water revenues normally accrue in local currency – which entails a devaluation risk where debt and equity have to be serviced in foreign exchange.

For all these reasons, water is a risky financial undertaking in many developing and emerging societies requiring substantial support from the public sector. Compared with other networked public services, such as electricity, gas, and telecommunications, water is capital-intensive, under-financed, less profitable and less appealing to private capital and commercial finance. It is also more heavily politicised.

Sanitation entails a different set of financing problems. Effective demand (and therefore willingness-to-pay) tends to be less than for water while its benefits to the community at large are huge. In peri-urban and rural situations the largest part of funding often comes from householders themselves alongside their inputs in kind. Where networked systems are required for collection (sewerage) and wastewater treatment, the major outlays required are normally met by municipalities or water authorities, with payment recovered from surcharges on water tariffs. Compared to water supply, the benefits of which are largely private, the safe disposal of human waste and household wastewater has large external benefits to society, which is the justification for public subsidies to sanitation, especially if targeted at poor communities.

The cost structure of WSS

The amount and type of finance required by WSS is determined by its cost structure. For example, centralised water distribution, as in an urban area, typically requires infrastructure with a high fixed capital cost, but a relatively low operating cost. Once the system is laid out, the overhead and capital servicing costs are high relative to the marginal cost of providing extra amounts. The main variable costs are energy (for pumping and treatment) and chemicals (for treatment). Once the infrastructure is in place and the number of connections determined, labour is largely an overhead cost, which does not greatly depend on the amount of water going through.

This cost structure requires large sums to be raised on lengthy terms for the initial investment and for a tariff that contains a fixed element sufficient to cover the fixed overhead costs of supply, whatever the actual amount delivered. The tariff should ideally be volumetric, and should signal the marginal cost of increased supply. However, because clean water is a merit good, with social external benefits, the marginal tariff should not be so large as to discourage legitimate consumption.

All the above considerations apply with even greater force to centralised wastewater collection and treatment. This is even more costly than fresh water supply, and it is vital to assure sufficient throughput of sewage to prevent accumulations in the pipes, and to ensure proper functioning of the treatment works. The wastewater tariff structure should assist cost recovery without discouraging use of the system.

Finance tailored to these cost features would be long term, and at preferably low-interest, reflecting the capital-intensity and longevity of the assets. The fact that revenues tend to be in local currency argues for the finance to be denominated in the same currency if possible. Tariffs should have a fixed element to

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7 For three reasons: it is in some respects a “public good” (certain services are not profitable for private firms to supply, because they cannot exclude free-riding consumers from benefiting); it is a “merit good” (users receive benefits they don’t fully perceive, hence there is a public interest in raising general consumption); and there are external benefits - as well as disbenefits - (e.g. benefits to public health and environment).
cover the high fixed costs, and the volumetric part should signal the water’s scarcity value, without
discouraging a minimum basic level of use.

WSS for rural districts and urban peripheral and informal areas has a different cost structure. Systems
tend to be smaller, more fragmented, and often based on individual households or communities. A greater
proportion of costs is borne by individual households, including labour and in-kind inputs. A variety of
financing sources is appropriate, including microcredit and hybrid forms including philanthropic grants.

Existing sources of finance

There is no such thing as a “typical” water financing system, though a possible starting point is the
“Camdessus Stereotype” which is a simple model of the financial sources for W&S in developing countries
which underlay much discussion of this topic in the 1990s and early 2000s. The main sources of funds for
capital investment in WSS were thought to be: domestic public sector 65-70%; domestic private sector 5%;
international donor agencies and International Financial Institutions (IFIs). 10-15%; and international
private companies 10-15%.8 The balance between these prime sources differs by country, and depends on
national and international financing trends.

For recurrent cost funding the two main sources are cash flow from user charges, and subsidies from
central or local governments9 but comprehensive and accurate data on the balance between the two are not
available. Ultimately water is paid for out of user charges and taxes, supplemented by solidarity transfers
of various kinds. Commercial loans, bond issues and private equity merely defer the repayment burden to
the future.

A brief historical perspective10

Water systems in OECD countries have evolved over long periods. Although these systems are often
described as “mature” much of the present infrastructure has been installed recently (Figure 1). In France
only 8% of the present water pipeline network existed before 1950 and three-quarters of the 17,300 water
treatment plants now in operation were built since 1990 (though many of the larger ones were built before
1980).11

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8 Winpenny, 2003, p. 6

9 deferring maintenance, delaying payments to suppliers and barter between public utilities are other common hidden
means of “finance”.

10 Historical perspectives on the growth of modern water systems can be found in Camdessus, et. al , 2004 (Ch 4,
“Qu’est- ce que l’histoire nous a appris?”) and Halliday, 2004.

11 Data from France case study.
OECD countries exemplify a “Ladder of Progress” in water services, which have evolved continuously over time (typically from street fountains, to apartment floor fountains, to in-house taps) This reflects the growth of public and private affordability, and social expectations. Sanitation, sewerage, wastewater treatment and sludge disposal are of even more recent evolution. Developing countries may tread a similar Ladder, though technological developments allow them some “leapfrogging”, where finance permits. It is relevant to note the continued coexistence in OECD countries of different levels of services (including low-cost decentralised solutions), indicating the choices available. Decisions on the appropriate level of service can greatly affect MDG costs (illustrated in Chapter 2).

Demographic drivers

According to the UN’s latest projections, the world’s population is expected to increase by 2.5 billion by 2050, from its current size of 6.7 billion to 9.2 billion. The increase is equivalent to the total size of the world’s population in 1950 and it will be absorbed largely by the less developed regions, whose populations are projected to rise from 5.4 bn in 2007 to 7.9 bn in 2050.

Much of this population increase will be in urban areas. In 2008, for the first time in history, the world’s urban and rural populations will be equal, and from now on the urban majority will grow. In 2007 the population living in urban areas was 3.3 billion; in 2050 it is projected to grow to 6.4 billion. Most of the urban population growth will be in less developed regions: that of Asia is projected to rise by 1.8 bn, of Africa by 0.9 bn, and of Latin America and the Caribbean by 0.2 bn.

The MDG challenge differs in rural and urban areas. The water supply service deficit in urban areas is projected to be 240 million in 2015, compared with 679 mn in rural areas). For sanitation it is projected that 692 mn urban and 1698 mn rural people will remain without improved sanitary facilities by 2015, even after the monumental efforts that are assumed to be made before that date. These projections carry

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12 Even in 1999 several major cities in the EU did not have the level of wastewater treatment required by the EU Urban Wastewater Directive (Report of EU Commission COM(98)775 of 15.01.1999)
14 UN Department of Economic and Social Affairs: World urbanization prospects: the 2007 revision. 2007
15 WHO/UNICEF 2006
serious risks for public health and amenity in urban and peri-urban areas, while in rural communities they spell continued hardship, disease and human degradation.

Size of the financing task

There are many estimates of investment requirements for W&S to meet the MDGs 16 Different estimates vary by large margins, though a review of a number of recent estimates concluded:

- “.. the rough estimation of doubling the present investment level in W&S seems to be a realistic magnitude if MDG Target 10 is to be reached”. (Toubkiss, 2006)

Estimates such as these are typically concerned with the cost of expanding water systems to provide for previously unserved populations. What they omit is the cost of maintaining and modernising existing systems. Water infrastructure depreciates over time. In order to keep it functioning as intended money has to be spent on routine repairs, servicing, replacement of worn parts, and updating obsolete items. These items, which are easy to postpone, are widely neglected and under-provided for. The result is infrastructure which deteriorates and fails to provide regular clean water and wastewater disposal to those who are nominally connected to the service.

In rural areas the neglect of operation and maintenance (O&M) budgets and cost recovery are some of the reasons for the high rate of non-functionality observed in many systems. In Ethiopia a recent survey of almost 7,000 rural water schemes found that 30-40% were non-functional: a shortage of finance for wages, fuel, materials and spare parts was an important factor in this. The deficit in financing operation and maintenance costs is a substantial additional item to add to the investment costs of the MDGs.

Sustainable finance for WSS thus needs to have two purposes:

- to cover investment in extending the networks to those currently without services and to meet future demands from growing populations;
- to fund the cost of operating and maintaining existing networks and services, including major repairs and necessary upgrades.

Much of the discussion of financing in the context of the MDGs has focussed on the former. In fact, the latter is becoming a larger item, entailing different financial solutions.

One of the most recent and comprehensive estimates carried out by the WHO takes into account the high costs of sustaining existing systems. Its conclusion is:

- “From 2005 until 2014 inclusive, US$ 72 billion needs to be spent on water and sanitation annually in the [developing] countries included in this analysis, of which US$ 18 billion is on increasing coverage to the currently unserved population and US$ 54 billion is on maintaining and renewing existing facilities for populations already with water supply and sanitation coverage”18

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16 These are reviewed in Toubkiss, 2006.
18 Hutton & Bartram, WHO, 2008
Many EECCA countries are already confronting the high costs of operating and maintaining ageing water and wastewater systems (Box 1.1). In future emerging and developing countries too will face an increasing bill on this account as their systems expand to complete service coverage. As sanitation services become increasingly networked, as will happen during urbanisation, the cost of sewerage and wastewater treatment will also escalate (in a mature networked WSS system, the cost of wastewater collection and treatment normally exceeds that of water supply).

**Box 1.1. The burden of legacy in EECCA countries**

In Armenia the present infrastructure is over-sized, needs renovation and much more maintenance. There is a high cost of operating the system, involving excessive volumes of water being distributed, much of it lost and wasted. There is great scope for efficiency savings. There is an urgent need to downscale and optimize the present infrastructure. Investment needed to renovate the existing infrastructure is much greater than that required to extend it to those without services.

In Moldova the current level of financing is insufficient even to maintain assets at their present low operational levels or to provide adequate levels of service. The financing deficit is manifested in poor water quality, regular daily shortages, water-related morbidity, pollution of surface waters, etc. The baseline scenario used in the new Financing Strategy aims at halting deterioration and providing modest improvements. Even this unambitious aim would require increased user charges, a sizeable increase in budgetary support, and more international finance.

In Georgia there has been a clear deterioration in infrastructure and services, causing growing public health hazards. Even to preserve the current level of services would require major reforms, since the baseline situation shows a financing gap. These reforms would include improving the collection rate of revenue owed, an expansion of metering, better control of leakage, increasing budgetary transfers, and raising household charges to the highest affordable level.

Source: Financial Strategies for the respective countries produced under the auspices of the OECD/EAP Task Force.

*Diversity of situation: simple typologies*

The institutions and management models of WSS differ greatly between countries, a product of the history, geography, culture and politics of each case. The finances of WSS reflect this underlying variety – there is no common model, nor even a consensus on “best practice”. This section sketches the main axes of a possible typology that might be useful in discussions of financing, while Annex 3 contains a brief exploration of the regional and geographical variety relevant to this discussion.

Sanitation differs from water supply in important respects (v. section…) and should be considered in parallel with water supply in any typology.

The following axes are basic to any typology:

- Level of economic development and affordability
- Governance and institutional arrangements
- Extent of infrastructure and level of services
- Sources of finance

i) Level of economic development and “affordability”

This governs both the affordability of investment and service costs to governments (measured, for instance, by the % of budgets spent on WSS) and to householders (% of income devoted to WSS bills). The latter depends crucially on whether households are connected to public services: if not, they typically
spend much higher shares of income on water. The case studies for this report are countries spanning a wide range of incomes per head (Box 1.2.).

<table>
<thead>
<tr>
<th>Box 1.2. Range of incomes per head in case study countries</th>
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</thead>
<tbody>
<tr>
<td>(GDP per capita, Purchasing Power Parity US $, 2004)</td>
</tr>
<tr>
<td>Austria</td>
</tr>
<tr>
<td>Netherlands</td>
</tr>
<tr>
<td>France</td>
</tr>
<tr>
<td>Spain</td>
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<td>Korea</td>
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<td>Czech Rep</td>
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<td>Mexico</td>
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<tr>
<td>Turkey</td>
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<tr>
<td>Dominican Rep</td>
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<tr>
<td>Armenia</td>
</tr>
<tr>
<td>India</td>
</tr>
<tr>
<td>Georgia</td>
</tr>
<tr>
<td>Moldova</td>
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<td>Senegal</td>
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<tr>
<td>Uganda</td>
</tr>
<tr>
<td>Kenya</td>
</tr>
<tr>
<td>Ethiopia</td>
</tr>
</tbody>
</table>

Source: UNDP Human Development Report 2006, Table 1

ii) Governance and institutional arrangements for WSS

There are many possible ways of classifying countries on this axis – centralised/decentralised, statist/liberalised, monolithic/heterogeneous. Other important distinguishing features are the status of IWRM, the role of civil society and consumer groups, the scope for private enterprise in various roles at all levels, the power of independent regulators, etc. The case study sample contains countries that exemplify most of these features in different respects.

iii) Extent of infrastructure and level of services

To simplify, countries fall into four broad types: firstly, those with a mature and largely complete WSS infrastructure, where the drivers of change are rising social and environmental expectation, the
replacement of old systems, or externally imposed requirements (France, Austria, Netherlands, Spain etc): secondly, recently “developed” countries coping with rapid population growth and urbanisation, concerned to complete their systems and upgrade services in line with their new economic status (Mexico, Turkey); thirdly, countries in transitional status with a well developed system and extensive coverage of services, now ageing and needing expensive adjustment to new social and economic demands (EECCA countries, Czech Rep); fourthly, developing countries with large numbers of people still without services, committed to reducing the deficit as specified by the MDGs. (India, African countries).

iv) Sources of finance

Countries differ in their relative reliance on the three basic sources of revenues, tariffs, taxation and solidarity (including official development assistance -ODA). Most developed countries rely on user tariffs to a large extent, plus earmarked taxes, though public subsidies are also widespread. Poorer countries rely heavily on state funding and subsidies for capital spending, and there is still widespread subsidisation of operating costs too. Many countries now accept the target of covering O&M costs and aspire to eventual progress towards covering capital expenses as well. Poorer developing countries rely on external ODA for a high proportion of their investment outlays, while middle income countries draw on IFI loans for this purpose. The use of commercial finance (loans, bonds, equity) tends to grow as countries develop local capital markets and supportive governance structures. A number of case study countries have dedicated financial institutions serving WSS.

1.1.2. Summary of the argument

The problematique

Providing more and better WSS services in developing countries is a goal shared by OECD and non-OECD countries alike. However, progress towards this goal will continue to be patchy, slow and unsustainable unless it is accompanied by more financial realism. Goals that are set politically are not matched by actual revenue streams. This results in major financing gaps and unexecuted plans, with the consequence that the poor suffer most through absent or deficient services.

There is international consensus on the need for sustainable cost recovery as the basis of closing the existing financing gap. The main element in sustainable cost recovery is normally tariff revenue, but the concept goes beyond this to include all other predictable sources, such as the national budget, to enable water utilities to have enough revenue to cover operation, maintenance and investment expenditures. Tariff revenue is one of the three basic sources of finance for WSS, the others being taxpayers and the various forms of solidarity (both international – ODA and philanthropic funds - and national sources such as charities and churches).

Subsidies pervade the water systems of many countries. There are two main types:

- subsidies from public authorities to the utility or service provider. These may be unplanned (e.g. meeting deficits after the event) or budgeted. In the latter case they may form part of sustainable cost recovery.
- subsidies to consumers through the price of water. These can be across-the-board through a general under-pricing of water, or selective – targeting specific types of consumer.
Both types of subsidy, to utilities or users, can be justified in appropriate conditions, but persistent subsidies are like a drug – they create dependency and have undesirable and unintended side-effects\textsuperscript{19}.

WSS tariffs are often capped by the authorities, usually at less than full cost-recovering levels. This is a classic populist political gesture, sometimes justified by concerns about the affordability of full-cost tariffs amongst users, especially the poorer households. Whatever the motives, capping tariffs deprives utilities of the finance they need to maintain and expand services. Unserved users, who are often among the poorest, are forced to buy water from other sources such as vendors at very high prices. In these circumstances, low tariffs inevitably make the poor poorer.

Inadequate tariffs also make water utilities dependent on public subsidies through the budget. This is an acceptable part of sustainable cost recovery if these subsidies are transparent, predictable and targeted. Often, however, they are late, inadequate and keep the utility working on a hand-to-mouth basis at the whim of politicians.

WSS rarely enjoys priority in the allocation of national budgets. One reason is that the development benefits of improved WSS services (such as health and productivity) go unrecognised and unquantified\textsuperscript{20}. Another common reason is a lack of consensus on appropriate WSS targets between different parts of the government, and hence a lack of consistency in sector planning.

All these factors leave WSS seriously under-financed in many countries, leading to the deterioration and eventual breakdown of infrastructure and the inability of the sector to expand coverage to meet commitments under the Millennium Development Goals. Low tariffs lead to poor services (Box 1.3.).

**Box 1.3. Low tariffs and poor services**

In the Dominican Republic contrasting attitudes towards cost recovery in rural and urban areas have a big effect on the actual quality of service provided. The creation of Community Associations of Users of Rural Water Systems has led to minimum charges being levied for O&M and repair in rural areas. In the capital city, however, only around 17% of the cost of water supply is actually collected, and for the whole country the water supply agency only recovers 3% of its operating costs through regular charging.

The greater cost recovery in rural areas covered by the Community Associations has led to noticeably better services than elsewhere. For other parts the services has deteriorated to the point where users are refusing to pay, or are turning elsewhere for their supplies. This particularly affects the poor, for whom alternatives are expensive, while the more affluent consumers benefit disproportionately from the subsidies that are effectively available.

