

**Strategic Financial  
Planning for Water Supply  
and Sanitation**



**STRATEGIC FINANCIAL PLANNING FOR WATER SUPPLY AND SANITATION**

**A REPORT FROM THE OECD TASK TEAM ON SUSTAINABLE FINANCING TO ENSURE  
AFFORDABLE ACCESS TO WATER SUPPLY AND SANITATION**

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The principal author of this report is James Winpenny with considerable help from Michael Jacobsen and Eric Buhl-Nielsen. The following individuals of the OECD secretariat have been involved in commenting and finalizing the report, under the supervision of Brendan Gillespie and Alexandra Trzeciak-Duval: Julia Benn, Peter Börkey, Tatiana Efimova, Valérie Gaveau, Céline Kauffmann, Xavier Leflaive, Roberto Martin-Hurtado, Alexander Martoussevitch, Rémi Paris, Florence Poppe and Monica Scatasta. The authors have worked with support from Ecaterina Diderich and Naoko Kubo.

Intermediary results have been presented and discussed at the relevant OECD working parties and committees, including a joint meeting of ENVIRONET and WPGSP and a meeting of the Task Team in October 2008. Following these a number of detailed written comments were received from OECD delegations and experts. The Report also takes account of views expressed at the OECD Global Forum on Sustainable Development: Financing and Pricing Water, held on December 1st and 2nd, 2008.

## FOREWORD

The quest for sustainable finance for water and sanitation is motivated by the large financial implications of the Millennium Development Goals (MDGs) and a realization of the dire results of under-funding of 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 0.1).

### Box 0.1. 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<sup>1</sup> 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 for "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<sup>2</sup> took as its focus 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 recommended 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 (WOP) for peer group support.<sup>3</sup> The WOP is now hosted by UN-Habitat, with technical support from the World Bank's Water and Sanitation Programme (WSP).

This report builds on the Camdessus and Gurria Reports, by bringing supply and demand for finance together and by advocating a policy dialogue on financing of water supply and sanitation (WSS) based on sound analysis of what infrastructure is needed and how it can be afforded. The 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 0.2). Its subject is strategic financial planning (SFP) for water supply and sanitation, specifically:

- why it is necessary,
- how it can support policy decisions,
- how it can be developed,
- what country experiences exist,
- what can be learnt from these experiences.

This report is the main output of a joint OECD Development Assistance Committee and the Environmental Policy Committee Task Team, and follows-up on a joint meeting of OECD Environment and Development Ministers in April 2006. The report also feeds into the Synthesis Report of the OECD

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<sup>1</sup> *Financing Water for All*. Report of the World Panel on Financing Water Infrastructure, chaired by Michel Camdessus, written by James Winpenny. 2003.

<sup>2</sup> *Task Force on Financing Water for All*, chaired by Angel Gurria, written by Paul van Hofwegen, 2006.

<sup>3</sup> UNSGAB, *Compendium of Actions*, March 2006.

Horizontal Water Project, to be presented in the 5<sup>th</sup> 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 developing country 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 0.2. The OECD Water Task Team**

The origins of the Task Team are in the Joint Meeting of DAC and EPOC<sup>4</sup> 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 activities<sup>5</sup>. 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. The Report is scheduled to be delivered to the conference of Ministers of Environment and Development due in 2009.

The 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 to develop strategic financial planning for WSS. It has the needs of developing and transitional countries specifically – though not exclusively – in mind and 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 (SFP). Some of this is from OECD members’ own domestic experiences, and from their work elsewhere through development co-operation<sup>6</sup>. 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 the Kyrgyz Republic).

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 storey for other countries embarking on this process, as well as for those OECD member countries that do not yet have formal financing strategies.

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<sup>4</sup> Respectively, the Development Assistance Committee and the Environmental Policy Committee of the OECD.

<sup>5</sup> In document COM/ENV/EPOC/DAC/DCD(2006)10.

<sup>6</sup> The national case studies provided to the Task Team cover the following countries: Armenia, Austria, Czech Republic, Dominican Republic, Ethiopia, France, Georgia, India, Kenya, Korea, Mexico, Moldova, Netherlands, Senegal, Spain, Turkey and Uganda.



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## ABBREVIATIONS & ACRONYMS

AfDB	African Development Bank
AWF	African Water Facility
BOT	Build, Operate, Transfer contract
BRIC	Brazil, Russia, India, China
DAC	Development Assistance Committee (of the OECD)
DANIDA	Danish International Development Agency
DFID	(UK) Department for International Development
EAP	Environmental Action Programme (of OECD)
EECCA	Eastern European, Caucasus & Central Asia region
EPOC	Environmental Policy Committee (of the OECD)
EUWI	European Union Water Initiative
FCR	Full cost recovery
FS	Financing Strategy
GDP	Gross Domestic Product
GWP	Global Water Partnership
IFI	International Financing Institution
IWRM	Integrated Water Resources Management
JMP	(UN) Joint Monitoring Programme for the MDGs
M&E	Monitoring and Evaluation
MDG	Millennium Development Goal
MOF	Ministry of Finance
MTEF	Medium Term Expenditure Framework
NGO	Non-Governmental Organisation
OBA	Output-based Aid
ODA	Official Development Assistance
O&M	operation and maintenance
PRS	Poverty Reduction Strategies
PSP	Private Sector Partner(ship)
SCR	Sustainable Cost Recovery
SFP	Strategic Financial Planning (or Plan)
SWAP	Sector Wide Approach to Planning
UFW	Unaccounted-for-Water
UN	United Nations
UNDP	United Nations Development Programme
VIP	Ventilated Improved Pit (latrine)
WASH	Water, Sanitation and Hygiene
WSS	Water Supply and Sanitation
WHO	World Health Organisation
WSP	Water and Sanitation Program (of the World Bank)
WTP	Willing(ness) to Pay

## EXECUTIVE SUMMARY

Providing water supply and sanitation (WSS) is a major business which needs to have a sound financial basis. The sums involved in operating and maintaining services and infrastructure, expanding their coverage and upgrading them to meet current social and environmental expectations, are huge. Yet most systems are underfunded, with dire consequences for WSS users, especially the poorest.

This report argues the vital importance of using national or regional strategic financial planning (SFP) for WSS services to give them a solid platform for achieving the aims (including the Millennium Development Goals) set by national and international communities.

As the name suggests, SFP entails taking a long term perspective of the financial needs of the sector, the factors affecting them, the main sources of funds and the balance between them, and how needs can be reconciled with potential resources. At present, policy decisions are rarely based on such comprehensive long-term analyses. The alarming evidence of current underfunding, and the looming costs of future development lend urgency to these exercises.

Getting more money into WSS is a crucial part of SFP but is not its sole objective. SFP aspires to producing 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.

The OECD Task Team originated in the Joint Meeting of DAC and EPOC<sup>7</sup> in 2006, at which Ministers endorsed a Framework for Common Action which included a proposal for 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. France was elected to chair the group. The work programme adopted by the Task Team included the analysis of existing good practice in member countries and the development of two pilot initiatives in Africa. The Report is due to be delivered to the conference of Ministers of Environment and Development in 2009.

### ***1. Rising to the demands of financing for water supply and sanitation***

In the coming years, countries at all stages of development will have to raise major amounts of finance to develop, modernize, maintain and operate their systems of water supply and sanitation (WSS).

The international community at large is committed to supporting the achievement of the water and sanitation Millennium Development Goals (MDGs)<sup>8</sup>, which underpin the development objectives contained in all other Goals. For developing countries, achieving the MDGs for WSS is likely to entail a doubling of *investment* requirements over recent levels, to around \$18 billion annually<sup>9</sup>. Equally important,

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<sup>7</sup> Respectively, the Development Assistance Committee and the Environmental Policy Committee of the OECD.

<sup>8</sup> MDG 7, which calls for ensuring environmental sustainability, has as one of its targets the halving of the proportion of people without sustainable access to safe drinking water and basic sanitation by 2015.

<sup>9</sup> WHO (2008).

the cost of *maintaining and modernizing* existing systems, which are scheduled to grow rapidly, will grow exponentially, and may soon exceed the annual costs of extending the networks.

For countries in transition the task has a different complexion, namely to adapt their deteriorating infrastructure to newly emerging social and economic needs, and to arrest and reverse declining levels of service to their customers. Emerging economies, many of which are undergoing rapid urbanisation, face large and growing bills to satisfy the rising expectations of their growing populations. 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 billion, of Africa by 0.9 billion, and of Latin America and the Caribbean by 0.2 billion.<sup>10</sup>

Even developed countries, with mature water infrastructure, confront huge costs of modernizing and upgrading their systems to meet rising environmental standards and to overcome the neglect and underfinancing of earlier years. The global capital cost of developing WSS infrastructure in OECD countries plus the BRICs could amount to over 1% annually of the world's GDP in the period up to 2030 (Table ES.1.).

**Table 1.1. Estimated average annual world infrastructure expenditure (additions and renewal) for selected sectors, 2000-30, in USD Bn and as a percentage of world GDP**

Type of infrastructure	2000-10	Approximate % of world GDP	2010-20	Approximate % of world GDP	2020-30	Approximate % of world GDP
Road	220	0.38	245	0.32	292	0.29
Rail	49	0.09	54	0.07	58	0.06
Telecoms <sup>1</sup>	654	1.14	646	0.85	171	0.17
Electricity <sup>2</sup>	127	0.22	180	0.24	241	0.24
Water <sup>1, 3</sup>	576	1.01	772	1.01	1 037	1.03

1. Estimates apply to the years 2005, 2015 and 2025.

2. Transmission and distribution only.

3. Only OECD countries, Russia, China, India and Brazil are considered here.

Source: OECD (2006), *Infrastructure to 2030 – Telecommunications, Land Transport, Water and Electricity*, OECD, Paris

These sums are much more than what is currently being spent. Raising the increased amounts needed will not be easy, least of all in the current turbulent international financial conditions. But all the evidence is that the social and economic benefits from improved WSS will justify the effort many times over.

WSS is widely under-financed. It poses financial risks which often 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, many of whom lack connections, and bear the brunt of shortages and service failures, which they must compensate for at their own expense. In these conditions, uneconomically low tariffs can make the poor poorer.

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. Many WSS systems are not yet credible recipients of large additional amounts of funding, from whatever source.

<sup>10</sup> UN Department of Economic and Social Affairs: *World urbanization prospects: the 2007 revision*. 2007 .

WSS systems are 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. 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 levels of administration, characterized by institutional complexity. Sanitation is different again, and in key respects needs separate consideration from water supply.

Water supply is a distributional service: sanitation involves collection and disposal. The former has clear *private* benefits, the latter is of relatively greater *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 political pressures also keep tariffs low.

The delivery of WSS services is increasingly devolved to local administrations. To be effective, this needs to be accompanied by sufficient delegation by central government of powers and resources. The financing framework set by the centre is important in enabling local service provision. The means of financing sub-sovereign agencies and layers of administration is a topic high on the WSS agenda.

The three basic sources of revenue for WSS are tariffs, taxation, and transfers from Official Development Assistance (ODA) and other forms of solidarity (the 3Ts, for short). Sustainable Cost Recovery (SCR) should be the basis of WSS financing. SCR entails securing future cash flows from a combination of the 3Ts, and using this revenue stream as the basis for attracting repayable sources of finance – loans, bonds and equity, depending on the local situation. SCR is a key component of strategic financial planning for WSS, the subject of this report.

## ***2. Towards financial sustainability: facing hard policy choices***

The future financial needs of WSS depend heavily on national ambitions for the scope and standard of services. However, the overall bill can be brought within more manageable limits through “good housekeeping” measures to curtail costs and improve revenue collections. Many WSS systems have high leakage rates, a high proportion of Unaccounted-For-Water from various sources, a poor rate of collection of bills due, excessive administrative overheads, and high energy costs from obsolete pumps and other dilapidated installations. In all these areas there is huge scope to bring operating costs down and improve cash flows.

National and international commitments have been made to upgrade and extend WSS services. There is room for choice in the way these commitments are implemented. Targets need to be realistic to make them affordable for public budgets and beneficiaries alike. Just as there is scope for greater operating efficiency and lower *recurrent* costs, a judicious choice of hardware and technologies can make a big difference to *investment* costs. Alternative policy targets and scenarios have different cost implications, often involving trade-offs. For example, achieving access to water for a given population will have a different cost if achieved through standposts with an average distance to the user of 1 km or 500 m, but the quality and level of service will also differ.

Every WSS system strikes its own balance between 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) subsidies and finance from dedicated agencies persist in countries across the development spectrum.

In every financing system, however, tariff revenue is at the heart of cost recovery. Recovering O&M costs is an important principle in most circumstances, since a failure to do this exposes systems to a worsening of services and eventual collapse of infrastructure. However, using tariffs to recover the full costs of WSS, including investment and major rehabilitation, is unusual even in developed countries.

Although the principle of full cost recovery from tariffs is a sound basis of sector finance where circumstances permit, many countries prefer to subsidise investment costs through taxation. As already noted, where state support is predictable and assured, this is an element of Sustainable Cost Recovery. Tax-funded subsidies can be paid at several levels: to the local municipality, to the utility or service provider, or to the actual consumer. Each of these can be efficient and justifiable if the funds are transparent, accountable and targeted to specific ends or deserving cases. Many countries wrap their subsidy element into “soft” loans to utilities or local authorities, which has the advantage of preserving the incentive to make efficient use of the money. State support can be justified by the external public benefits from good WSS services, as well as the need to make these services affordable to the poorest households.

ODA is available to poorer countries, and loans containing a concessional element are on offer from donor agencies and some IFIs. There are also many hybrid forms of aid in which funds from different sources, including grants, are combined to produce an appropriate financing package. In whatever form, ODA is scarce relative to its potential demand and needs to be used in a strategic way by the partner countries, e.g. getting the best leverage of other funding sources. Donor agencies and other funders equally need to maximize the benefits of their support by harmonising their programmes and aid modalities (e.g. through the use of Sector Wide Approaches), and inciting reforms to sectoral governance. In some countries donors also need to be mindful of the limits to the absorptive capacity of their partner countries.

Difficult choices face governments on the expenditure side. The WSS “sector” is diffuse, and decisions have to be made in the allocation of public funds between different agencies, geographical regions, functional programmes and hierarchical layers. For instance, 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 intangible functions such as planning, policy making, research, resource management and conservation, monitoring and regulation. The division of funding between central and sub-sovereign agencies is also a topical concern. SFP is a necessary framework for making these choices.

### ***3. Informing policy choices: the value of strategic financial planning***

Some countries undergo a formal process of dialogue and stakeholder consultation, prior to the production of a written Financing Strategy, based in some cases on a model such as FEASIBLE or SWIFT<sup>11</sup>. Other countries evolve their financing strategies over time through the development of relevant policies and institutions, and SFP is embedded in routine public financing and expenditure processes.

SFP has several objectives. It provides a structure for a policy dialogue to take place, involving all relevant stakeholders including Ministries of Finance, with the aim of producing a consensus on a feasible future WSS. It illustrates the impact of different objectives and targets in a long term perspective, linking sector policies, programmes and projects. It also serves the important aim of facilitating external financing, providing clear and transparent data on financing requirements.

Based on the experience reviewed in this Report, a number of outcomes can be expected: a shared understanding of issues; consensus on realistic WSS infrastructure targets; more objective discussion of

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<sup>11</sup> FEASIBLE and SWIFT are sector financial models that have been developed by the OECD and the Water and Sanitation Programme respectively. They are described in more detail in section 3.3.

tariff policy; reflection of the realism of social and environmental objectives; the opportunity to improve dialogue with the Ministry of Finance; and the possibility of incorporating results into the national Medium Term Expenditure Framework and into Poverty Reduction Strategies.

#### ***4. Making Strategic Financial Planning work: basic principles from lessons learned***

SFP is no panacea, nor is it an effortless process. The recent experience of developing countries is that it can be a difficult exercise, yielding partial successes from considerable effort. It is still well worth doing. It should be recalled that developed countries have taken decades to evolve their present financing systems for WSS, and key reforms have been prompted by catastrophes, internal financial crises or external *diktat*.

*Actors and stakeholders.* SFP needs ownership and championing by key actors and stakeholders. These crucially include political leaders and officials from the national financial community, including Ministries of Finance. Stakeholders should be of sufficient seniority to carry weight within the community they represent and to be able to deliver the support of their constituents. Some of these will be outside the water sector, as it is normally construed. Donor agencies and other external partners should lend judicious support.

*Process.* The process involved in SFP involves substantial dialogue and consultation with all major parties (stakeholders). Assembling information, clarifying goals and negotiating options are just as important for the Financing Strategy (FS) as the eventual production of a document or model. It is important to start with a clear understanding of objectives and their relative importance, since this will determine the tools used, the stakeholders involved and the expectations that are raised.

The ambition of SFP 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. It involves an iterative process, in which different targets and financial requirements are successively tested against available resources until a balance is reached.

*Analytical base.* The credibility of SFP rests on the quality of the data it contains. If a model is used, it should be robust and its structure should be intuitively and intellectually clear to its ultimate users. Different countries have different needs from SFP and there is no “one size fits all”. There has to be a balance between simplicity – making it easy to implement – and credibility – which may demand a more sophisticated and rigorous approach. Models should be designed to support decisions, not to replace them, and should be easy to update. Assembling the data, creating and populating the model, and generating scenarios is an excellent opportunity for bringing water and non-water specialists together, to the long term benefit of WSS.

*Capacity.* Investing in the development of capacity for SFP can have high returns. Creating an effective dialogue between water sector experts and financial specialists entails communicating in language intelligible to the other side, and in terms which have mutual resonance. Water professionals need to understand more about finance: finance specialists should acquire a better understanding of water. The ambition and modalities chosen for SFP should reflect local needs, expectations and implementation capacities.

WSS champions need to present a more effective case to Ministries of Finance for its proper share of budgetary allocations, against a background where politicians, particularly at local levels, have an insufficient awareness of WSS and its. This low level of awareness often results in low level of priority (and financing) given to the sector.

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. Related to this, essential data on the status and performance of WSS is often lacking, insufficient and unreliable, thereby hindering credible sector planning.

*Role of donors.* International donors can be the midwives of SFP. They are in a position to promote the concept to their development partners, provide material support for capacity development, harmonize their procedures in line with their partner’s need, and offer their own national experiences where relevant. However, they should avoid hijacking or short-circuiting the process, which would be counter-productive to its long term success.

A checklist for practitioners who wish to develop policy dialogue on the financing of water supply and sanitation is provided in chapter 3 of this report and provides guidance on some key factors that can help to ensure the success of such processes.



## CHAPTER 1. INTRODUCTION: FINANCING OF WATER SUPPLY AND SANITATION

### 1.1. Water supply and sanitation: the background

The term “water sector” is commonly used to denote the management of the basic *resource* (storage, transportation, catchment and 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 household water supply and sanitation *services* (WSS for short), though this is closely dependent on other parts of the “water sector”, such as sound management of the basic water resource, the collection, treatment and disposal of household waste and wastewater, etc. If one part of the water spectrum is neglected and under-funded, the damage will soon be felt elsewhere, and its effects will quickly become obvious to users.

#### 1.1.1. Geography

##### *Infrastructure challenges*

In an MDG context<sup>12</sup>, where many citizens in developing countries 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 and sludge treatment and disposal.

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

Economies in transition (e.g. in the EECCA<sup>13</sup> 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. For mature water economies in

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<sup>12</sup> Concepts and definitions of “improved” services can be found in WHO/UNICEF (2008).

<sup>13</sup> Eastern Europe, Caucasus and Central Asia, the countries of the former Soviet Union, minus Estonia, Latvia and Lithuania.

developed countries, the needs are to drastically modernise and overhaul old networks and facilities, and turn them into efficient state-of-the-art systems that respond to current and future requirements.

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.