In Moldova, the poor water quality, regular daily shortages, water-related morbidity, and pollution of surface waters, that is the result of chronic under-financing of WSS hurts poor consumers disproportionately. These groups make sizeable payments for supplementary water sources, and show evidence of willingness-to-pay 5-7% of income for a better service.

Sources: Dominican Republic and Moldova case studies

Many countries have decentralized responsibilities for providing WSS services, which displaces the financing issue to the sub-sovereign levels of government. For the most part these sub-national administrations lack the financial resources to support their new responsibilities. Most local utilities are not credit-worthy and thus cannot tap into long-term commercial finance (bonds, loans or equity) for

\textsuperscript{19} comprehensively documented in *Water, electricity and the poor: who benefits from utility subsidies?* By Komives, Foster, Halpern & Wodon. World Bank, 2005

infrastructure development. Even where commercial finance can be used to bridge the financing gap, this must eventually be repaid from one or other of the three basic sources, and is only feasible where future cash flows are sufficient and secure.

The volume of official development assistance (ODA), an important source of funding for many countries, has stagnated for many years, though has starting to recover from low levels of commitment and disbursement. However, ODA is a mixed blessing where there is poor coordination in WSS both between donors themselves and between donors and host countries. This weakens the link between projects and policy making, reduces synergy, and leads to duplication and other inefficiencies.

Solutions

Closing the financing gap will require countries to mobilise more financial resources. Many will also have to adjust their sector targets to match what they can afford.

One option for reducing costs is to improve the operational efficiency of utilities. The scope for this will depend on local conditions, the relative freedom of the utility and the latter’s incentives to take the required measures. Other policy variables are the adoption of lower-cost technologies (which may imply lower service levels), extending deadlines for attaining targets, and rationalising construction and environmental standards.

The development of WSS has previously inclined towards supply side solutions; to restore balance this needs to be reconciled with demand driven approaches. Developments that respond to what consumers actually want, and are prepared to pay for, are more likely to be sustainable. The link with affordability is also likely to make them more cost effective.

Promoting greater national “ownership” of the MDG targets, which are often externally driven, is likely to introduce more realism into implementation programmes. The pace of progress expected by the international community is at variance with the prolonged and uneven development of infrastructure and services in OECD countries, which has depended on their economic and social circumstances as well as external drivers, such as EU legislation.

Every opportunity should be taken to increase revenues from tariffs. Full cost recovery from tariffs is a distant objective in many circumstances, but even very poor countries can meet specific or partial cost-recovery targets such as recovering O&M and investment costs for urban systems, or covering O&M costs of rural water supply. Abrupt and dramatic tariff increase can provoke a consumer reaction, especially if they are not accompanied by visible service improvements. A “gradualist” approach may be preferable, scheduling progressive increases in tariffs until cost recovery is achieved, and then indexing the tariff to inflation.

Where full-cost recovery from tariffs is not feasible, public budgets, supplemented by ODA where it is available, is an important source of finance, especially for investment. WSS should therefore aim at cost recovery from a combination of financial sources, including user charges, public budget subsidies and ODA, rather than from tariffs alone – in short, the concept of sustainable cost recovery.

Raising tariff revenue calls for a package of self-reinforcing measures: revising tariff levels and structures; increasing bill collection rates; upgrading levels of service; and installing social protection measures. There is room in a well-designed financing structure for selective user subsidies, e.g. for connection fees to enable poorer consumers to obtain access to piped supplies, or by cross-subsidies between different user categories through the tariff structure. These subsidies should, however, be targeted and transparent.
Sanitation has distinctive features. There is generally a lower willingness-to-pay for sanitation services, including wastewater treatment, than for water supply. An important part of its benefits are realised by the community rather than the household. The public health benefits of sanitation provide a rationale for public intervention and public subsidies, though paradoxically, the cost of sanitation in developing countries is mainly supported by the individuals themselves on-site.

ODA may be needed to help close the financing gap in many places. For some countries it provides the majority of funding for capital investment in water supply, and in others it provides a useful supplementary role. From a global perspective, however, ODA is a marginal contributor to WSS revenues and needs to be used strategically.

### 1.2. The changing context of water finance

#### 1.2.1. Political context

Developing countries have made commitments to the MDGs which imply giving a higher priority to WSS within their internal spending programmes, and in their use of external ODA. For their part, the OECD member governments have made high-level commitments to providing more aid for countries to achieve the MDGs and to streamline their respective aid procedures and modalities to produce harmonization and reduce the transaction costs of aid to the recipient organizations. In this context, the recognition of water as a human right is acquiring momentum, and its implications are being considered.

In the course of the widespread trend to decentralization, many countries have delegated responsibilities for WSS services to states, municipalities and other local bodies, which gives the water financing agenda a strong sub-sovereign and local bias. Other macropolitical trends to note are the growing urbanization of the global population, the presence of large numbers of the unserved poor in urban areas, and the dawning awareness of the huge deficit in sanitation, with all that implies for dignity, health and environmental amenity.

#### 1.2.2. Development cooperation and ODA

In poorer countries, donor support for water and sanitation increasingly takes a sectoral rather than a project form, and often disburses through national budgetary channels. The current modalities of aid for the water sector have been shaped by the Paris Declaration of 2005 (Box 1.4)

<table>
<thead>
<tr>
<th>Box 1.4. The Paris Declaration</th>
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<tbody>
<tr>
<td>In March 2005 Development Ministers and Heads of multilateral and bilateral agencies signed a Statement of Resolve to make their aid more effective, demand-responsive, streamlined and accountable. Donors committed themselves to respect the recipient partner country’s ownership of programmes and to align their strategies with those of the host. Donor programmes should be more harmonised with each others’, based on a division of labour and mutual collaboration, and minimising their demands on the administrative capacity of recipient partners. Donors and partners were to be mutually accountable for development results. Indicators of progress towards these aims were set out, and a programme of monitoring was put in place.</td>
</tr>
</tbody>
</table>

Source: Paris Declaration on Aid Effectiveness. OECD, March 2, 2005

The programmatic approach, increasingly favoured by donor agencies, features leadership by the host country or national organisation with a single comprehensive programme and budget framework. It includes a formalised process for donor coordination and harmonisation of procedures for reporting, budgeting, financial management and procurement. The approach calls for commitment to increase the use
of local systems for programme design and implementation, financial management, and monitoring and evaluation.

In water, as in health and education, this programmatic approach increasingly takes the form of Sector Wide Approaches to Planning (SWAps). SWAps have been described as:

- “…pooling of resources to support a single sector policy and expenditure programme, under government leadership, by adopting common approaches across the sector and progressing towards relying on government procedures to disburse and account for funds.” (WSP/Kenyan MWI, 2007)

In a SWAp all important investments should be consistent with a Sector Investment Plan and a Sector Information System should be developed. Donors are encouraged to harmonise with each other, to relate their activities to the SIP, and to move towards the use of common channels of finance and procedures over key matters like procurement and technical standards. Progress in these areas will reduce the administrative load on recipient administrations and diminish the transaction costs of aid. An aim of the SWAp is to progressively attract aid in programme rather than project form.

A recent evaluation\(^{21}\) of water SWAps in seven countries found that their water sectors were much better positioned for SWAps in 2005 than they had been in 2000. In large recipient countries, there was less interest in SWAps than in small. The latter found SWAps more helpful in managing the multifarious programmes of different donors. Amongst donor agencies,

- “Generally there is high interest in policy alignment, low interest in system alignment, fair to high interest in harmonisation of policies, practices and dialogue, little interest in harmonisation of funding.”\(^{22}\)

The evaluation suggests some common conditions for the success of SWAps. There should be a strong national policy and sub-sector road map. A proper institutional framework is also essential, with a clear mandate and workable delimitation of responsibilities of the various organisations involved. The various supporting roles of private partners should be recognised and enabled. High-level political commitment to the SWAp is vital. Water should be fully integrated in Poverty Reduction Strategy Papers. There needs to be a suitable balance between short-term service delivery objectives and long term system improvement. In choosing aid forms, the authors favour an eclectic “reality based modality mix” in most cases, in preference to the use of sector budget support.

**Trends in ODA for water and sanitation**

The downward trend in aid to water and sanitation observed since the middle of the 1990s reversed in 2003. Latest statistics from the Development Assistance Committee (DAC) of the OECD confirm the upswing with a new sharp increase in the allocation of Official Development Assistance (ODA) to water supply and sanitation in 2005\(^{23}\). DAC countries’ bilateral ODA commitments to the water sector rose to USD 4.5 billion that year, compared with USD 3 billion in 2004. Multilateral donors’ commitments amounted to USD 1.4 billion in 2005. Figures based on 5-year moving averages take into account commitments’ volatility, and show that aid to the water sector is now back near the peak reached in the late 1990s.

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\(^{21}\) van Woersem & Heun, 2008

\(^{22}\) ibid. section 7.2.

\(^{23}\) [www.oecd.org/dac/stats/crs/water](http://www.oecd.org/dac/stats/crs/water)
1.3. The OECD Water Task Team

1.3.1. Value-added of the report

The quest for sustainable finance for water and sanitation is motivated by the large financial implications of the MDGs and a realization of the dire results of under-funding existing systems. Finance is not the only bottleneck to the achievement of global water security, and in many situations is not even the binding constraint, but it has occupied a prominent place in recent deliberations (Box 1.5).

Box 1.5. Shaping the Agenda for water financing

In the last five years there have been several key initiatives to shape the agenda of international water financing, notably the Camdessus Panel, the Gurria Task force and the UN Secretary General’s Advisory Board on Water and Sanitation (UNSGAB).

The Report of the Camdessus Panel\(^24\) addressed the financial “architecture” of the global water sector, including many proposals to improve its governance. Amongst other topics, the Report stressed the need for more finance of “sub-sovereign” entities, where responsibility for water services rests, the development of local capital markets to provide finance in local currencies, and the facilitation of finance at a grass-roots, decentralized level.

The Gurria Task Force report \(^25\) took its focus at the demand for finance and the scope for developing the financial capacity of sub-national entities. It contains proposals for “fair” tariffs, targeted subsidies and “solidarity” mechanisms to make better services affordable. It recommends the use of partnerships to strengthen the capacity of local administrations.

The UNSGAB also stresses the importance of capacity building, especially in local authorities, and proposed a Water Operators’ Partnership for peer group support.\(^26\). The WOP is now hosted by UN-Habitat, with technical support from the WSP.

New emphasis of this report.

This report builds on the Camdessus (focused mostly on supply of finance) and Gurria (focused mainly on demand for finance) reports, by bringing supply and demand for finance together and by advocating in favor of a policy dialogue on the financing of water supply and sanitation on the basis of sound analysis of what infrastructure is needed and how it can be afforded. This report is the main output of the OECD Task Team on Sustainable Financing to Ensure Affordable Access to Water Supply and Sanitation (OECD Water Task Team) in 2007-2008 (Box 1.6). Its subject is financing strategies for the water supply and sanitation sector:

- why develop them,
- how they can support policy decisions,
- how they can be developed,
- what country experiences exist,
- what can be learnt from these experiences


25 *Task Force on Financing Water for All*, chaired by Angel Gurria, written by Paul van Hofwegen, 2006

The final report will be delivered to OECD Development Co-operation and Environment Ministers as an output under the “Framework for Common Action Around Shared Goals” adopted when they met at OECD in 2006. The report will feed into the Synthesis Report of the OECD Horizontal Water Project, to be presented in the 5th World Water Forum in Istanbul in March 2009. It brings to bear the experience of developed OECD members in their own countries and through programmes in their development partners. It draws on the growing experience of the OECD Secretariat through its Environmental Action Programme in EECCA countries, as well as the additional body of evidence developed through the Task Team in Egypt and Lesotho.

Box 1.6. The OECD Water Task Team

The origins of the Task Team go back to the Joint Meeting of DAC and EPOC27 at Ministerial Level, held on 4 April 2006, at which Ministers endorsed a Framework for Common Action Around Shared Goals and a Declaration on Integrating Climate Change Adaptation into Development Co-operation. These documents complement both the Paris Declaration on Aid Effectiveness and the OECD Environmental Strategy for the First Decade of the 21st Century, by helping to further mainstream environmental considerations into development and poverty reduction strategies.

A “menu of options” was outlined in the abovementioned Framework which, following a consultative process, was reduced to a set of four proposals for specific activities28. One of these proposals concerned work on “sustainable financing to ensure affordable access to water supply and sanitation”, with a focus on the preparation of finance strategies for the water sector in selected developing countries.

In order to support the implementation of this mandate, a Task Team on “Sustainable Financing to Ensure Affordable Access to Water Supply and Sanitation” was set up and France was elected to chair the group. The work programme adopted by the Task Team included the analysis of existing good practice in member and non member countries and the development of two pilot initiatives in Africa. It is expected that the Financing Strategy Report will be delivered to the conference of Ministers of Environment and Development envisaged in 2009.

Target readership

Readers targeted by this Report are policy makers in both OECD and non-OECD countries concerned with water, environmental policy, finance and development. The Report addresses specialists, but is also intended to be accessible to non-specialist readers. With this in mind, it is largely jargon-free and sparing in its use of technical vocabulary.

The report aims to provide analysis and recommendations to assist governments of developing countries to develop financing strategies for WSS. It also addresses how their partners in OECD governments (in development co-operation, environmental and WSS roles) can support them in those efforts.

The report builds on a body of experience in the use of strategic financial planning. Some of this is from OECD members’ own domestic experiences, and from their work elsewhere through development co-operation29. Added to this are the lessons derived from the joint work of the OECD Water Task Team and the EU Water Initiative in Egypt and Lesotho, and the work of the EAP Task Force and the EU Water Initiative in EECCA countries (so far, Armenia, Georgia, Moldova and that under way in the Kyrgyz Republic).

27 respectively, the Development Assistance Committee and the Environmental Policy Committee of the OECD
29 The national case studies provided to the Task Team were for the following countries: Armenia, Austria, Czech Republic, Dominican Republic, Egypt, Ethiopia, France, Georgia, India, Kenya (Meru District), Korea, Mexico, Moldova, Netherlands, Senegal, Spain (Aragon region), Turkey, Uganda.
The Task Team hopes that this report will promote the sharing of experience and expertise between OECD members, their development partners, and each other. What is happening in developing and transition countries can be an instructive store for other countries embarking on this process, as well as for those OECD member countries that do not yet have formal financing strategies.
CHAPTER 2. POLICY CHOICES

Finance is often perceived as a response to decisions taken that have spending implications. In WSS Governments make commitments to expanding service coverage, upgrading treatment of fresh water and wastewater, reducing pollution, reducing leakage, etc, all of which have a price attached. Finance is commonly seen merely as a way of paying for this shopping list. If insufficient funds are available, the shopping list is reduced.

This Report introduces a different mindset, the prime focus of which is ensuring the financial viability of the water sector. Getting a greater flow of money into WSS is part of this, but only a part. Strategic financing entails arriving at a realistic balance between the demand and supply of finance and promoting the financial sustainability of the sector. This quest involves looking beyond money to service standards and quality, efficiency in provision, and how governance of the sector needs to change.

As part of this approach, sector planning & national budgeting is seen as an iterative process, in which spending and financing decisions interplay and adjust to each other. Experience reviewed for this Report suggests that there are benefits from including the volume and type of financing as policy variables at the earliest stages of taking decisions. A Financing Strategy (FS) will short-circuit a great deal of revisions and adjustments that would otherwise have to take place later if finance were not taken into account at the outset. A FS can be a positive help to decision making in a number of substantive areas.

This Chapter considers three areas of decision that are central to WSS and specifically for the implementation of the MDGs:

- setting targets, levels of service and technology options;
- deciding on the broad split between cost recovery from tariffs, use of public subsidies, and reliance on solidarity transfers; and
- allocating available budgets and other financial means for WSS between all the different legitimate claimants – by geographical area, function, level of institution, etc.

2.1. Setting and costing objectives.

Our starting assumption is the existence of a clear statement of a country’s policy objectives for WSS. This could include expanding service coverage, protecting the poor, sustainable use of water resources, reduction of fiscal deficits, etc. There will commonly be trade-offs between these to consider, along with the respective costs and benefits of the various initiatives. Once priorities have been set, the policy objectives chosen should be matched with appropriate policy instruments.30

The theme of this section is that objectives, which may result from domestic political commitments, sometimes in response to urgings of the UN, donors, the EU etc, often allow for considerable latitude in the way they are interpreted and implemented. This gives some scope for “affordable” policies to emerge.

30 according to the Tinbergen Principle, named after the eminent Dutch economist, each policy instrument should be associated with not more than one policy objective. Using one instrument to promote several objectives is sub-optimal.
Infrastructure development targets to achieve the MDGs need to be realistically defined, to make them affordable for the population and for public budgets. In fact, definitions of the water-related MDGs leave considerable latitude for interpretation in relation to levels of service and the technological solutions to achieve these objectives. Ethiopia’s Universal Access Programme is an example of the choice of standards which the government deems appropriate and realistic in order to achieve the desired universal coverage.

Setting the level of service standards in the light of the MDGs is a crucial decision, which has implications for the choice of infrastructure. Other important decisions, related to these basic parameters, concern type of facility and installation, the mode of construction, phasing of development, choice of implementation partners, delivery models, etc. These factors are interrelated, and imply considerable choice in the way targets are implemented, with corresponding financial implications.