### *Institutions and management models*

The institutions and management models of WSS differ greatly between countries, and are 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 a clear consensus on “best practice”. In determining the most suitable financing strategy for each case the main factors to consider are a country’s level of economic development and the “affordability” of WSS to consumers, the prevailing governance and institutional arrangements for the sector, the extent of infrastructure and level of services, and the current sources of finance for WSS:

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. Although objective measures can be made of “affordability”, the concept has social and political overtones, such as politicians’ “willingness to charge”.

ii) *Governance and institutional arrangements* for WSS. There are many possible ways of classifying countries on this axis – centralised/decentralised, monolithic/heterogeneous. Other important distinguishing features are the status of Integrated Water Resources Management<sup>1</sup> (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.

iii) *Extent of infrastructure and level of services*. To simplify, countries<sup>14</sup> 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 Republic); 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 transfers from ODA and other sources of solidarity. Most OECD countries rely on user tariffs to a large extent, plus earmarked taxes, though public subsidies are also widespread. Developing 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. Most least developed countries rely on external ODA for a high proportion of their investment outlays, while

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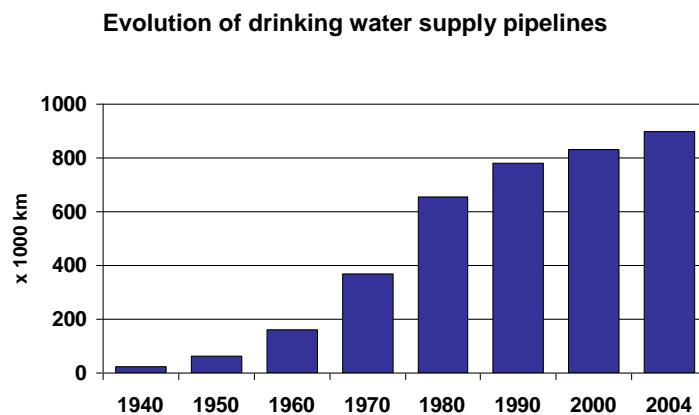
<sup>14</sup> The examples mentioned in this section are drawn from countries providing case studies for the Task Team, listed in Annex 2.

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 countries have dedicated financial institutions serving WSS.

### 1.1.2. History<sup>15</sup>

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 1.1). In France only 8% of the present water pipeline network existed before 1950 and three-quarters of the 17,300 wastewater treatment plants now in operation were built since 1990 (though many of the larger ones were built earlier).<sup>16</sup>

**Figure 1.1 Evolution of water infrastructure in France**



Source: “Water Services in 2004 – part Water Supply”, IFEN, October 2007

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.<sup>17</sup> Developing countries may climb 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).

### 1.1.3. Politics of development

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

<sup>15</sup> 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.

<sup>16</sup> Data from France case study.

<sup>17</sup> 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*).

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 over-riding trends 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.

In poorer countries, donor support for WSS increasingly takes a sectoral rather than a project form, and often disburses through national budgetary channels. The modalities of aid for the water sector have been shaped by the Paris Declaration of 2005 (Box 1.1.)

**Box 1.1. The Paris Declaration**

In March 2005 more than one hundred Development Ministers, Heads of agencies and other senior officials signed a Statement of Resolve to make their aid more effective, and demand-responsive. 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 partner countries. 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.

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 (SWAp). SWAp 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 (SIP) 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<sup>18</sup> of water SWAp in seven countries found that their water sectors were much better positioned for SWAp in 2005 than they had been in 2000. Smaller recipient countries found SWAp particularly helpful in managing the multifarious programmes of different donors.

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 recent upswing in the allocation of Official Development Assistance (ODA) to water supply and sanitation. In 2005-6<sup>19</sup> DAC countries' bilateral ODA commitments to the water sector totaled USD 5.0 billion, and multilateral donors added a further USD 1.2 billion. A 5-year moving average shows that commitments of ODA in real terms to WSS have now exceeded the previous peak reached in 1996.<sup>20</sup>

## **1.2. WSS financing: key factors**

### ***1.2.1. Distinctive features of WSS financing***

Water supply and sanitation is an aspect of public infrastructure that poses financing difficulties, particularly for 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 on purely social criteria, or whether it is a scarce economic product to be supplied and charged for on commercial lines. The result is often an uneasy compromise where water services are priced below economic levels and the sector is poorly managed and chronically under financed. Many water authorities exist on a financial hand-to-mouth basis reliant on infrequent, unpredictable 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<sup>21</sup>. Water providers are mostly publicly owned bureaucratic monopolies, subject to extensive political interference over staffing and operations. It is also true that in some developing countries public water service providers have become commercially and financially viable, though they are still the exception.

Other features of WSS hinder its access to commercial loan finance or private equity investment. Important benefits of water are not reflected in its price<sup>22</sup>. 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 these and other reasons, water is a risky financial undertaking in many developing and emerging societies, requiring substantial public financial support. Compared with other networked public services such as electricity, gas, and telecommunications, water is more capital-intensive, under-financed, less profitable and less appealing to private capital and commercial finance. It is also more heavily politicised.

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<sup>18</sup> van Woersem & Heun, 2008

<sup>19</sup> [www.oecd.org/dac/stats/crs/water](http://www.oecd.org/dac/stats/crs/water).

<sup>20</sup> Further data on ODA are contained in section 2.2.4

<sup>21</sup> This has been expressed as: “turkeys don’t vote for Christmas: mayors don’t vote for tariff increases”.

<sup>22</sup> 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).

Sanitation entails a different set of financing problems. Effective demand (and therefore willingness-to-pay) from households tends to be less than for water. 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.

### ***1.2.2. Size of the financing task***

There are many estimates of investment requirements for WSS to meet the MDGs.<sup>23</sup> 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<sup>24</sup> 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 O&M 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, to meet future demands from growing populations, and to replace and modernise old systems;
- 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

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<sup>23</sup> These are reviewed in Toubkiss, 2006.

<sup>24</sup> Reported in *Final Sector Review Report of Water Supply, Sanitation and Hygiene, Ethiopia*, by the Ministry of Water Resources and other ministries, Ethiopia, September 2006. p. 18.

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”<sup>25</sup>

Many EECCA countries are already confronting the high costs of operating and maintaining ageing water and wastewater systems (Box 1.2.). 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 unit cost of wastewater collection and treatment normally exceeds that of water supply).

**Box 1.2.. The burden of history 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, see [www.oecd.org/env/water](http://www.oecd.org/env/water).

Developed countries, with mature water infrastructure, also confront huge costs of modernizing and upgrading their systems to meet rising environmental standards and to overcome the neglect and underfinancing of earlier years. The global capital cost of developing WSS infrastructure in OECD countries plus the BRICs could amount to over 1% annually of the world’s GDP in the period up to 2030 (Table 1.1.).

<sup>25</sup> Hutton & Bartram, WHO, 2008.

Table 1.1. Estimated average annual world infrastructure expenditure (additions and renewal) for selected sectors, 2000-30, in USD Bn and as a percentage of world GDP

Type of infrastructure	2000-10	Approximate % of world GDP	2010-20	Approximate % of world GDP	2020-30	Approximate % of world GDP
Road	220	0.38	245	0.32	292	0.29
Rail	49	0.09	54	0.07	58	0.06
Telecoms <sup>1</sup>	654	1.14	646	0.85	171	0.17
Electricity <sup>2</sup>	127	0.22	180	0.24	241	0.24
Water <sup>1, 3</sup>	576	1.01	772	1.01	1 037	1.03

1. Estimates apply to the years 2005, 2015 and 2025.

2. Transmission and distribution only.

3. Only OECD countries, Russia, China, India and Brazil are considered here.

Source: OECD (2006), Infrastructure to 2030 – Telecommunications, Land Transport, Water and Electricity, OECD, Paris

### 1.2.3. Cost structure of WSS systems

The amount and type of finance required by WSS is determined by its cost structure. Centralised water distribution, as in an urban area, typically requires infrastructure with a high fixed capital cost, but a relatively low operating cost (except where a lot of pumping or treatment is needed). 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.

WSS is one of the most capital-intensive public service networks. Its cost features require 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.

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. Economies of scale are less, and disadvantaged communities are likely to have disproportionately high unit costs of supply. A greater proportion of costs would tend to be borne by individual households, including labour and in-kind inputs. A variety of financing sources is appropriate, including microcredit and hybrid forms combining commercial loans with philanthropic or ODA grants.



#### **1.2.4. 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 billion in 2007 to 7.9 billion in 2050<sup>26</sup>.

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 billion, of Africa by 0.9 billion, and of Latin America and the Caribbean by 0.2 billion.<sup>27</sup>

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 million in rural areas). For *sanitation* it is projected that 692 million urban and 1698 million rural people will remain without improved sanitary facilities by 2015, even after the monumental efforts that are assumed to be made before that date.<sup>28</sup> These projections carry 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.

### **1.3. Finding the money- sources of finance**

#### **1.3.1. Existing sources of finance**

There is no "typical" water financing system, though the stereotype of financial sources for WSS in developing countries which underlay much discussion of this topic in the 1990s and early 2000s was as follows. 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%.<sup>29</sup> The balance between these prime sources differs by country, and has also been affected by recent trends and events in the international financial world.

For *recurrent cost* funding the two main sources are cash flow from user charges, and subsidies from central or local governments<sup>30</sup> but comprehensive and accurate data on the balance between the two are not available.

#### **1.3.2. The 3Ts: tariffs, taxes and transfers**

In the final analysis, WSS is funded from tariffs, taxes, or transfers from ODA and other philanthropic sources – the 3Ts . The 3Ts can also be used to leverage, and eventually repay or compensate, other funding sources, principally loans, bonds and equity, discussed in sections 1.3.3. and 2.2.5. The individual 3Ts are not fully interchangeable, and they are of different weight in the whole stream. From a long term perspective, tariffs are the most sustainable and predictable flow, and are potentially within the control of

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<sup>26</sup> UN Population Division. Press Release, 13 March 2007.

<sup>27</sup> UN Department of Economic and Social Affairs: *World urbanization prospects: the 2007 revision*. 2007.

<sup>28</sup> WHO/UNICEF 2006.

<sup>29</sup> Winpenny, 2003, p. 6.

<sup>30</sup> Deferring maintenance, delaying payments to suppliers and barter between public utilities are other common hidden means of "finance".

the service provider. Tax-funded grants and subsidies are normally assured only in the short/medium term – in extreme cases from year to year, and even in well-managed systems of public finance only up to the limit of the budgetary planning cycle. ODA is increasingly offered in multi-year frameworks, but is ultimately subject to decisions made in donor agencies, and its long term availability for WSS in a particular country cannot be guaranteed. Philanthropy is subject to the same medium and long term uncertainty.