Service standards are an amalgam of several elements:

- the type of facility specified or approved (e.g. WC toilet, “improved” latrine, public standpipe, individual house water tap);
- quality of household or communal water supplied; acceptable quality of effluent, implying a standard of wastewater collection and treatment
- standard of daily service (water pressure, regular availability of supply, attention to leakage and consumer complaints)
- accessibility (in-house service, public standpipes or toilets, number of people sharing, distance to travel for water source, time waiting - e.g. for public toilet)

The UN’s Millennium Development Goals specify targets for increasing the coverage of “improved” water and sanitation. “Improved” water supply is defined by the WHO/UNICEF Joint Monitoring Programme as: piped water into dwelling plot or yard; public tap or standpipe; tube well or borehole; protected dug well; protected spring; or rainwater collection. The water supply must provide at least 20 litres per head per day from a protected source within 1 km of the user’s dwelling. For sanitation, the JMP definition includes: flush or pour-flush toilet to piped sewer system, septic tank or pit latrine; ventilated improved pit latrine; pit latrine with slab; or composting toilet.

The question of whether facilities that are shared, or used by large numbers of others, can be classified as “improved” is unresolved, yet this is a common situation.(Box.2.1.)

<table>
<thead>
<tr>
<th>Box 2.1. Shared facilities in Dharavi, Mumbai</th>
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<tbody>
<tr>
<td>Dharavi, in a district of Mumbai is one of Asia’s biggest slums. In one typical area, Shiva Shakti Nagar, there is one water tap for every ten houses. Houses are too small to have individual latrines or toilets, and residents use a block of 16 public latrines, serving 300 hutments (about 3000 people). Each visit to this toilet costs one rupee. Residents start queuing for these toilets early in the morning.</td>
</tr>
</tbody>
</table>


For households without their own facility, the distance to the nearest water or toilet opportunity is a vital consideration. The JMP’s choice of 1 km to define “access” is influenced by the distance over which it is considered feasible to carry a family’s daily water requirement. For many, this would be considered too far. Some governments, however, by extending the definition to 1.5 or 2 km., have made a sizeable difference to their apparent progress towards the MDG targets.
Choice of hardware and technologies make a big difference to costs. The per capita costs of different options for meeting the MDGs have recently been estimated (Table 2.1). Clearly, a change in the relative weights of different options in the overall programme can greatly affect total costs. The annual recurrent costs of each option, which does not appear in Table 2.1., should also be reckoned in. Depending on the type, this cost could fall on individual households or public authorities. Another factor is the longevity of different types, and how far future upgrading (e.g. from latrines to indoor toilets) should be programmed in.

Table 2.1. Per capita investment costs of WSS improvements (US$)

<table>
<thead>
<tr>
<th>Type of improvement</th>
<th>Africa</th>
<th>Asia</th>
<th>LAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household connection</td>
<td>164</td>
<td>148</td>
<td>232</td>
</tr>
<tr>
<td>(treated)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standpost</td>
<td>50</td>
<td>103</td>
<td>66</td>
</tr>
<tr>
<td>Borehole</td>
<td>37</td>
<td>27</td>
<td>89</td>
</tr>
<tr>
<td>Dug well</td>
<td>34</td>
<td>35</td>
<td>77</td>
</tr>
<tr>
<td>Rainwater</td>
<td>79</td>
<td>55</td>
<td>72</td>
</tr>
</tbody>
</table>

Choices such as those discussed above create a large number of potential cost scenarios. In the Hutton and Bartram exercise, when high technology options are compared with low-technology ones, the total global costs of attaining the water and sanitation MDGs range from US$135 billion to US$ 327 billion, equivalent to a range of average annual spending of $14 to 33 billion.

Transitional countries in the EECCA region face different dilemmas. Typically, they have high rates of service coverage for both water and sanitation, particularly in urban areas, but their infrastructure is failing to maintain existing levels of service. Much of it is old and over-sized for present needs, and it is ill-suited to present economic and demographic realities. A number of these countries can ill afford to maintain even existing services in their present form, and face an unenviable choice of how much lower standards must fall for the sake of affordability.

In Moldova, various alternative policy targets have been costed (Table 2.2.)
Table 2.2. Moldova: financial consequences of alternative sector targets for water and sanitation.

<table>
<thead>
<tr>
<th>Target strategy</th>
<th>Total 20-year spending: EUR mn.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Baseline. Halt deterioration of existing infrastructure and provide modest improvements. Improved O&amp;M.</td>
<td>1320</td>
</tr>
<tr>
<td>2. Baseline + meeting MDGs: For rural areas, investment in non-piped supplies and on-site sanitation, modest improvements in simple piped water supply</td>
<td>1820</td>
</tr>
<tr>
<td>3. Baseline + key EU Directives: as for Baseline, plus water supply for 95% of urban population, wastewater connections for 90% of urban population, water and wastewater treatment</td>
<td>1840</td>
</tr>
<tr>
<td>4. Baseline + MDGs + critical wastewater treatment plants (WWTPs). As for 2 above, plus full rehabilitation of 7 WWTPs</td>
<td>1910</td>
</tr>
<tr>
<td>5. Baseline + MDGs + EU Directives</td>
<td>2340</td>
</tr>
<tr>
<td>6. draft Government strategy: to meet all targets for urban areas, and the MDGs for rural population</td>
<td>3240</td>
</tr>
<tr>
<td>7. Government Strategy as revised after reviewing financial implications: bulk of investment postponed until after 2012, and slightly lowering investment total</td>
<td>2845</td>
</tr>
</tbody>
</table>


Targets for water services, such as the MDGs, should not be treated as absolutes: they must be affordable by households and their governments. It is often sensible to start by offering services at a basic level and plan for upgrading standards and facilities over time, in line with affordability. Upholding the spirit of the MDGs is perfectly consistent with a variety of national and local interpretations of standards and choices over the means of implementation.

There may be a trade-off (especially in sanitation) between the benefits of universal coverage in a particular community and using the same funds to provide partial coverage to a higher standard. Realising the full public health benefits of improved sanitation (e.g. an end to open defecation in a community) may require 100% coverage at an early date, even if it is with low-cost options, rather than partial coverage to a higher standard and extension in future.

The time scale for implementation is another source of latitude. Although there may in theory be economies of scale from bundling many programmes together and executing them in a short space of time, there are strong offsetting advantages in phasing the work over time. A measured approach can match outlays to annual budgetary and investment constraints, avoid bottlenecks and cost pressures on contractors.
and suppliers, and provide more time for experience to develop in creating and operating new systems. It also allows time for cash flows to build up as a source of finance for future programmes.

Decisions about service levels should not be purely technocratic, but should also reflect popular demand, as well as political objectives. The norms and standards existing in developing countries or imposed by external agencies may frustrate the choice of cost-effective solutions. Such norms may, for instance, stipulate construction materials with a long design life, in circumstances where rapid economic and demographic development might warrant their replacement or up-grade much sooner.

Sophisticated tertiary wastewater treatment is often required by national or donor standards. This often leads to the development of wastewater treatment facilities in a few “hotspots”, which monopolise national budgets. Alternatively, the widespread development of primary wastewater treatment could yield better environmental and public health benefits per unit of outlay. There are also wastewater collection options that are simpler, cheaper, and which may be more appropriate for earlier stages of system development – e.g. simplified sewerage using smaller pipes built in shallow ground, as developed in Brazil. Infrastructure can be designed to anticipate higher levels of service in future as peoples’ capacity to pay grows during economic development.

Design specifications and service standards can evolve rapidly, which argues for systems that are flexible and capable of being upgraded to meet demand. Norms and standards should be challenged, with the aim of developing the most pragmatic and effective approaches to achieving the MDGs. While the reform of norms and standards will often be difficult and time consuming (a broad range of institutions and stakeholders needs to be involved in their definition), a number of countries (e.g. Estonia and Vietnam) have shown that with the right political will it can be achieved.

Alternative ways of allocating financial resources could help to reduce costs and maximise impacts on poverty reduction. Peri-urban areas, schools, hygiene education and measures that help to create an enabling environment for the sector are all possible areas where more resources could be allocated. More emphasis on covering the costs of operation and maintenance is also important, since expensive assets frequently deteriorate or stop working shortly after their completion when O&M resources are insufficient. Finance obviously cannot be the only criterion for resource allocation: social and equity aspects, as well as the development potential that can be unlocked by better services, are equally important.

Implementation and delivery models also affect costs and financing choices. Costs falling on the public authorities have to be met initially through government budgets. Programmes implemented by NGOs can draw on contributions from across a range of civil society, local and international. Some kinds of scheme involve self-help by beneficiaries, in cash, materials and labour, through community programmes or individual effort.

In the last resort the costs of water and sanitation are borne by users, taxpayers or philanthropists, though the initial costs can be defrayed by loans, bonds, or equity. Governments that are short of resources can “backload” the impact on public finances by using partnerships involving private investment and “take or pay” contracts, or by outright divestiture of assets. Such financings are frequently “off balance sheet” which may be politically convenient, though the long term cost of such deals needs to be critically assessed.

Common to all the options considered here is the scope for improving the efficiency of services, so as to bring down their costs to an affordable level. Ministers of Finance, as well as donor agencies, tend to take a hard-nosed view of WSS and need reassurance that public funds are well spent and results are likely to be cost-effective. They are likely to be just as interested in where the money is going to as in where the
money is going to come from. (it would be good to provide some illustration of the huge inefficiencies in the sector to give this para that comes somewhat late, the appropriate emphasis)

Some countries actively embrace benchmarking between WSS providers as a form of coercive comparison. In the Netherlands (publicly owned) drinking water companies are obliged by law to report their performance against various benchmarks which are published to act as a spur to efficiency. In England and Wales the performance of the private WSS companies is benchmarked and the results are used for comparative assessments by OFWAT, the industry regulator.\textsuperscript{31} In Asia, Africa, Latin America and EECCA countries the collection of comparative performance indicators for WSS utilities helps to define good practice and indicates the scope of efficiency gains for specific utilities\textsuperscript{32}.

Finally, there is now documentation of the extent to which corruption in WSS adds to the cost of infrastructure and services in the new Global Corruption Report 2008 from Transparency International. This report estimates that, in developing countries, corruption may raise the price of connecting a household to a water network by as much as 30%, potentially inflating the cost of achieving the MDGs on water and sanitation by billions of dollars.

2.2. Tariffs, taxes & transfers: deciding the shares

In the final analysis, WSS is funded from tariffs, taxes, transfers (“solidarity”), or a mixture of these. There is no model which is ideal for all circumstances, and different countries reveal different preferences between these three sources. At one extreme, poor countries tend to draw heavily on transfers from ODA and local and international philanthropy to cover capital costs and much of recurrent costs too. At the other extreme, some developed countries with mature water systems raise all or most of their revenues from water users through tariffs, earmarked taxes and other charges, (e.g. France (Box 2.2.), Netherlands, England and Wales.)

\begin{center}
\textbf{Box.2.2. Water Agency subsidies in France}

France operates a major programme of transfers for municipal WSS funded from earmarked taxes collected at river basin level through user charges (charges for water withdrawals or discharges levied by the Agences de Bassin). These transfers, aimed at equalizing affordability between urban and rural, and large and small settlements and mainly used to support the achievement of environmental objectives within Basins, are programmed to a total of Euro 8.3 billion over the period 2007-2012. In practice these earmarked taxes are translated into tariffs paid by customers (hence the ultimate source here is tariffs and not taxes)

Source: France case study

The system of “water pays for water” has the merit of being sustainable and transparent. The progression from taxes and transfers towards tariffs is, not, however, inevitable – Ireland is an exceptional case of a developed country that has opted to fund water from local taxation\textsuperscript{33}. Irrespective of their relative economic status, the tradition of state finance for water using tax revenues remains strong in the EECCA

\textsuperscript{31} OFWAT has periodically vetoed proposed mergers between companies on the grounds that this would reduce the scope of benchmarked competition.

\textsuperscript{32} E.g. through the World Bank’s IB-Net, the former Water Utility Partnership for Africa (now taken over by the WSP and the Water Operators Partnership), the Asian Development Bank’s Water Utilities Data Books, reports of the Environmental Action Programme Task Force (for EECCA countries), and various utility and professional networks in Latin America.

\textsuperscript{33} in apparent contravention of the EU Water Framework Directive.
countries and elsewhere. There are also middle income countries (South Africa) with highly developed internal (“solidarity”) systems for transferring resources between consumer classes, regions and municipalities with the aim of equalizing the burden of providing WSS services between areas of unequal wealth and size.

Although there is no clear pattern in the relative shares of the 3Ts between different countries (Figure 2.1), there is clear evidence of a diversification of financial sources for water as incomes rise and access to capital and financial markets improve.

**Figure 2.1: Shares of ODA, national governments and users in WSS finance in various countries**

(1) 2005/6; (2) rural WS 2006; (3) 2006; (4) 2005; (5) 2007; (6) Includes Official as well as non-official assistance, such as through NGOs

Several trends can be noted:

- As countries develop, there tends to be a shift towards more use of commercial, increasingly local, finance, reimbursed ultimately by growing cash flows from user charges. The case studies of Austria and Korea clearly show such a progression.

- Increasing use of pollution charges as sources of finance, a longstanding feature of the French and Dutch systems, also evident in Korea.

- Greater reliance on sub-national fund raising by municipal bonds and other means, evident in India and South Africa.

 Recall the important distinction between the ultimate sources of revenue (tariffs, taxes and transfers) and other financial means that can defray immediate costs (loans, bonds, equity) but which have to be eventually repaid from one or other of the ultimate sources of revenue.

This can be regarded either as a user charge or an earmarked tax.
- Initial reliance on a dedicated water financing agency. This may persist (e.g. Dutch Water Bank, Turkey’s İller Bankası), or may lessen in relative importance over time (e.g. India’s HUDCO, Mexican BANOBRAS), or be superseded (Austria’s Water Management Fund).

Arriving at a sustainable cost recovery (SCR) strategy for WSS requires the appropriate combination of the ultimate sources of revenue, in the light of each country’s circumstances and options. The remainder of this section reviews the potential for raising financial resources from each of the basic revenue sources, tariffs, taxes, and transfer/solidarity instruments.

### 2.2.1. Tariffs

SCR is a more complete approach to financial sustainability than the narrower principle of full cost recovery (FCR). Besides being ambiguous in important respects. FCR for WSS, however defined, is not always a realistic objective.

In most contexts it would be reasonable to expect tariffs to fully cover O&M and renewal costs for water supply. In urban settings, FCR for water service provision is a realistic as well as a desirable objective, since this would release scarce public funding for the promotion of sanitation and the supply of other public goods. However FCR pre-supposes a demand-driven approach and tariff structures that deal with affordability. In rural communities FCR may be a more distant prospect, though even in rural francophone Africa there are many cases of users paying the cost of O&M and renewal of water infrastructure, though rarely the full cost of investments.

Sanitation is a different matter. Rural and peri-urban households often take on the costs of on-site sanitation, while networked urban households are more likely to need subsidies. On-site sanitation usually pertains to a specific property, and is private in the sense that the toilet, pit latrine or septic tank is part of the house. In such cases, the benefit may be public but the ownership of the facility is private. Low cost solutions are available, such as the rural “ecological” schemes in India, which are often accepted by communities but frowned on by planners. Conventional wastewater treatment in networked systems is very costly, and countries with access to suitable commercial finance often seek “off balance sheet” solutions such as BOTs.

The cost of sewerage and wastewater treatment is normally retrieved through a surcharge on household water bills, or, in the case of industrial effluent, by direct estimation or proxy methods (Box 2.3.).

### Box 2.3. The Sanitation Charge in Aragon, Spain

A 2001 law established the Sanitation Charge as a tax with ecological purposes, creating a tax resource linked to financing of pollution prevention, sanitation and wastewater treatment. For households, the basis for the charge is the volume of freshwater use. Households pay a fixed charge of Euro 3.75 per month, and a variable charge of Euro 0.45/cu.m. added to the water bill. Industrial firms pay a fixed charge of Euro 15.0 per month, plus a variable charge based on the estimated pollution load of specific pollutants. Firms that treat their own effluent obtain a reduction in the charge. All revenues collected under the Sanitation Charge by households and industries are transferred to the Aragonese Water Institute.

Source: Spain (Aragon) case study

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36 In the Camdessus Report

37 Build, Operate, Transfer contracts, in which the initial finance is raised by the private concessionaire, with costs recovered through sale of the services, before the assets are returned to public hands.
In practice, the costs to households of connecting to a network, whether for water or sewerage, are often a severe obstacle. In order to maximize the uptake of the new services and reduce the financial burden on potential customers, utilities may need to offer to spread connection charges over several years, recovering them though tariff surcharges.

The path to improved cost recovery may involve a phased approach, with tariffs increasing in stages to cover O&M costs, and thereafter depreciation of assets, new investment and, eventually - where relevant – environmental and resource costs of water. Where tariffs are extremely low relative to FCR a gradual approach may not be sufficient and more drastic action may be called for.

Metering is not always justified on pure grounds of economic efficiency (e.g. comparing the cost of the meter with the discounted value of water it saves). However, it may be a pre-requisite to convince users of the need to increase tariffs, as in Egypt, whose water tariffs are among the lowest in the world.

It is often said that consumers are willing-to-pay (WTP) higher tariffs for WSS but their politicians are unwilling-to-charge (UTC) for it (a point emerging strongly from the Mexican case study, amongst others). The will of local mayors to set proper tariffs may need to be steeled by subjecting them to national incentives and sanctions. In this respect, Poland has passed a law requiring local tax revenues to be used to compensate for insufficient tariffs.