A further aspect to consider is that the three basic sources are not each freely available for all the financial needs of WSS. Tariff revenue is normally a major source of funds for recurrent O&M and sometimes, though rarely, for capital items too. Much ODA is available only for capital spending, though some donors contribute to annual budgets as well. Much ODA is also available ostensibly for specific projects or programmes, which may distort national priorities. Transfers from the national budget may be biased towards certain functions, institutions or regions, which may cause distortions, underspends and blockages.

The 3Ts may interact. The ready availability of ODA may discourage the development of sustainable national financing through budgets and tariff revenues. Tax-funded financial transfers may well induce subsidy-dependence which militates against tariff reform. However, the dynamic can also be positive, such as where serious tariff reform unlocks further ODA or concessional lending, or where ODA is used to facilitate tariff changes (e.g. through funding of connection charges or metering).

### ***1.3.3. Market-based finance***

In debates about funding WSS, there is often confusion between the revenue sources and market-based finance. The 3Ts represent the revenue sources. The future cash flow expected from the 3Ts is at the heart of all the financial plans of the WSS service provider. This stream has to provide revenues for day-to-day operations and maintenance, periodic repairs and replacements, and full-scale modernisation and extensions. In a “mature” system in a developed society whose clientele is not growing much and whose levels of service and environmental obligations have largely been met, it is not unreasonable to expect current consumers to meet all expected costs through tariffs.

Market-based finance includes loans, bonds or equity. While the role of the 3Ts is to *close* the financing gap (i.e. the costs of providing WSS services will be covered by the revenues from tariffs, taxes and transfers), the role of market-based finance is to *bridge* the financing gap. Market-based finance does not close the financing gap because it requires compensation. Loans taken from a bank have to be repaid and carry interests. Bonds issued in a capital market also have to be repaid at maturity and an additional payment (coupon) provided to remunerate the capital borrowed. Shares bought by an investor generate a claim on assets, and the investor will expect to be paid dividends to remunerate the capital invested.

WSS providers may use market-based finance to pay for large upfront investment costs. Even in the “mature system” case indicated above, it is often rational to borrow to meet large up-front capital costs, and meet debt servicing and repayments from the future revenue stream. There is an even stronger case for borrowing on the strength of future cash flows where the service population is expanding, and/or incomes and expectations are clearly increasing. The pre-condition is that the costs of servicing and repaying loans, bonds or equity are affordable from expected future revenues (from all sources).

Market-based finance cannot substitute for regular revenue sources. In fact, strong revenue sources are a pre-requisite for leveraging finance from loans, bonds and equity. Suppliers of repayable funds look at revenue projections; if these look insufficient they will not make funds available, or else offer them on unattractive terms. In this sense, loans, bonds and private equity are not substitutes for basic revenues from the 3Ts, but depend on them. Senegal’s SONEDE, Uganda’s NWSC and the Phnomh Penh Water Co. are

among those utilities that are developing<sup>31</sup> commercial funding sources following tariff and other governance reforms. Some ODA donors and national governments effectively wrap their grants into concessional loans for WSS operators, with the aim of preserving incentives – repayments depend on increasing net cash flows from increased revenues or cost savings. A variety of facilities exists to enable countries to use their 3Ts to *leverage* loans, bonds and equity from their projected basic revenue flows. These are discussed further in section 2.2.5.

The use of market-based finance should be carefully planned. It should be recalled that the financing costs of such borrowings are not negligible, and are likely to take precedence over other claims on future cash flows. In many cases, utilities are unable to cover their O&M expenses because of the cost of servicing debts, incurred beyond their means.

## **1.4. Sustainable financing**

### ***1.4.1. Governance – the precondition***

A common outcome of discussions about developing WSS is the identification of finance as the major constraint, with the conclusion that all current sources need to increase, and new types and hybrid forms developed. However, 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 readily available, given the right conditions. But 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 users' behaviour, throughout this 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 WSS 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.

### ***1.4.2. The concept of sustainable financing***

Subject to the existence of minimum levels of good governance, as noted above, sustainable financing is the product of several strands, each of which is crucial:

- Keeping the costs of WSS within reasonable and affordable bounds, by maximizing the efficiency of service delivery;
- setting service standards within “affordable” levels;
- maximizing the basic sources of revenue (3Ts) and using these as appropriate to raise market-based finance, within what is affordable.

Each of these strands interacts with the others in an iterative manner; for instance, if society's ambitions for standards of service turn out to exceed what can reasonably be financed, they can be adjusted downwards. Alternatively, a bigger effort at revenue raising can be programmed. These decisions are best

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<sup>31</sup> Uganda's NWSC is actively preparing for a local bond issue.

made following *stakeholder consultation and dialogue*. Strategic Financial Planning is an ideal framework for managing this process.

#### ***1.4.3. Constraints and options***

This Report aims to contribute to a consensus on principles of sustainable finance and how these can be promoted through Strategic Financial Planning. However, it is clear that the scope for SFP, and the form it takes, varies greatly from country to country. It is possible, and indeed necessary, to state *desiderata* and criteria of good practice, but the way these are interpreted and implemented will depend on national political and social contexts.

A fundamental issue, for instance, is the broad balance of revenue sources between public funds, tariff revenues, and external subsidies (the make up of the 3Ts). Many countries, even developed ones, favour reliance on public subsidies and state financial facilities rather than cost- recovering tariffs. There are also marked differences in country attitudes towards the use of market-based finance, as well as the involvement of private equity. Different countries have different *social contracts* between citizens as taxpayers, citizens as consumers, civil society representatives, private profit-seeking businesses, and their political leaders and state agencies, all of which influences how their water services are paid for and funded. There is a related issue of *political economy* governing how measures are implemented – how resistance to desirable measures can be overcome, how negotiations can be done with opponents, how coalitions for change can be built, etc. Water is an emotive subject, and these factors are important.

#### ***1.4.4. The role of Strategic Financial Planning***

SFP is no Silver Bullet for solving the problems described in this chapter, but it offers an excellent framework for dealing with the decisions and processes involved in financing WSS. To anticipate the more thorough discussion in chapter 3, SFP comprises three basic elements, an *approach* through dialogue around clearly stated issues, a *methodology* for illustrating the interactions between the main variables in the decision and the implications of choices made, and a *product* such as a financing strategy, regularly updated, which can be linked into annual budgets or medium-term expenditure frameworks.

## CHAPTER 2. THE HARD POLICY CHOICES

Providing more and better WSS services in developing countries is a goal shared by OECD and non-OECD countries alike. However, WSS is 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. Many countries have decentralized responsibilities for providing WSS services, merely displacing the financing issue to the *sub-sovereign* levels of government – which often lack the financial resources to support their new responsibilities.

Closing the financing gap will require countries to make efforts on the “demand side” and the “supply side” of the sustainable finance equation. The demand for financial resources is driven by the costs of providing WSS services. The supply of financial resources is determined by the “income” that can be mobilized through the basic revenue sources. In short, to close the financing gap countries need to improve the efficiency of their operations, adjust their sector targets to match what they can afford, and mobilise more financial resources.

The “demand side” imperative implies that progress towards the common goal will continue to be patchy, slow and unsustainable unless it is accompanied by more financial realism. WSS targets (in terms of coverage and service levels) are set politically and are often not matched by actual revenue streams. This results in unexecuted plans, with the consequence that the poor suffer most through absent or deficient services. Thus, WSS services should be planned taking into account what customers actually want (and are willing to pay for) as well as the level of subsidies that public budgets can afford. Often, one of the hard choices to be made involves sacrificing level of service for extent of coverage. Nationally-defined WSS targets may be sometimes at odds with internationally-defined WSS targets.

Significant cost reductions can often also be achieved for a given level of coverage and service. This requires a package aimed at improving operational efficiency (reducing leakage, for example), adopting construction and environmental standards that are appropriate to national conditions (which may differ significantly from those in developed countries) fighting corruption (to reduce construction costs) or reducing demand for water. In addition, by helping to tap economies of scale, institutional reforms to overcome over-fragmentation in the design of the WSS systems may be a source of important savings.

Sustainable cost recovery provides the “supply side” basis of closing the existing financing gaps. The main element in sustainable cost recovery is normally tariff revenue, but the concept goes beyond this to include other predictable sources, such as tax-based subsidies, to enable water utilities to have enough revenue to cover operation, maintenance and investment expenditures (see Box 2.1). Transfers from ODA and other philanthropic sources also have a role to play.

### Box 2. 1. Sustainable Cost Recovery

The concept of “sustainable cost recovery” was formulated by the Camdessus Panel, which identified three main characteristics:

an appropriate mix of the 3Ts to finance recurrent and capital costs, and to leverage other forms of financing`;

predictability of public subsidies to facilitate investment (planning);

tariff policies affordable to all, including the poorest, while ensuring the financial sustainability of service providers.

WSS tariffs are usually regulated in some way, but are often capped by the authorities at less than full cost-recovering levels. This is a common political gesture, sometimes justified by concerns about the affordability of full-cost tariffs amongst users, especially the poorer households. Whatever the motives, sub-economic tariffs deprive 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 sources such as vendors at much higher prices. In these circumstances, low tariffs inevitably make the poor poorer (see Box 2.2). Increasing tariffs in order to be able to serve the unserved and improve the quality of service for those served is another hard choice faced by policymakers.

Tax-based subsidies are pervasive in the WSS sector, but they often fall short of supporting sustainable cost recovery. Tax-based subsidies can be allocated both to consumers (either through low water tariffs for all consumers or in a targeted way) and to service providers (whether in an unplanned way – to cover deficits *ex-post* – or budgeted). Subsidies are an acceptable part of sustainable cost recovery if they 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. Persistent subsidies are like a drug – they create dependency and have undesirable and unintended side-effects<sup>32</sup>. Moreover, WSS rarely enjoys priority in the allocation of national budgets – whether because the development benefits of improved WSS services (such as health and productivity) go unrecognised and unquantified<sup>33</sup> or due to a lack of consensus on appropriate WSS targets between different parts of the government. But it must be recognized that policymakers outside the WSS sector face the hard choice of providing budgetary support to WSS versus competing national needs, such as education or health.

ODA may be needed to help close the financing gap in many places. For some countries it provides the major part of funding for capital investment, and in others it provides a useful supplementary role. As a general rule, ODA is scarce and thus needs to be used strategically (see section 2.2.4.).