Sometimes the problem is not the level of tariffs, but the collection rates. A widespread practice in EECCA countries is a refusal of public enterprises and institutions to pay their bills. Politicians and other people of influence often avoid paying their utility bills. In some countries bribery exacted by meter readers diverts revenues into private pockets, leaving the utility short.

Although the notion of “ability to pay” for WSS has no foundation in theory or fact, “affordability” is a real potential constraint on tariff increases (Box 2.4.). The strength of this factor varies case-by-case and it is unwise to rely totally on general yardsticks purporting to measure it. Some empirical measurement is necessary of what households spend on WSS in relation to their total incomes and what they spend on other items. It will often be found that, while the majority of households will have no trouble paying more for water, certain social groups will. Every effort should be made to identify these social groups and use targeted measures to help them. It is common to find that tariff differentials between different user sectors are used to cross-subsidise more deserving users. Industrial and commercial users often cross-subsidise households. In Mexico there is also cross-subsidy from electric power to water in some cases.

Discussion of tariff reform tends to focus on the levels and rates of change of charges. However, the tariff-setting process is also a vital consideration. Many countries have decentralized responsibilities for services, including that for tariff setting. This can delay tariff reform and the regular adjustments necessary to maintain their real value (e.g. the Mexican case study). In some countries the central government determines the tariff structure and level, for the local governments to implement. A realistic central-local balance of obligations and responsibilities is the key to tariff reform. Where central government requires local administrations to follow unaffordable tariff policies (too high or too low) they should be prepared to provide fiscal help (e.g. social welfare payments to needy consumers or programmed help to the utility, subject to performance contracts).

In such situations presenting tariff increases in percentage terms, as critics often do, will be misleading, since a 100% increase in a trivial sum still leaves a trivial sum. Even after a ten-fold increase in tariffs in the Czech Republic, the share of household income required to pay the water bill is less than 1% (Czech case study).
2.2.2. Taxes & Subsidies

Just as there is a solid case for setting an economic tariff, there are sound arguments to justify a subsidy in certain cases:

- To compensate for market failures, by rewarding WSS providers for supplying public goods (public health) and external benefits (amenity, avoidance of groundwater depletion)
• to promote the consumption of *merit goods* (meritorious goods and services whose value consumers may not fully realize, e.g. household sanitation and hygiene)

• to enable tariffs to rise gradually, rather than precipitously, to an economic level in order to avoid a consumer backlash and accustom users to higher charges.

• Providing services at below normal cost to deserving consumer groups, e.g. the very poor, large families, those with certain medical conditions

All these are arguments in favour of selective subsidies for specific services or consumer groups. According to conventional wisdom, subsidies of this kind should be transparent, targeted and – ideally – tapering off over time. They should also be *intentional* (as opposed to announced *ex post* as a political gesture, or available *de facto*, as when tariffs are not actually collected). An example of a clearly stated WSS subsidy policy is given in Box 2.5.

### Box 2.5. Subsidy policy in Uganda

For *urban water* there is in principle no subsidy, though in practice donor funds lower the cost of capital. Tariffs are intended to recover the full cost of O&M. For *small towns* a full capital subsidy is available and some subsidy is also available to operating costs through the O&M conditional grant. For *rural water supply* around 2% community contribution is expected for capital items. In principle no subsidy is offered for O&M though full cost recovery is rare in practice. For *sanitation* no subsidy is offered to households, but school toilets, public latrines and hygiene promotion are fully subsidized. For sanitation O&M no subsidy is available for households, whereas schools and promotional programmes are fully subsidized.

Source: Uganda case study

In some of the poorest countries, where there are severe constraints on household affordability, public budget spending will need to play a significant role for the foreseeable future in order to help the water and sanitation sector deal with the reconstruction of deteriorated assets or to allow an expansion of water systems to meet the water–related MDGs (see Moldova example in box 2.4).

So far, the discussion has been about *consumer* subsidies aimed at controlling WSS prices charged for specific services or consumers. There are other types of subsidy:

• A general undertaking by the government (central or municipal) to underwrite the deficits incurred by WSS providers. This could amount to an open-ended commitment, with little social or economic justification. However, if this public undertaking were to be part of an explicit programme (e.g. a 5-year performance contract or *contrat-plan*) agreed between the government and service provider, containing mutual undertakings and commitments to increase tariff revenues, this would be a type of *sustainable cost recovery*. If not, it would give the service provider *carte blanche* to continue its unprofitable ways.

• Subsidies for capital expenditure. Government support for investment in the form of grants, long term subsidized loans or sovereign guarantees is widespread. It is implicit in the common pricing yardstick, that providers should initially aim to cover O&M costs, then move towards full recovery of capital charges as affordability rises. The general justification for capital subsidies is presumed affordability (“people can’t afford the full cost”). It is true that capital represents a sunk cost, payments to which can be delayed without serious loss, whereas cash is required for on-going O&M, without which activities would cease.

From an economic viewpoint, however, there is no strong reason for subsidizing capital rather than O&M – both are components of the total cost of providing the service and in the long run cash flow is required for both. Subsidising capital may also produce distortions (such as over-engineered, capital-
intensive solutions). It is preferable for nominal tariffs to reflect full (marginal) costs, and to adjust for affordability in other ways (see below). While this may represent good practice, countries tend to be highly pragmatic in their use of public money for WSS. The experience of Korea is typical of many (Box 2.6).

### Box 2.6. Evolution of subsidy policy in Korea

Direct subsidies are available from the central government to local governments or service providers. The proportion of subsidy to the cost of each project depends on the size of the city and the type of facility. Different subsidies are available for construction and operation. Typically, water source development in rural areas attracts subsidies of 50-80%, and local waterworks improvements 50%. Wastewater treatment is eligible for a 50% grant, and sludge treatment for loans of 30-70% of costs.

For water supply run by municipalities, revenue from water tariffs is covering an increasing share of production costs, rising from 69.4% in 1997 to 82.8% in 2005. For regional water supply systems supplied by K-water, full cost recovery was achieved by 2004. In the case of sewerage treatment, the revenue from tariffs falls short of the actual total cost. Over the period 1997-2004, the central government paid 53% of the total investment costs for sewerage treatment, using proceeds from the national liquor tax.

The funding scheme for the provision of infrastructure has varied according to the status/stage of economic development or urbanization. At earlier stages of economic development and urbanization, the central government supported the provision of infrastructure through several subsidies and administrative assistance. As the economy developed, the portion of central government support has decreased and the cost of environmental service has been transferred to polluters, users and local governments.

Source: Korea case study

#### 2.2.3. Transfers & Solidarity Mechanisms

The two prime sources of WSS finance discussed so far are subsidies paid from general taxation or tariffs paid by the user him/herself. A third category includes transfers from overseas ODA, domestic or international philanthropy, national schemes for fiscal redistribution between different kinds of users, and the use of the WSS tariff structure to cross-subsidise certain consumer groups from the revenues received from others. This is an eclectic basket of funding without watertight boundaries with the other two categories: its main distinguishing feature is the use of private or public money specifically to alleviate the burden of WSS charges on deserving groups of consumers.

Solidarity can be international and national. Many poorer developing countries rely on external ODA to fund substantial parts of their WSS capital investment, and also part of their recurrent costs. Foreign charitable donations are important sources for NGO projects. In some cases these are supplemented by donor ODA contributions, or by local charitable and religious movements.

Official development assistance can only provide a small share of the overall financing needs to achieve the water-related MDGs. Even though ODA on water disbursements have been steadily increasing since the turn of the century (see figure 2.2), it is now providing disbursements of USD 3.5 billion in 2005-2006 (even though commitments have increased to USD 6.2 billion), which compare to USD 72 billion per year needed to achieve the water MDG. ODA therefore needs to used strategically, i.e. where it is most needed (sanitation, rural areas, to provide access for the poor etc), where it can leverage other sources of funding, or where it can have important catalytic effects by disseminating good practices well beyond project boundaries. Nevertheless, in some of the poorest developing countries, ODA is sometimes

39 WHO (2008)
providing the bulk of financial resources. For instance, in Mozambique more than 70% of financial resources for rural water supply and sanitation is provided by donors.

**Box 2.7. Solidarity in France**

The National Fund for Rural Water Supply (FNDAE) was set up in 1954. The Fund aimed at “solidarity between towns and the countryside” until its suppression in 2006. The FNDAE levied a tax on every cubic metre of drinking water distributed in France and allocated each département with subsidies aimed at small, rural communities to facilitate their investments in drinking water supply and collection and treatment of wastewater and rainwater. The objective of the Fund was to provide compensation for the drawbacks of living in sparsely populated and small-scale built-up areas. Its annual budget was around 144 M€. In 1997, the FNDAE widened its scope to the control of pollution from agriculture with an additional budget of 22 M€ per year. Rural amenities were widely upgraded. The FNDAE no longer exists as such at national level, but for each river basin, a part of Water Agency subsidies is still focused on urban-rural solidarity. (I would suggest to delete this and rather focus on the Oudini law, indicating what the potential revenue for development cooperation is)

Under the Oudin-Santini law of 2005 French municipalities and Basin Agencies may use up to 1% of the proceeds from WSS charges for international solidarity in WSS projects.

Source: France case study

**Figure 2.2. Trends in ODA to water supply and sanitation**

1973-2006, 5-year moving averages and annual figures, constant 2006 prices


2.3. Allocating finance across the sector.

WSS is a “sector” which extends over various ministries, layers of administration, institutions and agencies which deal with policies, financing, implementation, and delivery. Policy initiatives, such as implementing the MDGs, other universal access programmes, or promoting sanitation and domestic hygiene, typically involve a number of agencies, at different levels. Hard choices have to be made to allocate scarce finance between different agencies, geographical regions, and functional programmes.
This section explores some of these key strategic choices, with some examples where governance structures have been reformed and a strategic approach to financing has helped governments in allocation decisions. The discussion will focus on four of these areas of choice: sub-sectors, specifically the respective allocations of water and sanitation; spatial, urban/rural and regional; functional (infrastructure versus other “soft” functions); and institutional – the choice between different layers of government.

2.3.1. Water and Sanitation

In the last few years there have been important initiatives to redress the neglect of sanitation, compared to water supply and other social sectors. These efforts culminated in the designation of 2008 as the International Year of Sanitation. This has been accompanied by a clearer recognition of the distinctive financial needs of sanitation, compared to water supply. Its costs are of a different nature (e.g. falling more heavily on users) and its financing sources are also different (relying more on households and communities). Compared to water, sanitation may be dealt with by different Ministries or agencies (e.g. Health, rather than Water) or bracketed together with other departments (e.g. with Schools and Education).

These special features should be recognized in the construction of the Financing Strategy (FS). The FS may be the first opportunity for the true size of financing flows and future needs to come to light. The Uganda Case Study (Box.. and elsewhere) is a good illustration of how the development of a FS has led to more financial resources being directed to sanitation, and a better balance between sanitation and water supply being achieved.

2.3.2. Spatial – urban/rural and regional allocation

The MDGs have focussed the minds of WSS decision makers on the choices to be made over where to allocate their efforts towards meeting the Goals. Typically, the unserved populations for both water supply and sanitation will be found in both urban and rural locations, and in small and large towns. It is relevant to note the increasing difficulty of using the rural – urban divide for infrastructure planning in rapidly urbanizing areas. In Uganda the NWSC, an urban utility, has extended its network to take in ‘unplanned’ areas of growth so that now up to 40% of its customers live in rural areas.

Difficult decisions may have to be made between “picking the low hanging fruit” in, say, urbanized areas offering economies of scale, and the more challenging task of bringing services to isolated rural communities in difficult geographical locations. The various situations also differ in their potential for cost recovery, self-help, etc. A FS cannot make these strategic decisions for the politician, but they can help to clarify the implications of such decisions by spelling out the financial needs of the different options, and the funding sources appropriate for each.

The Uganda Case Study describes how a simple model was distributed to district officials who were able to input data and cost estimates for their areas – an essential first step in local financial empowerment. In preparing the Ethiopian FS, the size of the country, its inhospitable geography and the dispersed character of settlement pointed to the importance of creating financial channels from the centre to the peripheries to ensure timely funding of local WSS initiatives. This has led to several donors adapting their modalities to align more closely with national systems, and to pay more attention to the many potential blockages to the passage of funds to districts (woredas).

2.3.3. Functional allocations; infrastructure vs. others

Every part of the WSS sector, including planning and policy-making, research, monitoring, regulation, public and stakeholder engagement, resource development and protection, environmental safeguarding, pollution control, etc. as well as the infrastructure for service provision, needs to be properly
funded. It is often easier to raise funds for physical infrastructure than for the various other functions mentioned above.

The economic characteristics of different water management functions and services govern the funding sources they can attract. With limited government budgets and external donor funding, it is important that functions and services that can raise revenue from users or beneficiaries do so. For others, however, the only realistic source is the central budget, and in some FSs (e.g. Uganda) certain “overhead” water functions occupy a separate category in the funding and subsidy models used.

2.3.4. Institutional choices

A pre-condition of WSS reform is the creation of suitable governance structures which separate the core functions of policy formulation, regulation, asset holding and service provision. The recent successful tariff reform in Senegal benefited from earlier institutional reforms that created an overt division of responsibilities and clear and consistent policies understood by all parties (Box 2.8.)

<table>
<thead>
<tr>
<th>Box 2.8. Water governance and financial reforms in Senegal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institutional reforms in 1996 created three levels of governance for urban drinking water. At its apex is the Government, which sets policy and issues the main concession contract(s) to SONES, the prime concessionaire (whose shareholders are the State and local authorities). SONES in turn issues an affermage (leasing) contract to an operating company SDE (Senegalaise des Eaux), which has private equity. For sanitation there is a parallel arrangement, with the state regulator issuing performance contracts to an autonomous public agency ONAS, which in turn issues service contracts to private operators. In rural areas there are a larger number of actors involved at different levels, including the State, local authorities, users associations, national private companies and NGOs.</td>
</tr>
<tr>
<td>SONES has been broadly financially self-sufficient since 2003, due to its use of long term and usually concessionary loans for investment, some with state guarantees, and the active use of tariffs to manage demand and raise revenues. Tariffs have risen by small annual amounts each year to preserve the financial solvency of SONES. Tariffs contain five elements: the tax on value added (TVA); a tax earmarked for the National Water Fund (FNH); an overhead charge to cover costs of SONES including debt service and new infrastructure investment; a service charge to cover all expenses of the operator SDE; and a sanitation tax to cover expenses of ONAS. Since 2003 poorer consumers have been entitled to a “social tranche” of 20 cubic meters of water per month at a tariff of c. 40% of the average level, and with exemption from TVA.</td>
</tr>
<tr>
<td>In rural areas, the public authorities bear investment costs and consumers meet all recurrent outlays.</td>
</tr>
</tbody>
</table>

Source: Senegal case study

A similar process was created in Kenya by the 2002 national reform, which separated responsibility for the main functions – policy formulation and regulation, asset holding, and service provision. Likewise responsibility for water resources management was split from that for water services, permitting a more transparent accounting for performance, and clearer financial arrangements (Box 2.9). These changes paved the way for the Kenyan water SWAp, which contains Partnership Principles covering harmonization, alignment, planning, monitoring and funding arrangements. The Principles also contain more detailed understandings about financing modalities

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Box 2.9. Governance reform in Meru District, Kenya

The Kenya case study tracks the impact of these national reforms in one particular district, Meru, North-East of Nairobi. The Meru Water Supply and Sewerage Services Registered Trustee is a financially autonomous management agency, replacing the previous system operated through the District Water Office. MEWASS has an annual performance contract for the delivery of services to the Tana Water Services Board, the body with overall responsibility for water supply in the region.

Source: Kenya case study

A final example of the allocation of finance between different institutional layers arises in the respective roles of central government and sub-sovereign layers of administration in raising and spending money for WSS. Where financial responsibility has been devolved to sub-sovereign entities, there is still an important role for central government in facilitating local access to finance. Financial diversification and innovation is, however, limited in many countries (e.g. where municipalities are forbidden to raise loans, or central governments will not provide sovereign guarantees). The sub-sovereign finance agenda has become a major theme in WSS: the FS is where these decisions become manifest.
CHAPTER 3: RESPONSE: THE ROLE OF FINANCING STRATEGIES

3.1. What is a financing strategy?

Producing a national Financing Strategy (FS) for water and sanitation can be a great help in unravelling the inter-locking problems described earlier.

A FS can mean many things to different people, but fundamentally can be considered a product, a methodology or an approach (Box 3.1). It can also be all three of these.

<table>
<thead>
<tr>
<th>Box 3.1. A Financing Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>• An approach that attempts to forge a national consensus on what water supply and sanitation services the country can or should afford in the next 20-30 years and how will it pay for them.</td>
</tr>
<tr>
<td>• A methodology for structuring the process of consensus-building through the following steps (i) development of accepted baseline and assessment of financing gap, (ii) discussion of policy options that could help to close the financing gap, (iii) development of alternative scenarios, (iv) identification of most appropriate scenario and associated policy mix.</td>
</tr>
<tr>
<td>• A product, a strategic financial plan documented in a report.</td>
</tr>
</tbody>
</table>

Source: OECD Task Team

A more rigorous definition of a FS has been offered:

- “A time-bound plan for sustainable financing of capital investments and O&M costs in WSS adopted by a national, regional or local government and embraced by major stakeholders involved in WSS management and operation in the country, region or municipality in question with a view to achieving a set of targets that are SMART. ‘Sustainable financing’ implies that expenditures (investment expenditure and operation and maintenance expenditure) are balanced with revenues (from public budgets, user charges and loans/grants from domestic and international sources)."

In practice, the focus of FSs has been as follows:

- “In the context of developing countries and the MDGs, financing strategies in WSS focus on financial resource mobilization, financial programming, affordability and also service coverage targets. The focus on financial resource mobilization – not least from international sources – is a striking feature.”

In EECCA countries the content of the FS has been similar, but with different emphases, reflecting their higher service levels and lesser reliance on external financial inflows. Typically in this region, the FS has enabled different stakeholders to evaluate the financial gap under baseline conditions (costing the

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41 specific, measurable, agreed, realistic and time-bound.

42 EUWI Finance Working Group, July 2007

43 EUWI Finance Working Group, loc.cit.
achievement of sector targets and assessing the availability of financial resources) and to compare options for closing it (both by increasing finance and reducing costs).

Preparing a FS requires both a transparent policy dialogue and a sound analytical base that can be accepted by all stakeholders. An essential part of any FS is the assembly of comprehensive data on existing WSS and its costs in terms of O&M and replacements needs, as well as financing sources and flows (current and future) and assessments of alternative future options for service level achievement and funding. The analysis can be supported through the use of tools such as the FEASIBLE model used by OECD in Eastern Europe, the Caucasus and Central Asia (Figure 3.1) and the SWIFT model used by WSP in Africa.

Figure 3.1. The FEASIBLE model

3.2. Rationale and objectives of financing strategies.

3.2.1. Rationale of the Financing Strategy

The FS has been promoted as a response to the obstinate problems of the WSS sector described in the previous chapters, resulting in chronic under financing of the sector, skimping of O&M spending and the absence of national financial frameworks for WSS. Such frameworks, essentially Financing Strategies, would clarify who (users, taxpayers) should pay for what (operating/capital expenses, water/sanitation, rural/urban/periurban areas) and what should be the future service level. Approached from a different angle, the FS should determine how much money is needed and where it would come from.

The road to better sector planning starts with policy dialogue based on sound analysis. However, starting the dialogue is not straightforward. Important technical constraints have to be dealt with in the areas of modelling, data, and expertise. Political considerations come into play - ownership, willingness to
reform, transparency, and getting more involvement from the Finance Ministry and other key, but reticent, stakeholders.

To succeed, a policy dialogue needs to be driven by demand, build on existing policy processes, and include factors crucial to all key stakeholders - environmental and engineering concerns for utilities and sector ministries, and financial and funding considerations for Finance Ministry officials and international donors. In this context, improved financial planning is often impeded by a shortage of supporting capacity in the organizations concerned, applying especially to financial, but also to engineering, expertise.

FSs are concerned both with the cost of future services and how they are to be funded, which presuppose agreement on the "right" future service level. Key decisions are required about how to interpret international targets and their timing (e.g. MDGs or EU Directives) as well as national policy targets. Within the overall framework the strategies have to consider the balance of resources (and, crucially, subsidies) between sub-sectors (water supply, sanitation, etc.), programmes (connection fees, lifeline consumption, basic needs) and geographical areas (cities, peri-urban areas, small towns and villages, provinces, etc).

Strategic financial planning would be a major step towards implementing the vision of the Paris Declaration. In particular, it would support the development and implementation of sector-wide approaches, and promote consensus on sector targets between the different parts of government charged with responsibility for WSS.

The FS is no silver bullet, though it is likely to be a crucial part of the solution. Financial planning needs to be coordinated with other sector reforms as part of improved governance. During implementation the improved management of public expenditure will also enter the Critical Path.

3.2.2. Objectives of the FS

In addition to the basic rationale for the FS laid out above, experience suggests other important objectives that may be attained during this process. The FS can become the forum for achieving consensus on policy objectives amongst key stakeholders. It can, for instance, be the catalyst for resolving disagreements, once different parties understand the implications of their demands and the financial constraints that have to be confronted.

A FS should be a living process, enabling stakeholders to revisit WSS policies regularly in response to events and changes in affordability. It increases the transparency of sector planning. The FS can help to integrate the efforts of different ministries and levels of government involved in the WSS sector. It can also take account of private sector and civil society actions and self supply by users themselves (Box 3.2).

A FS should improve coordination between WSS actors and stakeholders, specifically improving the link between policy and projects and bringing the two into closer alignment. The FS should link sector planning more closely into the budget system, delivering better and more predictable public budget resources for WSS. It can support an informed debate about tariff policy for the sector and ensure that considerations of affordability are sufficiently factored into these debates.

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45 this section includes material from the Chair’s Summary of the Third Meeting of the Task Team
Box 3.2. Turkey: Consensus Building takes time and resources

The process involved in producing an Environmental Approximation Strategy took more than two years and involved seven technical working groups, including one for water and wastewater. Each working group had wide representation from both central government and civic society. The stakeholders contributed actively to a proper understanding of the sector as well as clarity on financing and affordability issues.

Water and wastewater targets were largely determined by compliance with the EU environmental acquis and the main issues related to timing and financing sources.

The Environment Approximation Strategy is an integrated part of the central government’s budgetary process. It is perceived by the Ministry of Environment and Forest and State Planning Organization as guidance in setting medium term targets.

(Turkey case study page 6)

In developing countries a FS is an essential part of building the case for external support through ODA or loans from IFIs. In this context, it identifies why and where such funds are needed to complement revenue from user charges and domestic public budget resources, and demonstrates how financial sustainability can be attained. The development of a FS in Mozambique is being linked to the development of a SWAp (Box 3.3)

Box 3.3. The Mozambique FS

With the support of WSP, the National Directorate for Water (DNA) in Mozambique has been developing a rural water supply FS. This sector has historically been funded by fragmented donor-driven projects, each with its own project and financing modalities and institutional framework. As part of its efforts to attain the MDGs, this country has developed a Roadmap for the rural water sector and is moving towards a SWAp. The Roadmap contains complete estimates of the costs of improved water services. The FS would complement this by providing data on financing options and modalities.

There is interest from donors in expanding the exercise to include urban services. A Government and donor Round Table is being arranged to review the analysis and strategy in the FS.

Source: WSP, 2007

In short, the objectives of a Financing Strategy are:

- Providing a structure to enable a policy dialogue to take place, involving all relevant stakeholders, with the aim of producing a consensus on a feasible future WSS;
- illustrating the impact of different objectives and targets in a long term perspective
- linking sector policies, programmes and projects
- facilitating external financing by providing clear and transparent data on financing requirements.
3.3. Outcomes from financing strategies.

3.3.1. Decision-making support

Not the least of the benefits of an FS is the production of comprehensive background information about WSS finances, often for the first time. Although many countries have produced status reports, plans and strategies for WSS, it is only very recently that these have included data on future operational and maintenance costs and on financial flows and sources. In reply to the question, “how much WSS investment can we afford?” the traditional approach would be to total the investments required in comparison with investment funds available, and scale back the investment programme to fit the finance. A FS would take an iterative approach, including costs related to the existing (and new) system, affordability constraints from consumer budgets or preferences, variable levels of service on different policy scenarios, etc. The modeling tools mentioned earlier can be helpful in guiding the dialogue and ensuring internal consistency, though they are only means to an end.

3.3.2. Governance & processes

The production of a FS often brings a dose of realism to WSS policies. Early versions of the Ethiopian FS46, despite lacking a full modeling format, contained data which had not been comprehensively assembled before, and which permitted a more sophisticated policy debate to occur. Amongst the topics it highlighted were: the shortcomings in the flow of finance from central government to local agencies; the existence of policy trade-offs and the importance of setting priorities; user affordability as a constraint on rapid implementation of the Universal Access Plan; the marginal role of the private sector as source of finance as well as operator; the need to channel as much ODA as possible into common funds within normal budgeting processes, etc.

Production of a FS will not necessarily have an immediate tangible effect on financial outcomes affecting the water sector. It first needs to affect the processes, or the governance structures that are in place (Box 3.4).

<table>
<thead>
<tr>
<th>Box 3.4. Ethiopia: mixed outcomes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Financing Strategy (FS) was completed in 2007. Although its main achievements have been in the realm of process rather than more tangible outcomes, some key initiatives have resulted from it, namely:</td>
</tr>
<tr>
<td>a shift in donor financing between different national budgetary channels - from using ‘Channel 2 (through sector Ministries) and 3 (off-budget)’ to using ‘Channel 1B (on-budget)’</td>
</tr>
<tr>
<td>• Establishing the annual Multi-Stakeholder Forum (MSF)</td>
</tr>
<tr>
<td>• Designing a WASH Capacity Building POOL fund</td>
</tr>
<tr>
<td>• Strengthening monitoring and evaluation (M&amp;E)</td>
</tr>
<tr>
<td>• Increasing accountability to stakeholders</td>
</tr>
<tr>
<td>• Emphasising hygiene and sanitation</td>
</tr>
<tr>
<td>• Linking financial to physical reporting</td>
</tr>
</tbody>
</table>

The FS has not yet been used to support policy decisions over sources of finance, such as increasing tariffs in urban areas. Nor has it been used to help to identify alternative technological options to achieve the sector objectives. The FS’s most concrete outcome to date has been the design of a WASH Capacity Building POOL for sector development.

The FS has also triggered institutional and governance developments. There has been a strong demand for improved sector M&E and reporting arising from that, matched by political commitment at Ministerial level. High level commitments made in one year are reported on 12 months later. This creates a transparent link between the sector’s finances and its outcomes. Shifting donor funds towards the use of ‘Channel 1B’ reinforces decentralisation by reducing the role of central ministries in implementation.

The FS envisaged holding a financing roundtable with the aim of raising donor support. Although this has yet to take place, there have been positive moves from donors, e.g. from Finland and the UK’s DFID. The FS was part of the momentum created by the EUWI\(^{47}\) Country Dialogue process improving sector coordination and governance, all of which gave donors such as DFID the confidence to make major commitments. In the same vein, the WASH Capacity Building POOL aims to bring in up to US$ 11m of additional funds for technical assistance.

It was envisaged in the FS that the Government should increase investment from its own sources, to complement its efforts to increase external assistance. Despite some signs of this, it is not yet clear that the sector Ministries have used the FS as a tool to generate additional internal resources. In any case, donors may prefer to see the development of absorptive capacity before they extend their commitments.

Source: Ethiopia case study

### 3.3.3. Realism in transition economies

The value of a FS as injecting realism into the planning processes is also clear from the experiences of the EECCA countries. In this region it is only recently that WSS has come to be regarded as needing its own governance and a robust financing system to cope with the gap between historical expectations and the constraints of an elderly, oversized and deteriorating infrastructure. Sector studies started by the EAP Task Force and culminating in the FSs for Moldova, Georgia, and Armenia\(^{48}\) contain, practically for the first time, information about WSS as a coherent system, the first step in making balanced and informed judgements on their future development (Table 3.1 and Box 3.5).

\(^{47}\) European Union Water Initiative

\(^{48}\) the FS for the Kyrgyz Republic is currently under preparation. EAP data on Russia is still only partial.
Table 3.1. Feasibility of alternative scenarios for Georgia

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Capital investment over 2006-2015 (M GEL)</th>
<th>Capital investment per head per year</th>
<th>Year of elimination of the accumulated financial gap</th>
<th>Funding for WSS as proportion of the public expenditure budget (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>417.5</td>
<td>7.0</td>
<td>2015-2018</td>
<td>4.7-3.9</td>
</tr>
<tr>
<td>2</td>
<td>170.8</td>
<td>2.3</td>
<td>2013-2014</td>
<td>3.0-2.7</td>
</tr>
<tr>
<td>3</td>
<td>445.0</td>
<td>7.5</td>
<td>2016-2019</td>
<td>4.7-3.9</td>
</tr>
</tbody>
</table>

Source: EAP Task Force / OECD, calculation from FEASIBLE

Box 3.5. Results of FSs in Moldova, Armenia & Georgia

In Moldova the FS (formally, the study on Facilitating policy dialogue and developing a national financing strategy for urban and rural water supply) took place over an 18 month period and was led by the Minister for Local Public Administration. It provided a key input to the National Water Strategy, initiated by the President. The FS helped to inject realism into these plans and led to a demand to translate the FS into an action and investment plan and to link it into the Medium Term Expenditure Framework.

In Armenia the Dialogue on Financing Rural Water Supply was led by the State Water Committee. It identified realistic policy objectives for minimal water supply standards for rural populations. A Law incorporating these conclusions is in the process of adoption.

The Georgia National Policy Dialogue, focusing on urban water supply, was led by the Deputy Minister of Economy and Trade. It produced evidence of the very grave situation facing urban water users, the high cost of all development scenarios (Table 1) and difficulties of raising the necessary funding. A follow-on project is being planned to develop a FS for rural WSS.

3.3.4. Recognition & priority to sanitation

In Uganda (Box 3.6 and 3.7) the development of a FS has raised national awareness of hygiene and sanitation, promoted the involvement of district administrators, and improved coordination between the three main responsible ministries. As a WSP follow-up mission reported:

- “The respondents overwhelmingly considered the financial strategy development process as being seminal in organizing and clarifying discussions among the multiple institutions that were involved in sanitation. The tool was seen to have allowed better informed discussions around
lines of responsibility, accountability and implementation of the Memorandum of Understanding between the three Ministries [responsible for education, health and water] and district governments, largely because sanitation programs were broken down to the level of activities, costs and cost implications for each stakeholder”.\footnote{Uganda case study, p. 19}

In this case it seems that financing brought discussions down to a practical level, from which progress could be made.

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**Box 3.6. Uganda: Sanitation and the Financing Strategy**

Since the early years of the Millennium Uganda has been concerned with the costs and financial means of implementing its Poverty Eradication Action Plan and the MDGs. The Sector Investment Plan produced in 2004 was the first attempt to produce coherent cost estimates of its aspirations in WSS. The SIP identified 7 different sub-sectors (rural water, large towns water, small towns water, sanitation, productive use, water resources management & sector programme support). It also developed a number of policy and technical variables (e.g. coverage targets, subsidy levels, tariffs, unaccounted-for-water levels, service levels, technology, etc) that could be used to generate different scenarios. The total financing needs of the sub-sectors are generated on different scenarios, and with assumptions about the level of public subsidy available. The result is a costed (and iterative) SIP up to 2015.

As a spin-off from the full SIP, a separate sanitation and hygiene financing strategy was developed. This was intended to show clearly how much finance would be required for the “software” elements of meeting sanitation targets and to provide a tool showing the effect of funding deficits, and offering an aid to optimal spending of existing budgets. More generally, it provided a national platform on which district strategies could be developed. An important building block for the strategy was the production of Rapid Situation Assessments for each district. These developed a consensus on key elements of the strategy, and also indicated the wide differences between the circumstances and aims of each district.

The cost elements of the strategy are contained in an updateable spreadsheet using Microsoft Excel. District managers are interrogating this for their local purposes. Because the Government has a very explicit policy towards subsidy for sanitation (channeling funds to “public goods” and demand promotion, and leaving individuals to fund their own facilities) the strategy is able to assign prospective funding sources to specific activities during the planning period.

The development of the strategy has led to better-informed discussions between the three ministries involved in implementation – education, health and water) and between them and district governments. WSP missions reported that it has:

“...contributed to increased awareness, especially of district governments, of the importance of sanitation, and therefore, following the process, some have made increased commitments for sanitation activities as part of the planning process.”\footnote{Uganda case study, p. 19}

Source: Uganda case study
Box 3.7: Outcomes from Financing strategy case-studies:  

Influencing government’s priorities within the water sector and attracting attention to the sanitation sector in Armenia  

In Armenia, in 2002-2003, the Ministry of Finance and Economy (MoFE) and the State Committee of Water System (SCWS), with support from the OECD/EAP Task Force, worked on the development of a Financing Strategy focused on wastewater collection and treatment, i.e. on the sanitation sector.

At the time, the Government of Armenia was mainly preoccupied with the serious situation in the water supply sector (even in the capital city of Yerevan, water was supplied for only 4-6 hours per day, on average). It was believed that for the next 7-8-years the Government of Armenia (GoA) would be unable to invest in the sanitation sector, or willing to attract loans for such investments.

The results of the financing strategy proved that, provided low-cost efficiency improvements were achieved in billing and operation of the network, available financial resources would in fact allow for some parallel improvements in the sanitation sector.

The financing strategy helped to attract the GoA’s attention to this opportunity and supported the subsequent mobilisation of financial resources for the sanitation sector. In 2005 (that is just one year after the completion of the financing strategy) the GoA started negotiations with the EBRD which resulted in the attraction of a 20 million euro loan a year later. This loan focuses on the rehabilitation of existing and the construction of new wastewater treatment plants (WWTPs) in several localities in the environmentally sensitive area of Lake Sevan.

Source: OECD/EAP Task Force

OECD’s Secretariat has summarized the outcomes of FSs, based on its own experience of work in this area, as follows:

- A shared understanding of issues
- Consensus on realistic WSS infrastructure targets
- More objective discussion of tariff policy
- Reflection of the realism of social and environmental objectives
- An opportunity to improve the dialogue with the Ministry of Finance
- The possibility of incorporating results into the national Medium Term Expenditure Framework and into Poverty Reduction Strategy Papers.

3.4. Relevance of OECD countries’ experience

Not all OECD countries have developed FSs as such, but most of them practice some form of strategic financial planning for WSS. The status of WSS services in OECD is still evolving and it is important to keep a historical perspective on their development. In many countries the drivers are external

51 Presentation by Peter Borkey at Stockholm Water Week, August 2008.
(for EU countries, the Water Framework Directive) and fluid (e.g. the inter-calibration exercise linked to the WFD).