#### **Box 2.2. 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 have 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

<sup>32</sup> Comprehensively documented in *Water, electricity and the poor: who benefits from utility subsidies?* By Komives, Foster, Halpern & Wodon. World Bank, 2005.

<sup>33</sup> Sanctuary & Tropp, *Making water a part of economic development: the economic benefits of improved water management and services*. Stockholm International Water Institute (undated).

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 aims to introduce 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 financial planning entails arriving at a realistic balance between the demand and supply of finance and promoting the financial sustainability of the sector. This involves looking at the financing gap from both the supply of finance and the cost sides.

This chapter considers three decision areas central to closing the financing gap:

- Managing costs. This has two elements: firstly, improving the efficiency with which services are provided, and secondly, adjusting the ambitions of investment programmes through targets, levels of service and technical choices;
- Creating sustainable financing systems. This entails choices about the basic sources of revenue for WSS - cost recovery from tariffs, use of tax-funded subsidies, and ODA – the balance between them, how they can be developed, and how they can be used to leverage other – repayable - funding sources;
- Allocating finance efficiently and equitably *within* the WSS sector, by geographical area, function, level of institution, etc.

## **2.1. Managing costs: towards efficient operation and affordable investments**

### **2.1.1. Improving efficiency**

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. The structure of WSS in a particular country is a major influence on its costs; economies of scale have a great effect. The widespread decentralization of responsibility for services, though beneficial in many respects, has in some cases led to a fragmentation of WSS, with resulting high costs for small independent systems. In such cases, consolidation, mergers and links to a larger network could bring cost savings, as well as better access to finance.

The high rate of unaccounted-for-water (UFW) in many systems is one, highly visible, aspect of the more general problem of inefficient operations. UFW comprises both physical leakage and “economic” losses through illegal and unrecorded connections, etc. Apart from the loss represented by the water itself and the cost of treating it, which is a waste of economic resources, moving the water around a distribution system uses a great deal of energy. Reducing UFW from its high levels (over 50% is quite common) can reduce operating costs, which benefit consumers.

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 concerned with *where the money is going to* and what it is to be spent on, as in *where the money is going to come from*. The case made by WSS advocates needs to include assurances about improved productivity and performance in order to carry conviction in public finance circles.

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.<sup>34</sup> Benchmarking has also been introduced in the Czech Republic: since 2006 owners or operators of WSS services have to submit complete information from their accounts on all items on which their regulated price is based, and the Ministry of Agriculture is permitted to publish the detailed results of this reporting for benchmarking purposes.<sup>35</sup> 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.<sup>36</sup>

In this context it is relevant to note the extent of corruption in WSS (Box 2.3) and the scope this implies for trimming inflated cost estimates.

**Box 2.3. Transparency International's Global Corruption Report 2008**

The 2008 Global Corruption Report from Transparency International provided a first assessment of the extent to which corruption in WSS adds to the cost of infrastructure and services. The methodology that was used to calculate the figures is being widely debated, so that estimates should be taken with some caution. For developing countries, the report indicates that 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.

More important than the estimate of the additional burden imposed by corruption in the sector are the indications of how this may materialise. A sign of corruption in the sector is the tendency to over-build, as the construction phase is often the one where most funds can be "diverted". This can lead to excessive investment costs and the choice of bad solutions. Another corrupt practice is the bribery of meter readers to reduce users' water bills.

Source: Transparency International (2008), "Global Corruption Report", Transparency International, Berlin.

### **2.1.2. Tailoring ambitions**

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 considerable latitude in the way they are interpreted and implemented. This offers scope for realistic policies to emerge.

Infrastructure development targets 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 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

<sup>34</sup> In England and Wales the water regulator OFWAT has periodically vetoed proposed mergers between companies on the grounds that this would reduce the scope of benchmarked competition.

<sup>35</sup> Czech case study for the Task Team.

<sup>36</sup> E.g. through the World Bank's IB-Net, 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.



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. These can be disaggregated, and the variables adjusted to produce a feasible and affordable programme:

- The balance between private and public facilities, and how the latter are paid for. Many urban distribution networks are designed with fire precautions (from street hydrants) in mind, which builds in excess capacity for normal use. Likewise, drains are often built to receive storm water, as well as household wastewater. These factors, amongst others, mean that many systems are over-designed from the viewpoint of average use, which argue for public subsidies to prevent them being a financial burden on users.
- The type of facility specified or approved (e.g. WC toilet, “improved” latrine, public standpipe, individual house water tap).
- The quality of household or communal water supplied, and an acceptable quality of wastewater effluent, implying, respectively, standards of drinking water treatment, and standards 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.

Facilities that are shared, public, or used by large numbers of others, are not classified by the JMP as “improved” but this is a common situation (Box.2.4.).

#### **Box 2.4 .Shared facilities in Dharavi, Mumbai**

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.

Source: “A flourishing slum”. The Economist, Dec 22, 2007

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 water 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 how far future upgrading (e.g. from latrines to indoor toilets) is feasible and should be programmed in. Ideally, the comparison of options should take a “whole life costing” perspective, since in many cases there is a trade-off between capital and O&M costs, and assets have differing longevities.

**Table 2.1. Per capita investment costs of water supply improvements (US\$)**

Type of improvement	Africa	Asia	LAC
Household connection (treated)	164	148	232
Standpost	50	103	66
Borehole	37	27	89
Dug well	34	35	77
Rainwater	79	55	72

Source: Hutton & Bartram (2008) p. 6.

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, ranging from the Baseline Scenario (with a halt to the deterioration of existing infrastructure, modest improvements, and more spending on O&M) to complete fulfillment of the draft Government strategy (including compliance with EU Directives, achievement of the MDGs, construction of certain critical wastewater Treatment plants, etc). Depending on the sector target chosen, the total 20-year costs range from (EURO million) 1320 to 3240<sup>37</sup>.

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<sup>37</sup> Source: Facilitating policy dialogue, and developing a National Financing Strategy for Urban and Rural Water Supply and Sanitation in Moldova. OECD/EAP Task Force, Presentation Report, 2008.

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 un-locked 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 temporarily defray their initial costs by loans, bonds or equity, or 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 they add financial costs and must ultimately be reimbursed by users and taxpayers. The long term cost of such deals needs to be critically assessed.

## **2.2. Increasing the supply of finance**

SFP involves pulling together the financial needs of WSS and the financial resources likely to be available, and ensuring compatibility between them. The preceding section discussed the various degrees of latitude in determining financing needs. The current section examines financial resources available to fund these needs, starting with the three basic sources of revenue available to WSS, tariffs, taxes and transfers (the 3Ts). These establish the basic cash flows essential for sustainable operations, and also provide the platform for attracting repayable or other market-based kinds of finance.

### ***2.2.1. The 3Ts: tariffs, taxes and transfers***

In practice, different countries reveal different preferences between the 3Ts. 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. (Box 2.5).

#### **Box 2.5. Water Agency subsidies in France**

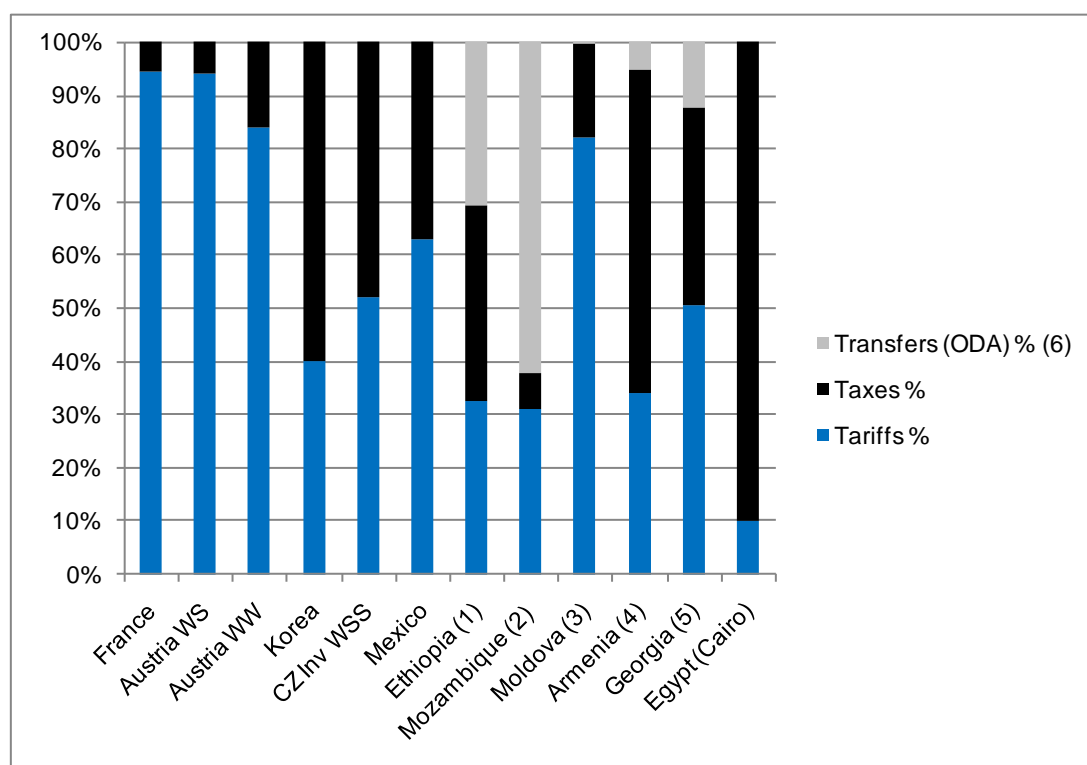
France operates a major programme of transfers for municipal WSS funded from earmarked taxes collected at river basin level through user charges (charges for water withdrawals or discharges levied by the Agences de Bassin). These transfers, aimed at equalizing affordability between urban and rural, and 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: OECD Task Team on Sustainable Financing to Ensure Affordable Access to Water Supply and Sanitation

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. Irrespective of their relative economic status, the tradition of state finance for water using tax revenues remains strong in the EECCA 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 official development assistance, national governments and users in water supply and sanitation 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

Notes: WS stands for water supply; WW stands for wastewater; CZ Inv WSS stands for Czech Republic, composition of capital investment for water supply and sanitation

Source: Task Team case studies and various country reports

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<sup>38</sup> as sources of finance, a longstanding feature of the French and Dutch systems, also evident in Korea and the Czech Republic.
- Greater reliance on sub-national fund raising by municipal bonds and other means, evident in India and South Africa.
- Initial reliance on a dedicated water financing agency. This may persist (e.g. Dutch Water Bank, Turkey's Iller Bankasi), or may lessen in relative importance over time (e.g. India's HUDCO, Mexican BANOBRAS), or be superseded (Austria's Water Management Fund).