Most OECD members have prepared strategic financial plans affecting WSS. All new EU members have had to prepare approximation plans in the course of accession to the EU. Older EU members had to prepare submissions to attract EU funds from the Cohesion and Regional Development budgets. EU Member States will have to revise such plans when the need to redefine priorities becomes apparent.

There is no single “financial model” for WSS in OECD countries. Many of them include explicit subsidies but policies vary between countries. In the UK, WSS assets have been privatised and there are no overt public subsidies. In Finland, water companies are public and the surpluses they generate contribute to local government spending on other programmes. In the Netherlands, surface water management is the responsibility of Water Boards, sewerage and wastewater falls to municipalities and drinking water is supplied by publicly-owned limited companies. Each of these bodies levies charges or tariffs, and the Dutch Water Bank provides long term loan capital for the development of infrastructure. These various elements add up to a coherent financing system. The policy in France is often summarized as “water pays for water, and only for water”: Six River Basin Agencies collect pollution charges from users which are spent on water resource management and development, plus subsidies to municipalities. The latter also collect tariff revenues from consumers.

Elsewhere, the Czech Republic aims at “full” cost recovery (understood as O&M as well as renewal costs) for water and wastewater infrastructure. In Spain basin authorities charge municipalities for the cost of providing large water infrastructure, while new wastewater treatment plants will be subsidised partly from the EU and partly from central government. Austria subsidises WSS through a national fund. The USA provides implicit subsidies by allowing tax-exemption for municipal bonds.

These different financial models are rarely planned, and instead result from historical developments which in turn result from the culture and values of each country. What works in one country, does not necessarily work in another. Developing countries can regard the OECD as a living laboratory of WSS experience, and draw from it elements that seem most relevant and workable for themselves. It would be unwise for development co-operation agencies to espouse a particular model for wholesale promotion in other countries – instead a pragmatic attitude is called for, with attention to what is required in each case.

Evidence is growing that the WSS financing systems, models and strategies used even in “mature” OECD countries are coming under strain in dealing with current and future challenges. There are even concerns whether they are sustainable and fully appropriate to deal with the huge and growing backlog of modernizing and replacing ageing infrastructure, and coping with the costs of rising expectations, growing environmental concerns, and new regulatory obligations. Most OECD countries hide costs (e.g. deferred maintenance and replacements) and subsidies are not always transparent, making the degree of full cost recovery difficult to ascertain.

OECD countries also exhibit a wide range of practice in the involvement of stakeholders, and the sophistication of data and decision-support tools. The UK has a top-down “sector management model” including a 25-year strategic plan, a national regulator (OFWAT), a consultation network of consumer associations, and the use of a computerised modelling tool (Aquarius) to support price-setting. In contrast, Finland has a bottom-up “sector management model” in which the government lays out a 10-year financing strategy and promotes benchmarking, but does not set tariffs. In both cases, data is fundamental; a minimum level of data availability (and transparency) is required for regulation and benchmarking issues..
Nearly all OECD countries suffer local technical and financial capacity constraints and central governments have a role in developing the capacity of their local authorities. In some cases, central governments build large items of infrastructure (such as wastewater treatment plans) and transfer them to local authorities lacking the technical skills and financial resources to operate them successfully.

In short, OECD experiences with the strategic financing of WSS are very varied and – though the context is different – there are many resemblances with issues facing developing countries:

- Service levels have evolved gradually, and current levels reached only recently.
- WSS objectives change over time and are often externally driven: this calls for a strategy of implementation.
- In some cases, infrastructure is privately owned and operated, in others publicly or communally owned and operated.
- Although ownership affects the funding of capital investment WSS taps three basic sources of finance (user charges, fiscal subsidies and inter- or intra-regional solidarity.
- Many systems contain hidden subsidies and under-funded costs, especially under-investment that has massive future funding implications.
- There is no single “financial model” common to all countries.
- It is common to find local technical and financial capacity constraints which block progress unless they are addressed.

Developing countries can profit from studying the OECD experiences, but they should not aim at replicating them uncritically. Among the lessons they might draw are the following:

- Set realistic targets (develop at a measured pace)
- Carry out systematic financial planning linked to the general budget process, locally, centrally, both
- Devote public funds primarily to cover public goods and externalities, particularly in wastewater and sanitation. Subsidies should be used more sparingly, if at all, for urban water services
- Any subsidies should be targeted to need and be transparent.
CHAPTER 4: LESSONS LEARNED FROM EXPERIENCE WITH FINANCING STRATEGIES.

4.1. Introduction

The Task Team members have stressed the following key success factors governing the effectiveness of financing strategies (FSs):

- FS processes should be fully owned by host country institutions, and supported by their government at a suitably high level;
- The FS process needs to engage water sector stakeholders and, crucially, the Ministry of Finance;
- The methodology and models used to develop the sector analysis must be credible and fully endorsed by all major stakeholders (Box 4.1);
- FS processes need time: stakeholders need to engage at least for the medium-term;
- For best effect the FS should be closely aligned with existing institutional arrangements for sector policy making;
- The process needs to be supported actively and flexibly by donors, who should adapt their sector strategies to the outcome of the FS and be prepared to support its implementation;

Box 4.1.: Financing strategy in Senegal

The Senegal Case Study contains an example of early consensus on the sector objectives and policies. A concerted effort of all major stakeholders on the basis of this consensus resulted in the successful turn-around of the water sector. This was possible thanks to a financial model that was endorsed by the stakeholders and used to support an iterative, participatory process of sector planning that has continued for the last 10 years.

4.2. Level of ambition

A FS can have various objectives, each with implications for stakeholder involvement, tools, data and other requirements.

Key lesson 1: Start with clarity over the objectives and ambitions of the financing strategy in order to manage expectations and design the process accordingly.

A common starting point of a FS is the development of a Sector Investment Plan (SIP) to determine the funding necessary to meet given targets. Commonly these targets are set nationally, often inspired by the MDGs. The aim of an SIP is to direct finance to where it will have the greatest impact, meeting targets for the least investment. Another objective of a FS is to assist in fund raising by identifying different means of obtaining additional finance and providing arguments for more effective contesting of government budgets. The latter has been especially important for sanitation and hygiene, which is often seen as a neglected area of public spending (Box 4.2).
Box 4.2.: Sanitation financing strategy in Uganda

The Uganda Case Study gives an example of a FS whose main focus was to explore potential sources of finance to meet national sanitation goals. A direct outcome, reached a year or so after the completion of the strategy, was that the Ministry of Finance and other relevant government bodies were persuaded that a temporary earmarked injection of funding was necessary to boost hygiene promotion efforts.

In practice the two aspects of a FS – estimation of financial needs and fund raising - are linked. A fund raising strategy needs to be based on an estimate of the financing gap in order to reach sector targets, which in turn presupposes a credible sector investment plan. Despite these obvious interrelationships it is important to start with a clear understanding of the objectives and their relative importance, since this will determine the tools used, the stakeholders involved and the expectations that are raised.

The “ambition” of a FS depends on the chosen time scale and level of detail it includes. The time scale can be as short as 3 years (to fit a typical MTEF planning cycle) or up to 15 or 20 years to match long term policy goals. The level of detail can range from strategies based on simple overall per capita estimates to those that provide detail on individually identified schemes.

Ambition also hinges on how the scope of the sector, and the sub-sectors it includes, is viewed. A FS can be confined to a single coherent sub-sector such as rural WSS or it could be widened to include urban areas, water resources management and institutional reforms. The strategy can be limited to the public sector or could also include the contributions from charities, civil society, the private sector and individual householders. In some cases it is appropriate to start within a single coherent sub-sector that is ready for a FS and then broaden it to include other elements later. A common approach is to have more detail in the first few years and less detail thereafter.

Key lesson 2: Set targets consistent with policy and separate policy and technical considerations

The distillation of clear and commonly held principles is essential at the start of a FS process. Seeking clear understandings on the principles for sub-sector allocation is particularly important: this is an area where there is often competition for resources and is a common source of conflict.

Consistency in the use of targets (national targets; MDGs; regional or central targets) is also necessary for effective progress. Over a period of time it is common for countries to set a variety of targets which are often at odds. Nationally set targets often do not align well with locally set targets or priorities. Sometimes national targets and plans are ignored by local authorities (Box 4.3) because they don’t relate to local priorities.

Box 4.3.: Setting targets in Mexico

The Mexico Case Study notes that investment plans and financial strategies have not been fully operational. During 2005 the Mexican Institute of Water Technology with the help of donor funding developed some municipal Plans for Water Supply and Sanitation for localities in Pátzcuaro Lake basin, but they have only been partially followed, due to frequent changes in managers of water utilities and a lack of political will.

Striving for unrealistic targets can waste money but, conversely, proposing credible but more modest targets could be politically and socially unacceptable. Accepting low targets, even if they are more...
realistic, can be viewed as perpetuating and condoning hardship. These dilemmas, which have derailed several attempts at making FSs, can be presented and, hopefully, managed, by using scenarios.

The level of ambition of a FS and the credibility of analysis that it contains depends on the likelihood of data being available of the required quality. If sufficient data are not available planning on a crude per capita basis is preferable to using a project or town basis since the former is less data-intensive. Where the institutional context is clear it may be possible to build up an investment plan based on short to medium term plans that are already available. For example the Kenyan FS used the rolling 3-5 year corporate plans of water boards, while in Malawi it is planned to use district expenditure. In both these cases, the plans concerned are obligatory and available, and the FS is an opportunity to improve them. Future years beyond the horizon of these plans can be dealt with in less detail. Where a Medium Term Expenditure Framework (MTEF) operates this has the great benefit of allowing multi year budgeting, which can tie the FS into existing official systems.

The level of disaggregation possible in a FS will depend on how much detail is contained in available information. It is possible in some countries to analyse financial balances at a regional level, which can produce revealing data about institutional and service variations. In Ethiopia, for instance, data could be aggregated by Region, in Mozambique by Province, and in Kenya by Water Service Board.53

FSs, used flexibly, are a framework for making adjustments in the level and realism of targets and allow for variations in absorptive capacity. This can allow transparent negotiation over the levels of ambition. Greater transparency and clarity over decisions can also be obtained by distinguishing data, technical and policy variables (Box 4.4.).

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53 WSP, 2007 (Virjee)
Box 4.4. Data sources, technical parameters & policy issues in a FS: structuring the discussion

It has been found in discussions about the FS that there is often confusion between different kinds of variables. To clarify discussion and make progress on the construction of the FS it is useful to differentiate three kinds of variable, as follows.

**Factual Data**, (e.g. population, the existing coverage figures, the rate of urban migration, the existing state of repair of systems, the cost of operations, etc).

Once the data required has been decided, the task is that of measurement, which should not require controversial choices. In practice, data may be uncertain or unavailable, in which case choices would have to be made on the type of data to use and how to compensate for gaps. These are different types of decision compared to those entailed for technical or policy variables.

**Technical parameters** (e.g. the technical specifications and costs, design horizon, desired water quality, proportion of people likely to use yard taps, house connections or stand posts, the (assumed) mix of technology in different regions). Some of these parameters are matters of policy, hence this is not a hard-and-fast category.

**Policy scenarios**. Different policy scenarios are generated by varying the policy variables (e.g pro-poor scenario; get the towns working first scenario; business as usual; consequence of continuing future investment like it was done in the past).

A sensitivity analysis can be carried out using different values for the technical variables and various policy scenarios.

The following sequence works well as a way of structuring discussion about a FS:  

b) agree on technical parameters (first on the choice of variable itself and then on its different potential values;  
c) decide on the policy variable (which measures and what to do about them)

Experience has shown the importance of separating these three different issues and dealing with them in sequence. Otherwise, there is a tendency for discussions to become circular and inconclusive. Following the above sequence means:  
i) the right question is addressed to the people best able to give the answer, ii) the number of interacting variables is reduced so it is possible to get a decision on how to proceed, iii) the focus shifts from technical discussions towards fitting the FS to policy and indicating the financial implication of various policy discussions.

### 4.2. Structure, content & process.

This section briefly describes different phases in developing and implementing a FS. It refers to who should be involved, and why, in developing and implementing the FS, touching on the role of different ministries, sub-national authorities, local communities, civil society organisations and private sector providers.

**Key lesson 3. The structure of the FS should reflect the institutional system of the sector, since this is where the strategy gets implemented.**

In some countries the sector is easily defined but in others it is very complicated. Whereas water supply can be straightforward; sanitation, household hygiene, urban drainage and irrigation tend to be more complex and likely to involve multiple ministries. The boundaries of the FS need to be set at the outset and take account of the institutional system. In Kenya, for example, the FS reflects the institutional structure laid down in the Water Act (Box 4.5).
Box 4.5. Financing strategies that reflect institutional status in Kenya

The Water Act of 2002 in Kenya aimed at separating policy formulation from regulation and service provision. It also separated water supply and sanitation from water resources management. This led to the creation of 7 water service boards covering the whole country (regulated by a water services regulatory board) and 6 Catchment Area Management Committees and a Water Resources Management Authority. These institutions, rather than the administrative districts and regions, are responsible for water sector investment and finance. The SIPs and FSs have been structured to reflect this specific institutions of the water sector.

Typically there are at least 7 sub-sectors that need to be delimited and treated as separate modules:

- Rural water supply;
- Large towns urban water supply;
- Small towns urban water supply;
- Sanitation, drainage & sewerage;
- Irrigation water for production;
- Water resources management;
- Sector regulation, capacity building, research and institutional systems.

Countries that are highly decentralized need both functional and geographical planning categories. This may involve regions, provinces and lower administration units such as districts. Usually there will be advantages in “bottom up” planning from the lowest budget holding unit since this is where the implementation of the FS has its real test. The number of relevant decentralized units varies according to the size and administrative nature of the country and sector. e.g. the woredas in Ethiopia (over 600); districts in Uganda (over 60), and the Water Service Boards in Kenya (7). Best practice approaches combine bottom up and top down methods in developing a FS based on the lowest planning and budgeting units of government.

It is advisable at the outset of a FS to extend its scope beyond the public sector to include civil society, the private sector and the self-help inputs of users themselves. The financing needs of regulation and the operation of sector institutions should also be factored in. Separate treatment for sanitation is often advisable as its subsidy regime and institutional structures are different from those of water supply. This allows special attention to be given to sanitation - an area often neglected. Water resources management and environmental issues such as liquid waste and water pollution also deserve a place in a FS. Such topics are a key to future sustainability even in countries well endowed in water resources.

**Key lesson 4. Consider the full life cycle of financing needs**

It is common to give too much attention to the public sector’s contribution to capital costs, at the expense of other sources and other financial needs. Typically the financial problems of WSS are conceived simply as a lack of capital to create new infrastructure networks. In reality, financing needs are more complex.

Both a SIP and fund raising strategy need to consider the full life cycle of assets and take into account operational and maintenance (O&M) costs and the costs of replacement after the design life expires. Other
costs to be reckoned include feasibility studies, design, supervision, community participation, awareness raising, capacity building, hygiene promotion and education, and research. Without consideration of these costs, any investment plan or FS is seriously incomplete.

Key lesson 5. The FS needs strong anchoring in WSS institutions, and “ownership” by the Ministry of Finance

A fund raising strategy has to be fully adopted by the Ministry of Finance (MOF) in respect of internal and external public sector funds. Most MOFs are reluctant to delegate revenue raising to line ministries. The MOF is crucial to the development of economic instruments in the sector especially those that require substantial fiscal reform. If a strong alliance can be made between the WSS sector(s) and the MOF, there is a better chance of WSS focusing on improving its efficiency to enable subsidies to be better used. There will also be better prospects for the adoption of innovative economic instruments such as tariffs and licenses (e.g. for water abstraction).

The FS is also a potential entrance point for other sector dialogues over such matters as the commercialization of WSS services and the role of the private sector (Box 4.6).

### Box 4.6.: Financing strategies as an opportunity for reflection on the potential role of the private sector – Korea

In the past, due to fears of the potential side effects from enlargement of private investment, private sector participation has been limited to stand-alone facilities rather than to the pursuit of efficiency in installing and managing networks and multiple facilities such as water distribution and sewerage. Recently, the government has been reviewing measures for effective system management through comprehensive privatization of related facilities within the service system. Such measures can be captured in FS scenarios including privatization.

Source: Korea Case Study

A FS is easier to develop when linked to a SWAp process which places a time limit on completion of the strategy (as in Ethiopia, Kenya, and Malawi) and which provides an opportunity for a firm institutional anchorage extending beyond a single ministry. The FS itself can also contribute to a SWAp and can be a vehicle for harmonisation (as in Ethiopia). The prospect of available finance also aids the preparation of a FS, as in Turkey, where EU funds are potentially available, and where the prospect of EU membership is a spur to reforms in sector governance.

4.3. Capacity & tools

This section discusses the capacities needed to develop and implement a FS, how those capacities can be enhanced, and how the different tools available can support the various objectives of the FS.

There is a consensus emerging from the Task Team and the Case Studies of the importance of the following areas for capacity development:

- More effective dialogue between water sector experts and financial specialists; this entails efforts to communicate in language intelligible to the other side, and in terms which have mutual resonance;
- The need for WSS to present a more effective case to the Ministry of Finance for its proper share of budgetary allocations;
• The “absorptive capacity” of WSS for financial resources needs to grow: this is often limited due to weak project preparation and poor capacity for implementation. It is also determined by the predictability of funds and their timely arrival.

• Essential data on the status and performance of WSS is often lacking, insufficient and unreliable, thereby hindering credible sector planning;

• Politicians, particularly at local levels, have an insufficient awareness of WSS and its needs. This affects the low priority they often give it compared to other sectors, and hinders their capacity to give it effective support.