<sup>38</sup> This can be regarded either as a user charge or an earmarked tax.

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.

### 2.2.2. Tariffs

Although there is an economic case for charging WSS tariffs at a full cost recovery (FCR) level, in practice it is rare to find tariffs that recover capital, as well as O&M cost levels. This report adopts a pragmatic stance, epitomized in the concept of Sustainable Cost Recovery (SCR). SCR takes the view that it is important for tariffs to cover at least O&M costs since, without this basic cash flow, it is impossible to deliver sustainable levels of service and all the benefits of WSS would soon be lost. However, it is not feasible in every case to use tariffs to recover capital costs, and most countries have other means of financing these (e.g. government transfers and ODA). Consequently, it is unrealistic to base SFP on full cost recovery from tariffs: this report argues that SFP should take account of all possible sources of revenues and the repayable funding sources based on these.<sup>39</sup>

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.<sup>40</sup>

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 2.6.).

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<sup>39</sup> The OECD Synthesis report, *Financing and pricing water: the roles of government policies, the private sector and civil society*, provides a more detailed and comprehensive account of these issues. December 2008.

<sup>40</sup> 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.

### Box 2.6. 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: OECD Task Team on Sustainable Financing to Ensure Affordable Access to Water Supply and Sanitation

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, or recover them through tariff surcharges. There is a growing consensus that subsidies are better used to reduce connection charges than to keep consumption charges down.

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.<sup>41</sup>

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 for it (a point emerging strongly from the Mexican case, where local mayors are normally elected for a very short period). The will of local mayors to set proper tariffs may need to be steered 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 a general “ability to pay” for WSS has little basis in theory or fact, “affordability” by poorer parts of society may be a constraint on tariff increases (Box 2.7. and Smets, 2008.). 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

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<sup>41</sup> 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. In the Czech Republic, the share of household income required to pay the water bill remains within “affordability” limits, despite a 40-fold increase in water tariffs and a 120-fold increase in sewerage tariffs since 1989 (Czech case study).

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.<sup>42</sup>

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. Where cross-subsidies become too large, there is often a reaction by industrial and other users who turn to their own water sources. This raises the unit costs of remaining consumers in the network, and reduces the revenue pool available to subsidise them.<sup>43</sup>

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. in Mexico). 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).

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<sup>42</sup> A more in-depth discussion of this matter can be found in OECD (forthcoming 2009), *Pricing Water Resources and Water and Sanitation Services*, OECD, Paris.

<sup>43</sup> A recent case of this was in Tiripur, India.



### Box 2.7. Experience from the financing strategy for Moldova's Water supply and sanitation sector

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.

The work demonstrates how household affordability is 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.

#### Annual cash flow needs and available financial resources in Moldova's water supply and sanitation sector (2006)

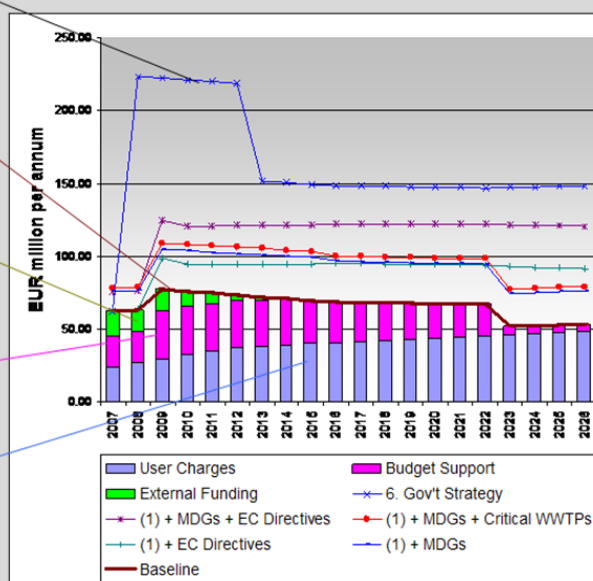
**Higher cost strategies not realistic, at least in the near future**

##### Baseline scenario

External support increased from EUR 5 million per year to 17 million per year

Government support increased from 0.5% to 2.3% of national budget

User charges increased to 5% of household income



Source: OECD/EAP Task Force (2007), Facilitating policy dialogue, and developing a National Financing Strategy for Urban and Rural Water Supply and Sanitation in Moldova, Paris.

### 2.2.3. Taxes and Subsidies

Payments by national central governments to support WSS can take various forms, depending on the constitutional and administrative context. In countries where WSS is provided through a central or local government department, WSS services will be funded through direct budgetary transfers to the department concerned. In other situations where WSS is provided through departments or agencies with greater autonomy, the provider may still remain dependent on central or local government transfers for both capital and operating expenses, and any tariff revenue may be returned to the central Exchequer. Some

countries also operate revenue-sharing formulae whereby funds are transferred from wealthier to poorer regions and municipalities to enable them to provide services at affordable cost. Tax-funded allocations of these various types are important means of finance for WSS in many countries.

In this report, the term “subsidy” will be used to describe a fiscal transfer to an organization, or to specific users or services, in a situation where the provider has a degree of operational autonomy, commercial orientation, and financial transparency – in short, where the service is normally expected to recover its costs, however they are defined.

The arguments used to justify a subsidy in such cases are:

- to compensate for market failures, by rewarding WSS providers for supplying public goods (e.g. public health benefits from clean water and safe sanitation, extra cost of providing stormwater drainage and water for urban fire services) and external benefits (e.g. amenity value of reduced water pollution, 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 *purposeful* subsidies, with specific objectives, which can be monitored and accounted for (see Box 2.8. for the example of Uganda).

**Box 2.8.: Uganda’s subsidy policy for the water sector**

Uganda has a clearly stated WSS subsidy policy. 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.

The commonest kinds of subsidies are those made to selected groups of consumers, those to cover deficits of service providers, and support for capital expenditure.

Firstly, *consumer* subsidies aim to lower the prices charged for specific services or groups of consumers. These include social safety nets to protect the poorest and most vulnerable water users. A second type of subsidy is 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 or, preferably, an explicit programme (e.g. a 5-year performance contract or the *contrats-plans* common in francophone countries) agreed between the government and service provider, containing mutual undertakings and commitments to increase tariff revenues.

Thirdly, there are often subsidies for *capital expenditure* in the form of grants, loans on concessional terms or sovereign guarantees for loans and bond issues. The availability of such subsidies is implicit in the common pricing yardstick, namely that providers should initially aim to cover O&M costs, then move towards full recovery of capital charges as affordability rises. In countries where household affordability is

a severe constraint, the public budget is expected to deal with the reconstruction of deteriorated assets or to allow an expansion of water systems to meet the water-related MDGs subsidising capital may also produce distortions (such as over-engineered, capital-intensive solutions).

In principle, it is preferable for nominal tariffs to reflect full (marginal) economic costs, and to deal with affordability in other ways. 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 2.9.).

#### **Box 2.9. 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: OECD Task Team on Sustainable Financing to Ensure Affordable Access to Water Supply and Sanitation 2.2.4. Transfers (such as ODA)

#### **2.2.4. Transfers (such as ODA)**

Official development assistance<sup>44</sup> and other forms of aid (*i.e.* private charities, etc.) have a role to play to help close the financing gap.<sup>45</sup> The share of ODA to water and sanitation varies across recipient countries. In some countries ODA subsidises most investments, while in other it plays a more marginal role. Nevertheless, ODA has an important role to play both as a source of finance and of capacity development for the provision and financing of water services. If the MDG targets are to be achieved, the increasing levels of ODA to the water sector need to be sustained, together with increased mobilisation of financial resources within developing countries.

While the bulk of ODA is extended in the form of grants, loans constitute a large share of ODA to certain sectors. About half of ODA to water supply and sanitation in 2001-06 was in the form of loans. In

44. Comprehensive statistics on ODA for water supply and sanitation are provided in OECD/WWC (2008).

45. ODA figures measure flows transferred to recipient countries. As an ultimate source of revenue for the water sector, ODA is therefore kept under “transfers” in this report. ODA funds delivered in the form of budget support are managed in accordance with the recipient’s budgetary procedures, in the same way as other government resources obtained through “taxes”. In this case ODA becomes part of the recipient “public budget spending”, but the political and administrative process of securing ODA resources is still very different from “taxes”.

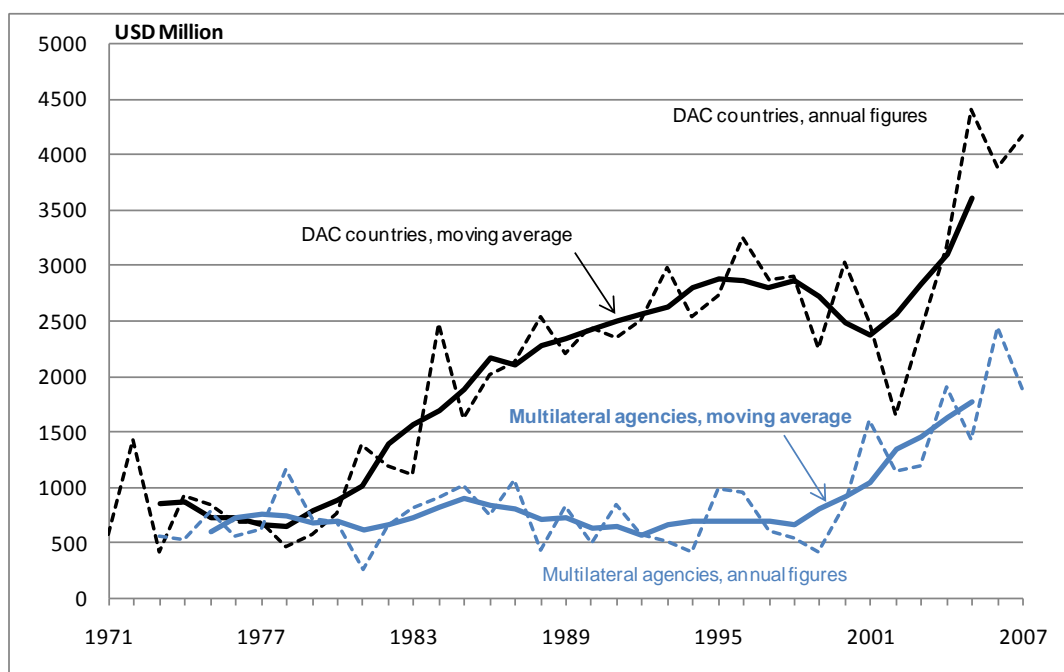
the context of an analysis that distinguishes between the basic sources of revenue (tariffs, taxes and transfers) and other financial means, the different roles of ODA grants and loans need to be borne in mind.

*ODA grants* consist of “transfers” and are considered as basic sources of revenue. *ODA loans* lower the cost of capital and are useful in helping water utilities “bridge” the financing gap that is created by the need for large upfront infrastructure investment.

Aid for water supply and sanitation has been rising again since 2001, after a temporary decline in the second part of the 1990s. In 2005-06, DAC<sup>46</sup> members’ bilateral annual aid commitments to the water and sanitation sector rose to USD 5 billion, double the amount of years 2001-02 in real terms. Taking into account multilateral agencies’ outflows, which rose by 21% in 2002-06, ODA amounted to USD 6.2 billion (Figure 2.2).<sup>47</sup>

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

1973-2007, commitments, 5-year moving averages and annual figures, constant 2006 prices<sup>1</sup>



1. Figures based on 5-year moving averages take into account commitments’ volatility, thus facilitating the analysis of long-term trends.

Source: OECD/WWC (2008), *Creditor Reporting System on Aid Activities 2008: Aid Activities in Support of Water Supply and Sanitation*, OECD, Paris.

46. The OECD Development Assistance Committee, founded in 1961, is made up of 23 members: 22 OECD countries (among them the most important bilateral donors) and the European Commission.

47. This includes both grants and concessional loans. If a loan satisfies the ODA criteria, the whole amount is recorded as ODA and not just the grant element. The grant element is not used to discount the face value of a loan in DAC reporting. Repayments of the principal of ODA loans count as negative flows, and are deducted to arrive at net ODA, so that by the time a loan is repaid, the net flow over the period of the loan is zero. (Interest is recorded, but is not counted in the net flow statistics.)

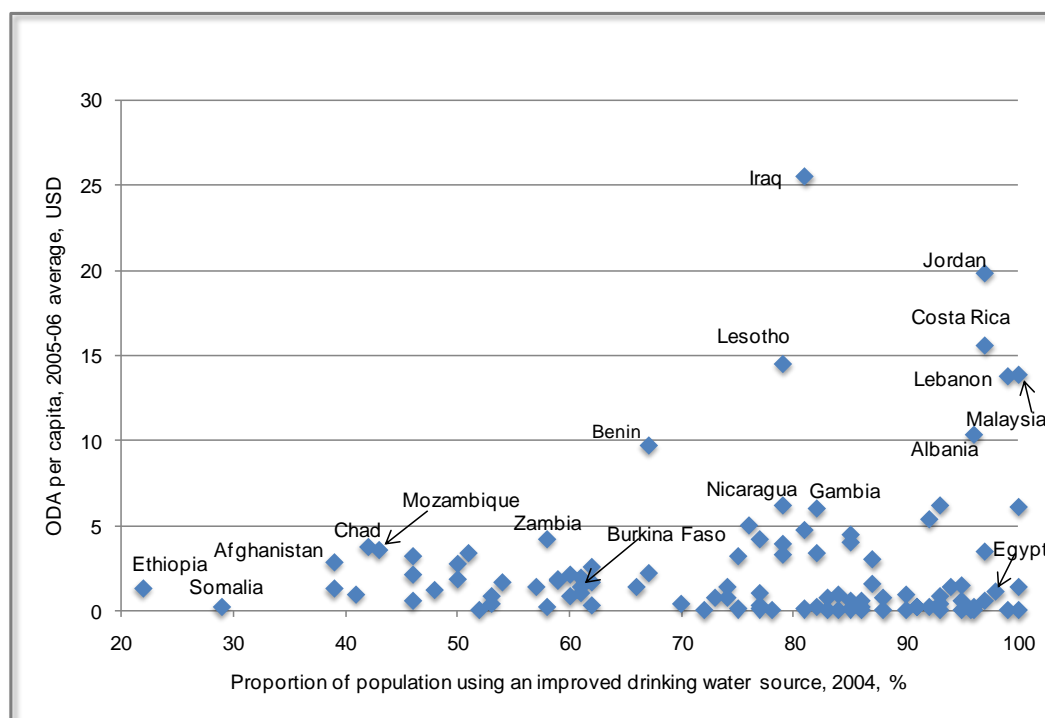
DAC members dedicated 9% of their total sector allocable aid to projects and programmes in the water sector (including water resources management activities) over the last two years. This illustrates a renewed prioritisation of the water sector in members' aid programmes in 2005-06, after a drop to 6-7% in 2001-04.

Among DAC members, the largest contributors over 2005-06 were Japan (on average USD 1.6 billion per year), the United States (USD 903 million) and the European Commission (USD 730 million). The bulk of Japanese aid related to ODA loans for infrastructure projects is in China, Costa Rica, India, Indonesia and Malaysia. On their own, these projects represented one-fourth of total DAC members' aid for water. Reconstruction projects in Iraq by the United States also made up a significant proportion (15%) of the total.

Main recipient regions were Asia (55%) and Africa (32%) over 2001-06. Sub-Saharan Africa, the region the most in need, both in terms of access to water supply and sanitation, received a sizeable share of total aid (24%) although this share decreased in recent years (from 22% in 2001-04 to 17% over 2005-06 for DAC members). The other region suffering the most from a lack of sanitation services, South Asia, was also a relatively large recipient of aid for water (South and Central Asia received 19% of total aid for water).

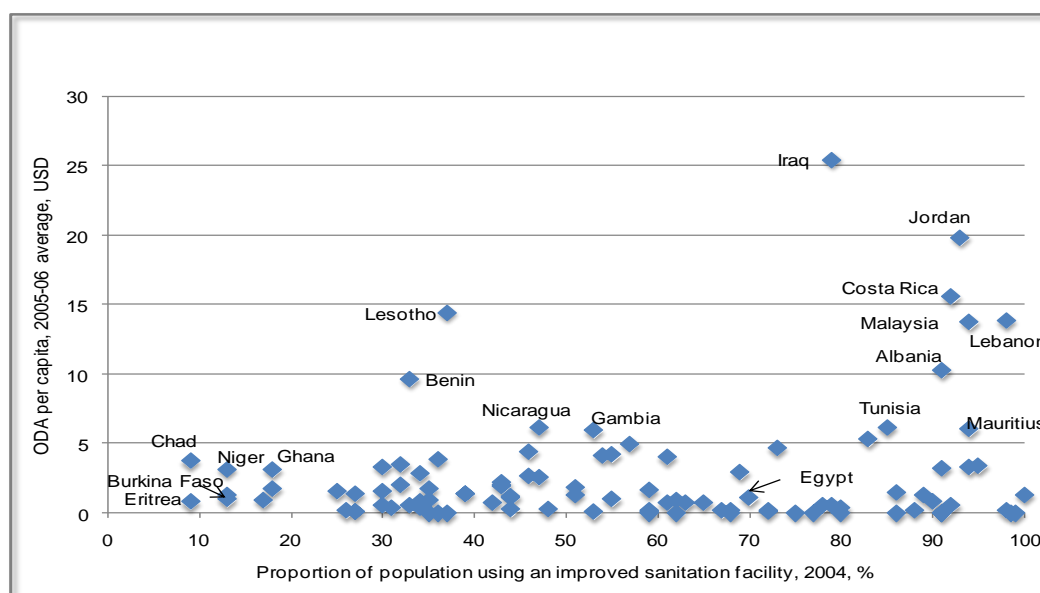
However, an analysis of aid allocations in relation to the degree of current access to water and sanitation of recipient countries (see Figures 2.3 and 2.4) reveals that numerous countries with low levels of access receive little aid (*e.g.* Angola, Central African Republic, Republic of Congo, Somalia, Togo receive less than USD 0.5 per capita) while countries with higher levels of access receive significantly more (*e.g.* Albania, Costa Rica, Iraq, Jordan, Lebanon, Malaysia received at least USD 13 per capita).

**Figure 2.3. Aid to water supply and sanitation per capita in relation to the degree of access to water supply by recipient countries**



Source: OECD/WWC (2008), *Creditor Reporting System on Aid Activities 2008: Aid Activities in Support of Water Supply and Sanitation*, OECD, Paris.

**Figure 2.4. Aid to water supply and sanitation per capita in relation to the degree of access to sanitation facilities by recipient countries**



Source: OECD/WWC (2008), *Creditor Reporting System on Aid Activities 2008: Aid Activities in Support of Water Supply and Sanitation*, OECD, Paris.

Aid resources are scarce. They need to be spent strategically, so as to maximise their leveraging capacity and effectiveness. Experience suggest that aid is more effective when partner countries exercise strong and effective leadership over their development policies and strategies, as set out in the Paris Declaration on Aid Effectiveness and recently emphasised in the Accra Agenda for Action.

ODA could have a catalysing effect in the following cases:

- Reducing bottlenecks, particularly capacity constraints faced by public authorities, especially local ones, and local operators.
- Supporting SFP by helping to develop relevant capacity, by aligning assistance with the resulting financing strategies, by participating in the policy dialogue and contributing to better co-ordination. Donors can also draw on their domestic experience of planning the financing of the water sector and share this experience with developing countries that wish to follow such approaches.
- Ensuring access to services by the poor, through tailored, targeted grant-delivery systems (e.g. output-based aid.<sup>48</sup>)
- Supporting the development and use of risk-management mechanisms that could help attract private funding (and especially private local funding) to the sector (see next section).

48. Output-based aid (OBA) focuses on using development aid to support the delivery of public services in developing countries using targeted performance-related subsidies.