Key lesson 6. Simplicity is the key to making the FS easy to implement

Simplicity is the key to effective implementation, whether for fund raising or investment planning. Even where a more sophisticated approach is requested by stakeholders (a common event) and even where this would be feasible, it is often better to delay the introduction of refinements until there is experience of working with the simpler version. However, a key ingredient to the success of strategic financial planning is that the methodology needs to be endorsed by all relevant stakeholders.

In some cases it will be easier to tailor the FS to the specific country concerned rather than attempting a generic model or approach, however this may also involve higher costs. On the other hand there are many cases where generic models have proven to produce useful and reliable results, effectively supporting a policy dialogue process. What ever the methodology or model used, the output of the policy dialogue should be a set of simple messages, which are often most effective for the purposes of contesting budgets and championing WSS.

Key lesson 7. Focus on ease of updating and incentives for use

The incentives for users to update the FS will be greater, the more a SIP is linked to the MTEF and to the national budgeting and financial reporting systems. The strategy is more likely to be updated and used if it saves time and work for the officials involved in planning and budgeting. An example of this point is the linkage of the FS to the Results Based Framework in Malawi, which is a means of measuring the performance of line ministries. Linking the FS to the standard framework for public financial management and performance measurement is a strong motive for stakeholders to use the strategy and update it as necessary.

Data needing regular updating should be clearly identified and the FS should contain guidance on this, together with explanatory notes if a model is used. Data requirements should be kept to a minimum: where frequent updating is needed this should be done wherever possible using established surveys, such as those for household information, health status, or water utility performance reports.

Key lesson 8. Use models to support decisions not replace them

To provide the analysis that is needed to support policy dialogue on WSS financing, both generic and tailor-made models can be used. General models applicable in different countries with different WSS characteristics do exist and have proved useful and reliable but they may not fit to all possible situations. Purpose-built models drawing on highly specific generic models may overcome this problem, but their application and development is usually more expensive (e.g. the unit cost model tried in Kenya and Uganda).
Two generic models have so far been developed. FEASIBLE, which has been developed by the OECD with the support of Denmark, is a very user-friendly and well designed tool with a clear user interface. It has been applied in about a dozen countries in Eastern Europe, Central Asia, Asia and Africa. SWIFT, which has been developed by the Water and Sanitation Programme, hosted at the World Bank, is also very comprehensive, with many possibilities for analysing and presenting financing flows. SWIFT is not yet complete but FEASIBLE is publicly available for testing and use\(^54\).

Models and other decision tools are often geared to new schemes in a “green field” context. An equally relevant context, especially for urban systems, is that of rehabilitation and extension, the costs of which are very variable and difficult to predict without on site technical analysis. In these situations off-the-shelf models may not work very well and would need to be tailored or calibrated to give reliable results for specific countries. The best a model can do, whether it is off-the-shelf or tailor made, is to support decision making - it cannot substitute for it. Models are best for developing scenarios, which can serve as the basis of an iterative and collaborative process of setting priorities and taking decisions.

**Key lesson 9. Don’t over plan – planning skills are often the scarcest resources**

FSs typically take a long term perspective, whereas WSS authorities often have short term preoccupations which occlude the longer vision. Many practitioners are cynical about planned approaches to financing, which bear little relation to their world of frequent arbitrary cuts in budgets and long delays in disbursements. For them, devoting scarce planning resources to the production of FSs may not seem a high priority. To meet such concerns, the FS process should not absorb excessive amounts of managerial time. There needs to be a judicious balance in the degree of detail required for long term FSs. There should be a sensible proportion between detailed short term planning and financial projections, on the one hand, and less detailed longer term projections, on the other.

**4.4. Maximising the impact.**

The process involved, and the results of, a FS can be used to facilitate policy reform and achieve practical results. It is important to link a WSS financing strategy to regular budget processes (in particular the medium-term expenditure framework).

**Key lesson 10. Seize the opportunity for innovative fund raising**

Innovative funding sources such as loans, bonds, equity and the many hybrid forms available are firmly on the water financing agenda\(^55\), but many practitioners regard them as theoretical possibilities only. FSs need to be candid about the difference between hard evidence of innovative sources of finance, on the one hand, and speculative, untested but potentially very interesting sources, on the other. The experience with the Sector Investment Plan for the Ugandan NWSC showed that premature recourse to commercial funding, before revenue generation showed the necessary increase, would bring the corporation into a new debt trap due to high interest rates. In this situation, the effect of issuing bonds would be to increase tariffs in the short term.

On the other hand, the potential of self supply, by people who improve and construct their own systems using their own finance to contract local workers or use their own labour, is often overlooked and underestimated. Including the investments of householders themselves in the financing overview of the sector would be a first step in this direction. It is also important not to undermine this source by subsidising hardware and services, which discourage users from making their own arrangements.

\(^{54}\) From…(check refs for COWI website)

\(^{55}\) e.g. in the Reports of the Camdessus Panel and the Gurria Task Force.
The development of microfinance and other innovative financial partnerships between communities, users, NGOs, banks, the private sector, donor agencies and local governments can help to tap into self-help and self-supply resources. \(^{56}\)

**Key lesson 11. Use the FS to improve governance and strengthen regulation**

The sector regulator has a vital role, especially in implementing funding strategies. In carrying out his/her functions, the regulator will, equally, be helped by the presence of a well conceived FS.

A sound FS can contribute to good governance through improving the transparency of the process of allocations and revenue raising. Drawing stakeholders into the discussions involved in the FS should also promote the idea of dialogue and cooperation in determining the sector’s future (Box 4.7.).

**Box 4.7. Financing Strategies and Governance in Ethiopia**

The FS in Ethiopia revealed the crucial importance of further reforms and consolidation of what had already taken place, e.g. local capacity building and collaborative decision making structures at local, regional and national levels. The FS exposed the large number of programmes for improved WSS, and the confusion caused by their different approaches, financing modalities, accountability and reporting mechanisms and institutional arrangements. The FS highlighted capacity building and governance improvements as necessary first steps.

**Key lesson 12. Emphasise sector performance, transparency and value for money alongside the need to increase funding levels**

In general, WSS has a poor reputation for its performance as a public service. Its operations and maintenance record leaves much to be desired and makes fund raising an up-hill struggle. In Vietnam, for example, the Government is greatly reluctant to grant provinces funds for new schemes if the old ones are not functioning, and this attitude is common elsewhere among finance ministries. Some government officials view the prospect of sector-based ministries developing FSs as a distraction from their more urgent task of improving sector performance.

Many Finance Ministers view WSS as a financial Black Hole. Their instinctive approach is to seek to minimize subsidies, to press for improved performance of the sector institutions, and to aim at obtaining “more water for the same money”. To satisfy Finance Ministers, a FS needs to address where the money is going to as well as where it is coming from. Finance Ministers, and their donor partners, will be more attracted to a FS which promises to improve the efficiency of the sector, and provides data and benchmarks for monitoring its performance. The development of Monitoring and Evaluation systems for WSS was a clear positive outcome of the Ethiopian FS exercise.

Increasing confidence in WSS as a well performing service sector is the key to raising finance. Financial management needs to improve through lowering fiduciary risks, making procurement more effective and transparent, introducing efficient budgeting and accounting, etc. Sector performance needs to be assessed in objective measurement frameworks, and value for money checks should become routine.

During several FSs it has emerged that, where fiscal decentralization applies, it is the local authorities not the sector ministries that determine allocations to WSS relative to other priorities. Funds originating in central government are not earmarked for a specific sector when they arrive in provincial or district offices. The challenge for WSS practitioners and advocates is then to fight for the inclusion of WSS programmes in

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56 Refer to WSP, Mehta and COWI references in Annex 1, amongst many others
district work plans, which drive the budgeting process. This implies concentrating on developing work programmes, which will attract more money, rather than the reverse process of bidding for funds and then planning how to spend them.

Even where the fiscal process is fully decentralized, sector earmarking can be useful for a short period to overcome systematic under-financing. Cases of this include the proposed sanitation grant in Uganda (Box 4.8) and the National Target Program in Vietnam.

**Box 4.8. Uganda**

In the 1990s, integrated WSS projects were launched to ensure that both water and sanitation needs were met in rural areas. It was quickly recognized that hygiene promotion was a key ingredient, particularly as water supply was in higher demand than sanitation and in most cases more heavily subsidized. Health and sanitary inspectors employed at district level were best placed to carry out and maintain this type of extension service. As salaries and motivation were very low and transport and allowances almost non-existent, the projects provided generous topping up payments and made transport available.

In 2000 rural WSS was fiscally decentralized and these special project arrangements came to an end. Sanitation and hygiene had to compete with acute health services such as HIV/AIDS and malaria. As a result, expenditure on hygiene promotion and environmental health education fell rapidly. The FS was instrumental in exposing this drastic fall in expenditure and some of the reasons for it, and triggered the creation of earmarked funds. In the short term these funds revived the morale of existing networks and gave them a lease of life. This enabled them to prove their cost effectiveness in the prevention of water-related disease and stake a firm claim on district health budgets.
CHAPTER 5. CONCLUSIONS, RECOMMENDATIONS & FUTURE WORK

5.1. Conclusions

5.1.1. Main points from the analysis

Diagnosis

In WSS, finance is a necessary, but not a sufficient condition, for making progress with implementation. Attracting sustainable flows of finance of the right type depends on thorough reforms in the governance of this sector.

WSS is not a cleanly defined and demarcated sector, like some others. It is shorthand for a group of functions and activities spread over several Ministries and different layers of administration. It is characterized by institutional complexity. Sanitation requires separate consideration from water supply.

WSS systems are also geographically varied, reflecting historical, political, cultural and economic differences. Institutional and financial solutions are very specific to each situation – there is no accepted ideal model. There are principles of good practice, but there is no consensus on best practice.

Water supply is a distributional service: sanitation involves collection and disposal. The former has largely private benefits, the latter is predominantly of public concern. This has implications for pricing and financing the two activities.

As a public service on the borders of economic and social infrastructure WSS suffers from ambiguity in the minds of the public and their political leaders. The perception of water as a basic need and human right inhibits societies from charging for it as an economic service. Local pressures keep tariffs low.

WSS tends to be under-financed. It carries financial risks which deter private and commercial finance. This results in poor services and starves utilities of funds needed to expand their networks. This disproportionately affects poor citizens, who have to compensate at their own expense. In a real sense, low tariffs can make the poor poorer.

In practice, capital investment and recurrent costs are funded in different ways. Investment tends to be financed by national governments, supplemented for many countries by ODA grants and IFI loans. Recurrent spending on operations and maintenance is reimbursed from tariff revenues and subsidies. In the final analysis all WSS is paid for with tariffs, taxes or transfers.

Most discussion about financing the implementation of the MDGs for WSS limits itself to the cost of capital investment. For developing countries this is likely to entail a doubling of investment requirements over recent levels. However, the cost of maintaining and modernizing existing systems, which are scheduled to grow rapidly, will grow exponentially, and will greatly exceed the annual cost of extending the networks.

Tariff revenue is the main source of finance for the recurrent costs of O&M and in many countries needs to increase if services are to be properly funded. However, there is no consensus on the virtue of Full Cost Recovery as a tariff principle (i.e. recovering all capital costs as well). Some countries prefer a pragmatic (or opportunistic) policy towards financing capital costs. The concept of Sustainable Cost
Recovery addresses these cases, advocating securing and programming financial means from all available sources in a predictable fashion, including tariffs for O&M, and government and donor support.

Subsidies are all-pervasive in WSS. Up to a point they are justifiable, if they reflect public external benefits such as the benefits to public health, environment and amenity from proper collection and treatment of human waste. Ideally, subsidies to compensate for low “affordability” of certain social groups should be delivered in a targeted manner, e.g. through social security payments, rather than through a general under-pricing of water. However, targeting the poor through social security payments tend to be expensive and complicated to administer in all but the most sophisticated national systems. In practice a well-designed tariff with increasing blocks is a simple way of making basic quantities of water affordable to poor consumers. Persistent subsidies easily become a drug, creating dependency and with undesirable side-effects.

Devolving the responsibility for providing WSS services to local municipalities is a good principle, provided it is accompanied by sufficient delegation of powers and resources. Where human and financial capacity is lacking at this level, “excessive democracy” may damage services. Financing sub-sovereign agencies and layers of administration is now high on the WSS agenda.

The are various approaches to solving the underlying problem of under-finance of WSS.

- Utilities need to improve their operational efficiency, for which there is great scope.
- The development of the sector needs to be more demand-oriented, delivering services that consumers want and are willing to pay for.
- Tariff revenue should be increased by revising tariff rates and structures, and collecting more of the revenues due.
- Sustainable cost recovery should be endorsed and put into practice.
- Subsidies should be transparent, properly justified and specifically designed to achieve their purpose.
- Finance Ministries should stop treating WSS as a pariah sector, and recognize its potential contribution to economic development, public health and many of the other MDGs.

**Choices to be made**

National and international commitments to the upgrade and extension of WSS services leave scope for choice and interpretation in how these commitments are implemented. The targets need to be realistic to make them affordable for public budgets and beneficiaries alike. The choice of hardware and technologies makes a big difference to costs. Likewise, policy targets and scenarios have different cost implications, involving trade-offs.

Every WSS system strikes its own balance in its reliance on the three basic sources of finance – tariffs, taxes and transfers (the 3 Ts). This is as true of “mature” countries as of developing and transition economies. Although certain trends in WSS financing are evident as countries develop (e.g. growing self-finance from tariff revenue, use of local capital markets, less ODA, etc) subsidization and dedicated financing agencies persist in many developed countries.
Because the WSS “sector” is so diffuse, hard choices are entailed in the allocation of public funds between different agencies, geographical regions, functional programmes and hierarchical layers. There is, for instance, a choice to be made between water supply and sanitation (plus the related matter of household hygiene), and between urban, peri-urban and rural communities. It is also important to share funding between infrastructure and the “softer” functions involved in WSS services, such as planning, policy making, research, monitoring and regulation. The division of funding between central and sub-sovereign agencies is also a topical concern.

Financing Strategies

All the above underscores the value of having a Financing Strategy for WSS. A FS is not a panacea, and is not a substitute for reforms in policy and governance. It does, however, provide a framework for policy makers and practitioners to interact to produce WSS programme that are clear, consistent, sustainable and financially feasible, compared with uncoordinated and improvised approaches.

The objectives of a FS are:

- Providing a structure to enable a policy dialogue to take place, involving all relevant stakeholders, with the aim of producing a consensus on a feasible future WSS;
- illustrating the impact of different objectives and targets in a long term perspective
- linking sector policies, programmes and projects
- facilitating external financing by providing clear and transparent data on financing requirements.

Based on experience so far, the following outcomes can be expected:

- A shared understanding of issues
- Consensus on realistic WSS infrastructure targets
- More objective discussion of tariff policy
- Reflection of the realism of social and environmental objectives
- An opportunity to improve the dialogue with the Ministry of Finance
- The possibility of incorporating results into the national Medium Term Expenditure Framework and into Poverty Reduction Strategy Papers.

5.1.2. Lessons learned from Financing Strategies

Some of the main lessons learned from recent experience with FSs can be distilled as follows (Box 5.1.):
Box 5.1. A Dozen Desiderata

1. Start with clarity over the objectives and ambitions of the financing strategy in order to manage expectations and design the process accordingly.

2. Set targets consistent with policy and separate policy and technical considerations.

3. The structure of the FS should reflect the institutional system of the sector, since this is where the strategy gets implemented.

4. Consider the full life cycle of financing needs.

5. The FS needs strong anchoring in WSS institutions, and “ownership” by the Ministry of Finance.

6. Simplicity is the key to making the FS easy to implement.

7. Focus on ease of updating and incentives for use.

8. Use models to support decisions not replace them.

9. Don’t over plan – planning skills are often the scarcest resources.

10. Seize the opportunity for innovative fund raising.

11. Use the FS to improve governance and strengthen regulation.

12. Include an emphasis on sector performance, transparency and value for money alongside the need to increase funding levels.

5.2. Recommendations

5.2.1. Developing country governments

Critically examine technical standards and levels of service recommended by international bodies or imposed as conditions of funding. Adapt these as necessary to local conditions.

Improve financial planning for WSS in order to achieve more financial sustainability and better access to public budget resources and ODA, using these to leverage other funding sources. This should be done through a Financing Strategy based on sound research and analysis, including a policy dialogue with all relevant stakeholders.

To ensure effective implementation of the FS, strengthen public expenditure management systems and link them more strongly to WSS sector-level planning.

Take a “holistic” view of the various elements in WSS and its links with other sectors and the wider economy. Create awareness of the potential social and economic benefits of reformed and properly funded WSS services.

Aim to ensure that all aspects of WSS, including “overhead” and “soft” activities, are properly and sustainably funded.
Take a critical interest in the WSS financing systems prevalent in other countries, including OECD member states, and take away the appropriate (positive and negative) lessons from them to use in the development of the FS.

5.2.2. Development agencies

Support the production of FSs by all means, technical and financial, whilst not undermining the “ownership” of the process by development partners.

Helping to develop relevant capacity, aligning assistance with FSs, e.g. through SWAps, participating in the policy dialogue, contributing to better coordination, and supporting local capacity development. Promoting benchmarking and peer-group assistance (e.g. through the WOP and bilateral “twinning”).

Draw on domestic experience of strategic financing of WSS and share this experience with developing countries, without evangelizing.

Provide technical assistance to support efforts of developing countries to strengthen their public expenditure management systems.

5.2.3. Other stakeholders

Ministries of Environment and other agencies and companies in OECD countries responsible for WSS services should engage in dialogue with their counterparts in developing and transition countries to debate their experiences of good practice in strategic WSS financing. Where appropriate, they should promote the exchange of personnel.

Civil society representatives and NGOs in developing countries should lend their advocacy to the production of FSs as an essential tool for the implementation of WSS programmes, and should take part in the dialogues involved in the production of the FS.

5.3. Future work

OECD and other appropriate bodies can facilitate the actions advocated in this Report through their research and outreach programmes. The following topics are suggested for consideration.

- Helping developing country governments to incorporate WSS plans more effectively into national budgets and the budgeting process, specifically by supporting the development of relevant tools, models and approaches.

- Expanding the scope of FSs to the broader IWRM agenda. WSS services depend on the quality and quantity of water resources, and many other supporting and complementary activities. Many countries have developed IWRM plans that are not being implemented due to a lack of finance for integral parts of the water sector

- Analysis of the political economy of reforms, namely the timing, sequence, content and prioritisation of different reform steps. This is necessary in order to identify the sources of political and social resistance to reforms and how they can be alleviated.

- Collation and analysis of OECD members’ experience with strategic water financing, drawing on, and deepening, the case studies provided to the Task Team. The aim of this would be to assemble evidence of OECD practices, identifying any common trends or features worthy of wider interest, including their potential relevance to developing or transition partners.
ANNEX 1. BIBLIOGRAPHY OF KEY REFERENCES


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ANNEX 2. ANNOTATED LIST OF CASE STUDIES PRODUCED AS BACKGROUND TO THIS REPORT

Armenia

This is a comprehensive report on a Financing Strategy for the rural population of Armenia, comprising an account of the status quo, construction of a baseline case using the FEASIBLE model, testing of several policy scenarios, and concluding with implications for financial, institutional and other reforms.

Key points for the Report include:

- Present infrastructure is over-sized, needs renovation and much more maintenance. There is a high cost of operating the system, involving excessive volumes of water being distributed, much of it lost and wasted. There is great scope for efficiency savings. There is an urgent need to downscale and optimize the present infrastructure.

- The baseline situation is under-financed, due to low tariffs, a low rate of revenue collection and low levels of budgetary support. There is scope for improving all these factors, and realistic prospects of closing the current financing gap.

- Investment needed to renovate the existing infrastructure is much greater than that required to extend it to those without services. Finance for the latter is likely to be available from both government and external sources, along with a rise in tariffs in line with conservative affordability criteria.

- Implementing the FS for the more ambitious “policy scenario” is expected to be more of an institutional and organizational challenge than a financial one.

Austria

This report provides background information on the key legal and institutional features relevant to the Austrian water sector. It contains details on subsidy policy, tariffs, costs and affordability.

Key points for the Report include:

- The evolution, and abolition in 1993, of the Water Management Fund – a dedicated source of low interest loans for investment in water. The same function now seems to be performed by the Kommunalkreditbank. This is a sign of the recent growth of a private credit market for these purposes, and concerns not to crowd out private sources.

Dominican Republic

The report contains information on the status of watsan services, policy objectives, tariffs and affordability.
Key points for the Report include:

- The creation of Community Associations of Users of Rural Water Systems is a guarantee of minimum charges being levied for O&M and repair in rural areas. Paradoxically, this leads to greater cost recovery in rural than in urban areas.

- Contrasting attitudes towards cost recovery in rural and urban areas have a big effect on the actual quality of service provided.

- Coordination amongst donor agencies and between themselves and the Government leaves much to be desired. Agencies often carry out activities without informing the competent authorities.

- The quality of service is positively correlated with the involvement of users (especially where women are concerned) in decisions, management and ownership.

**Ethiopia**

The paper provides a comprehensive account of Ethiopia’s recent progress towards developing strategies and implementation plans for water, sanitation and hygiene (WASH). A number of strategy and plan documents have appeared, the most ambitious of which is the Universal Access Plan. A Financing Strategy was produced in 2007.

Recent progress has been heavily donor-driven, and Ethiopia exemplifies the moves of leading donor agencies to engage in sector-wide dialogues with the Government (through Multi Stakeholder Fora), to adopt programmatic approaches, to harmonise their practices in accordance with the Paris Declaration, and to adopt common aid channels where feasible.

Key points for the Report:

- Modification of the MDG targets to suit local circumstances

- Problems of following “sector wide” thinking in a federal country such as this, where responsibilities are highly decentralized to Districts and Woredas.

- Value added and outcomes of the FS have so far been seen largely in processes, though eventual impact on financial flows is to be expected. The beneficial impact on monitoring and evaluation is stressed, which should feed into improved sector performance.

- Weaknesses and failures are candidly described, e.g. poor links between the FS and the Macroeconomic fiscal framework, absence of a quantitative model, the distancing of the Ministry of Finance from the process, etc.

**France**

An informative account of this well-known model.

Key points for the Report:

- A classic case of the principle that “water should pay for water”. Spending on watsan infrastructure and services is more or less covered by charges and levies paid by water users.
Water finance is a coherent and sustainable system. Does this reinforce the case for earmarking taxes and revenues to specific sectors?

- Collection and distribution of revenues and subsidies occurs within river basins. Solidarity is at the river basin level. The former national solidarity mechanism, the FNDAE, was recently abolished.

- There is strong public support for the public (municipal) ownership of water assets, but a pragmatic approach to the involvement of private companies in operations, which is widespread.

- Much water and sanitation infrastructure is a recent creation (only 8% of current water network existed in 1950, and 75% of wastewater treatment plants have been set up since 1990).

**Georgia**

A comprehensive Financing Strategy Report produced for the Environmental Action Programme and the EUWI. It includes a detailed assessment of the existing situation, the use of the FEASIBLE model to produce a baseline scenario and to generate different future policy scenarios, a detailed analysis of affordability and willingness-to-pay, and conclusions about the financial implications of various policy scenarios. The report deals only with the urban situation.

Key points for the Report:

- Clear deterioration in infrastructure and services, causing growing public health hazards

- Even to preserve the current level of services would require major reforms, since the baseline situation shows a financing gap. These reforms would include improving the collection rate of revenue owed, expansion of metering, better control of leakage, increasing budgetary transfers, and raising household charges to the highest affordable level.

- The only financially feasible option for meeting the MDGs is for the use of public stand-pipes for a minority of the unserved urban population. This would entail a politically difficult decision to downgrade some households now having house connections

- The widespread poverty in the country and inadequacy of social protection measures imposes a serious affordability constraint.

**India**

This is an evaluation of a Japanese project for loans to HUDCO, India’s apex organisation for urban housing, water and sanitation.

Some key points for the Report:

- HUDCO’s role has shrunk as water has increasingly been financed from private sources and HUDCO’s value added is becoming problematic.

- HUDCO has been the conduit for external aid and its loan margins reflect both this handling fee and a foreign exchange risk premium. It is questionable whether India still needs foreign currency loans to finance its water investments.
Kenya: Meru project

This is a report on a JICA project in the provincial town of Meru, North-East of Nairobi, which is a microcosm of recent national reforms. The Meru Water Supply and Sewerage Services Registered Trustee is a financially autonomous management agency, replacing the previous system operated through the District Water Office.

Key points for Report:

- The project’s legal basis is the 2002 national reform, which separated responsibilities for the main functions – policy formulation and regulation, asset holding, and service provision, as well as the separation of water resources management from water services. These are classic “good governance” principles.

- The Kenyan water sector SWAp contains Partnership Principles covering harmonization, alignment, planning, monitoring and funding arrangements. The Principles also contain more detailed understandings about financing modalities.

- The Tana Water Services Board, the catchment body with overall responsibility for water supply in the region, has annual performance contracts with MEWASS covering service delivery.

Korea

The paper contains background on sector status, costs, subsidy principles and financing.

Key points for the Report:

- PSP is more acceptable, and widespread, for wastewater than for drinking water. Furthermore, PSP in stand-alone units like treatment works seems more acceptable than ownership or operation of distribution systems.

- Subsidy policy and its application to different sub-sectors is fully transparent and consistent.

- Many local governments have their own schemes for ensuring affordability by low income consumers.

- Over time, central government support to the sector has declined, and financing has shifted to polluters, water users and local governments.

Mexico: Michoacan State

The paper provides basic data on the watsan situation of this state of c. 4 million people and financial details for two important municipalities within it.

Some key points for the Report:

- There is a very large cross-subsidy in the tariff structure between industry and domestic consumers, raising the question whether this is sustainable, and whether it could lead to a demand reaction by industrial firms.
The short tenure of the majority of mayors and senior utility managers reduces their commitment to making serious reforms, especially over tariff increases. Addressing the tariff setting process is as important as getting the level right.

Moldova

Like the papers for Armenia and Georgia, this is a comprehensive Financing Strategy Report produced for the Environmental Action Programme and the EUWI. It includes a detailed assessment of the existing situation, the use of the FEASIBLE model to produce a baseline scenario and to generate different future policy scenarios, a detailed analysis of affordability and willingness-to-pay, and conclusions about the financial implications of various policy scenarios.

Key points for the Report include:

- The current level of financing is insufficient even to maintain assets at their present low operational levels or to provide adequate levels of service. The financing deficit is manifested in poor water quality, regular daily shortages, water-related morbidity, pollution of surface waters, etc.

- This situation hurts poor consumers disproportionately. These groups make sizeable payments for supplementary water sources, and show evidence of willingness to pay 5-7% of income for a better service.

- The baseline scenario aimed at halting deterioration and providing modest improvements would require increased user charges, a sizeable increase in budgetary support, and more international finance. Any attempt to meet the more ambitious government targets would make prioritisation essential.

Netherlands

The paper provides basic information on the historical evolution and present status of the Dutch model of water institutions and finance. Like the French system, this claims to be coherent and self-sustaining.

Key points for the Report:

- The Dutch Water Bank is one of the earliest and best-known models for a dedicated institution providing long term loan capital for finance of water infrastructure.

- Drinking water companies are “publicly owned private companies”. Historically there has been a move away from private concessions, and the principle of public ownership was reaffirmed in 2005. Benchmarking is used to drive efficiency gains.

- Considered at a sectoral level, the system of charges and levies aims to be broadly cost-recovering.

Senegal

This is a comprehensive description of the current status and recent evolution of Senegal’s water and sanitation sectors, containing detail on institutions, financing systems and tariffs, differentiating urban and rural systems.
Key points for the Report:

- This is a good example of setting the proper “enabling environment” through sector reforms for the exercise of affermage, including the performance contract between the government and SONES.
- Water supply and sanitation have separate and different governance frameworks, the latter excluding private leasing or concessions (though allowing management contracts).
- The adoption of a new tariff formula enabled the urban water supply to attain “financial equilibrium” in 2003.

**Spain: Aragon region**

The paper presents the Special Plan for Water Treatment approved by the Aragon Autonomous Community. Its purpose is to treat wastewater in all urban centres with more than 1000 population equivalents. The plan envisages the use of 20-year BOT concessions using public-private partnerships, with a 25% investment subsidy from the state.

Key points for the Report, including:

- A separate sanitation tariff will be added to the water tariff, payable by households, to cover the cost of the programme
- The scale of the programme, involving a large number of small treatment plants, possibly organised in zonal contracts, is unusual.

**Turkey**

The paper contains a description of the sector institutions at various levels and the main policy instruments affecting financing. There is a useful set of Lessons Learned. Of particular interest is:

- High level of existing investments in WSS, in preparation for the EU accession timetable
- Wide array of municipalities. 16 of the 3000 have status of “metropolitan municipalities”, with semi-autonomous entities and largely cost-recovering tariffs. Rest largely recover O&M but widespread poor collection and leakage rates.
- The principal way in which municipalities subsidise water is through waivers and delays in payment of social security contributions, purchases of energy, or payment of taxes.
- In some larger municipalities surpluses of water and sewerage undertakings are used in practice to cross-subsidise other local services (despite a recent law ring-fencing WSS revenues for WSS purposes).
- Outside the top 16 utilities, there is little understanding of the need for depreciation
- Turkey has adjusted to the EU target for WSS investments in several ways: timing for achievement of targets is variable and will be fine-tuned according to supply of finance; unit costs are lower in larger urban areas (and affordability higher), and it is here that wastewater investments will be implemented first.
Iller Bank is a dedicated source of long term, below-market rate, finance for municipalities

**Uganda**

In addition to an extensive overview of the recent evolution of policy and institutions, the paper sets out the financing model used for the sector and the role of the recent Financing Strategy. The principles and rationale of national subsidy policy are explained in detail. The paper stresses the value of the FS in promoting sanitation and hygiene in national programmes.

Key topics for the Report:

- The principles and rationale for sector subsidies, focussing on public goods of a highly collective nature
- The financing model for different activities and segments is explicit, and available as a spreadsheet. Feedback from sector managers is encouraged.
- The national approach to financing sanitation and hygiene follows current enlightened thinking.
- The FS is closely tied to the regular government budgetary process and public funding instruments.
- Contains a strong “value added and lessons learned” section.
ANNEX 3. A SHORT DESCRIPTION OF DIFFERENCES BETWEEN MAJOR REGIONS

In absolute terms, 50% of people without access to improved water live in Eastern and Southern Asia and 30% in sub-Saharan Africa. However, the coverage rate for drinking water is worst in sub-Saharan Africa, with 44% of the population still lacking services, compared to 22% in East Asia and 15% in South Asia.\(^\text{57}\)

For sanitation, the global situation is different. Southern and Eastern Asia account for two-thirds (66%) of the unserved populations compared with 18% in sub-Saharan Africa. South Asia also has practically the same proportion of its population (62%) without sanitation as sub-Saharan Africa (63%) and Eastern Asia is not far behind (55%). More than half the global population without access to sanitation (1.5 billion) live in two countries, China and India.

A sizeable proportion of unserved populations live in middle income countries, giving them financial options (national and individual) that are not available to the other less fortunate groups. However, the unserved poor living in low income countries constitutes a hard core of people (over 300 mn for water, over 500 mn for sanitation) that is, in the words of the UN MDG Task Force, “...the target group most likely to be left behind if appropriate financial strategies are not urgently developed to reach them.”

W&S finance differs by country and region. In Sub-Saharan Africa most countries are heavily reliant on external ODA (grants and concessional loans) for capital investment in W&S\(^\text{58}\). The balance is provided largely from national government grants. With some exceptions, water tariffs are nowhere near covering full costs, and collection rates are poor. Utilities are in poor financial condition, and highly indebted, while municipalities and regional governments are not creditworthy for sub-sovereign finance. Local banks do not generally offer medium/long term loans to water utilities and operators. Private Sector Participation (PSP) has had a mixed record, with longer, and generally more positive, experience in the francophone West and Sahel, on the one hand, compared to Eastern and Southern regions, on the other. Small-scale and informal operators are widespread in all countries.

The South Asian countries (apart from Nepal and Afghanistan, both “fragile” states on some definitions) are of a size where external ODA is much less important as a source of capital investment. Each country has a strong public service ethos, with water service responsibility devolved to state or municipal levels. The finances of water authorities are typically weak, due to sub-economic tariffs, poor collection rates, overmanning, political interference in operations, and high leakage and other non-revenue supplies. Maintenance has been neglected for years, and infrastructure is crumbling. Such investment that occurs is funded by central or state governments (a number of Indian cities raise local currency bonds for such purposes), supplemented by long term loans from IFIs. Many Indian cities now have credit ratings from recognised ratings agencies. Some states have financial intermediaries (e.g. Infrastructure Development Corporations) for channelling central funds into the water sector, supplemented by their own borrowings\(^\text{59}\).

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\(^{57}\) WHO/UNICEF; Meeting the MDG drinking water and sanitation target.2006.

\(^{58}\) an exception is South Africa, which has exemplary water policies, institutions and financing systems.

\(^{59}\) van Dijk, 2004
China’s huge programme of investment in urban water supply, sewerage and wastewater treatment now under way is being funded increasingly by BOTs with local private and mixed conglomerates, plus joint ventures with some multinational companies. The O&M costs of wastewater services are in practice heavily subsidised by local authorities. The last decade has seen a phenomenal growth in the activities of Chinese private and mixed public-private operators, which now serve at least 150 million Chinese people with water and wastewater services. Local private operators are also active in Singapore, Malaysia, Thailand and Philippines. Indonesia is an exception – PSPs have had limited success, and these countries’ large financing needs are likely to come mainly from Government and the IFIs.

Latin America and Caribbean is relatively highly developed and contains only a small share of the unserved MDG target group. It has access to IFI lending, commercial finance and private equity, and a number of countries have active local private operators, together with listed corporations with a majority public ownership.

The EECCA countries are highly disparate, but many of these “transitional” countries have extensive water infrastructure and nominally high levels of coverage. However, most systems were designed to be run on a command basis and after the break up of the Soviet Union much of the responsibility for water services was passed to local authorities who could not run them efficiently as decentralised systems. This was accompanied by economic disruption and the collapse of local industries that were major users and financial contributors. Most systems are in very poor condition, many are not functioning as intended, and a number are on the verge of collapse. The sustainable financing of water infrastructure that is oversized and unaffordable for its current social and economic base is a testing problem for all concerned.

Fragile states are an important cross-cutting category. Different agencies adopt different concepts and definitions of “fragility”, and the list of countries concerned is very elastic. OECD/DAC group these states as recovering, declining or collapsed, but other sub-categories are “post-conflict”, “prolonged crisis” and “impasse” countries. Fragile states are fragile in different ways and for different reasons. For many of them, financing W&S is part of nation-building, post-conflict reconstruction, etc. in which external grant funding is likely to be a major catalytic element.