### ***2.2.5. Leveraging repayable and market-based funds***

A variety of facilities and instruments are available to attract repayable and market-based funding sources such as loans, bonds and equity. Their basic aim is to *leverage* more repayable funding from a given stream of basic revenues (from the 3Ts) and increase the total volume of finance for water in various ways. Most of these facilities aim at lowering transaction costs, covering particular forms of risk, or improving the terms on which such funding can be made available:

- Mitigating specific risks – making lending or investing less risky by insurance or guarantees or offering other kinds of “comfort” to financiers. This improves the terms on which borrowers and investees can receive funding (e.g. Partial Credit Guarantees, Partial Risk Guarantees, or the B Loan system used by IFIs to give banks in a syndication the same comfort as the IFI’s own lending).
- Wrapping grants into loans, thus multiplying the nominal volume of funds and softening the loan terms (e.g. concessional loans).
- Combining different sources of finance (e.g. aid, equity, loans, charitable donations) into a single financial package or offer in order to make it more acceptable and affordable and to allocate risks appropriately (co-financing).
- Providing greater transparency over future cash flows to provide a sounder basis for attracting repayable finance (e.g. shadow credit ratings as used by WSP for African utilities).
- Strengthening the balance sheets of utilities by debt forgiveness or refinancing (e.g. convertible loans, debt-equity swaps, debt relief) with the aim of improving creditworthiness.
- Smart use of ODA to elicit greater financial performance from partners (e.g. challenge funds, output-based aid).
- Reducing the transactions costs for financings (e.g. pooling bond issues, collective guarantees).
- Leveraging financial or in-kind resources not hitherto available, e.g. microfinance based on financial and in-kind contributions of individual users and their communities.
- Using project preparation and development facilities to projectise potential income streams to attract project finance.
- The creation of financial vehicles (e.g. revolving funds in the Philippines) to attract both ODA and IFI loans, thus providing a feedback loop into basic revenues.

### ***2.2.6. Impact of funding methods on the effectiveness of investments***

The choice of funding methods can have an important impact on the effectiveness and efficiency of investment programmes. This point can be illustrated firstly by comparing the respective impacts of grants and concessional loans, and secondly through the potential impact of institutional investors on WSS borrowers and bond issuers.

Firstly, the choice between concessional loans and grants should be made pragmatically. In countries with solvent water utilities and good local capital markets, the use of concessional loans rather than grants for WSS can have positive effects on the mobilisation of finance and the development of a commercial

approach in the service provider. In the opposite circumstances, grants can be a more direct method of getting finance to deserving communities, where affordability and alternative means of finance are limited. The contrasting experiences of the USA, the EU and South Africa are instructive in this respect.

The USA had ten years of applying grants to building water facilities, followed by fifteen years of using grants to leverage loans for the same types of projects through the Drinking Water State Revolving Fund programme. The experience of these contrasting approaches is that much greater capital investment efficiency is achieved when grant resources are placed in an intermediary and loaned at long tenures and low rates, compared with the offer of grants directly to cities and utilities. Where loans are used, projects tend to be more carefully chosen, sizes are more accurately applied, and technology choices are much more appropriate, notwithstanding the fact that interest rates are low and the loan tenors are long (Box 2.10.).

**Box 2.10. Use of the Drinking Water State Revolving Funds in Pawtucket, Rhode Island, USA**

After providing water to its residents for over 100 years, in the 1980s the city of Pawtucket, in the North-East of the USA, faced a crisis when a sanitary survey by the federal Environment Protection Agency discovered major deficiencies in the old distribution system and the water treatment plant. In 1992 the system had an acute violation of the Total Coliform Rule that led to a 2-month “boil water” order. Regular problems arose with the taste and odour of the water supplied through the elderly pipes, some dating back to the 1800s, and the system faced a chronic shortage of funds.

The City decided to build a new state-of-the-art treatment plant and rehabilitate 204 miles of the distribution network. The latter was done mainly by cleaning and relining, a more cost-effective solution compared with replacement. The financing deal included reassignment of the assets from the utility to the municipality (which had a larger borrowing limit), restructuring and refinancing the system’s existing debt, and borrowing funds for new investment.

Altogether, financing totaled US\$135 million. \$27 million was for refinancing existing debt through bond issues, the servicing of which was pledged from water revenues. A further \$30 million of additional funds to complete the latter and \$44 million for the new treatment plant and storage tanks were borrowed from the State Water Revolving Fund at below normal market rates with repayment over 20 years. The final element was \$32 million as “pay as you go” finance for replacing infrastructure; formerly this was funded through the city’s general obligation bonds, since 2003 it has been financed from current Water Board revenues.

By 2008, the new treatment plant is in operation and about three-quarters of the distribution network has been rehabilitated. There has been a dramatic improvement in water quality, customer complaints have fallen away, and the cost of treatment has also dropped. A flexible and affordable financing package has minimized the impact of the programme on rate payers and water consumers.

Source: Pawtucket, Rhode Island: a Drinking Water State Revolving Fund Success Story. USEPA, September 2008

The availability of grants for WSS has in specific cases perpetuated “subsidy dependence” in partner countries. This has led to “gold plating” of technology choices, preferment of larger projects over smaller, and the discouragement of sustainable financial planning including tariff reform and responsible borrowing. As earlier sections of this report have argued, there is a legitimate place for grant finance in WSS, but when it is offered freely and unconditionally it can be counter-productive, for the above reasons.

In contrast, in South Africa the finance of WSS infrastructure is differentiated according to the socio-economic status of the municipalities concerned. The broad goal of financing municipal infrastructure, both urban and rural, is to create autonomous, financially stable and self-financing municipalities able to borrow from commercial sources. However, the system recognizes two broad levels – larger and wealthier municipalities which will be largely self-financing for both operating and capital spending, and smaller and poorer communities. The former are expected to borrow from the Development Bank of Southern Africa and private banks and corporations (including INCA). The latter receive capital grants from central government (van Ryneveld, 2005).



Secondly, institutional investors have great potential influence on WSS operations. In countries where insurance companies, pension funds and other institutional savings and investment agencies are prominent in the local capital market, they have great potential influence on the efficiency and care with which investments are made by utilities and cities. It is often said that the long term nature of WSS infrastructure and cash flows is a good match for the long time horizons of institutional investors, entrusted with the safe and profitable placement of savings. Legal and regulatory reforms in some Latin American and Asian countries have allowed the entry of these influential players into infrastructure finance (Vives, 2000). Pension fund reforms being considered in several African countries point in the same direction.

### **2.3. Allocating finance between competing sector claimants.**

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* intangible services); and institutional – the choice between different layers of government.

#### **2.3.1. Water supply 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, culminating 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 SFP, which may well be the first opportunity for the true size of the financing flows and future needs of sanitation to come to light. Uganda (Box 3.6) is a good illustration of how the development of SFP led to more financial resources being directed to sanitation, and a better balance between sanitation and water supply being achieved.

#### **2.3.2. Spatial choices—urban/rural and regional allocation**

The MDGs have focused 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. This is, for instance, a major issue in the National Policy Dialogue on water in the Kyrgyz Republic, where there are large variations in the unit cost of supply

between different rural communities, and between them and the urban areas. The various situations also differ in their potential for cost recovery, self-help, etc. SFP 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.

In Uganda simple software 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 the Ethiopian SFP, 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 and intangibles***

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<sup>49</sup>. For others, however, the only realistic source is the central budget, and in some SFPs (e.g. Uganda) certain “overhead” water functions occupy a separate category in the funding and subsidy models used.

### ***2.3.4. Governance & Institutional capacity building***

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 2.11.)

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<sup>49</sup> Rees, Winpenny & Hall (2008).

### Box 2.11. Water governance and financial reforms in Senegal

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.

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.

In rural areas, the public authorities bear investment costs and consumers meet all recurrent outlays.

Source: OECD Task Team on Water and Sanitation

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. For instance, in the Meru District of Kenya the Meru Water Supply and Sewerage Services Registered Trustee is a finally 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 this region<sup>50</sup>. These changes have 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.

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. Fiscal and financial relations between central government and local administrations is a complex area beyond the scope of this report. However, since local administrations now have much of the responsibility for services there are two broad areas, amongst others, to be tackled in SFP processes.

- The first situation is a common one, where local administrations obtain most of their funds for WSS from central government. Here, a typical problem is a weakness of local financial and technical capacity, aggravated by administrative blockages in the downward passage of funds. A common occurrence is that local budgets for WSS are under-spent and money is returned to the centre.<sup>51</sup> This is often because of differences between central and local priorities for use of the money.

<sup>50</sup> Data from Kenya case study for Task Team.

<sup>51</sup> WaterAid, 2004.

- Another situation, which may overlap with the above, is where local governments are developing the ability to raise some of their own funding for WSS, e.g. through loans, bonds or private contracting of various sorts. 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<sup>52</sup> and SFP is where these decisions become manifest.

Mexico is a typical case of a large country with a federal/state constitution, WSS responsibilities devolved to state and municipal governments, and a complex set of federal agencies and programmes with funding for these sub-sovereign administrations. It also has a large dedicated infrastructure financing body (BANOBRAS) and a system (“fiscal intercepts”) for federal guarantees of sub-sovereign finance (Box 2.12).

#### **Box 2.12. Federal funding institutions for WSS in Mexico**

The National Water Commission (CONAGUA) has several finance instruments to promote WSS in states and local communities:

- APAZU – programme for drinking water, sewerage and sanitation in urban areas
- Programme for the Construction and Rehabilitation of Drinking Water and Sanitation Systems in Rural Areas, which targets communities below 2500 population.
- PAL – the clean water programme – promotes water treatment in areas that are marginalized or have undue social or environmental problems
- PROMAGUA – the water utility modernization programme – contributes through the national infrastructure fund (FONADIN) to service providers in communities of more than 50,000.
- Competition Fund and Investment Incentive Fund for Wastewater Treatment Plants in Tourist Areas
- PATME – technical assistance programme for the improvement of efficiency in the drinking water and sanitation sector – works with a sample of water utilities to pilot and demonstrate successful models of provision.

All the above programmes contribute a proportion of the finance required for each purpose, the balance coming from states or communities. Apart from CONAGUA, other federal agencies involved are the Ministry of Social Development (SEDESOL) and the National Bank for Public Works and Services (BANOBRAS) which provides long term loans to sub-sovereign bodies at favourable rates.

Since 2001 the federal government has also made use of the “fiscal intercept” technique, whereby federal transfers to the states and municipalities for general revenue purposes can be drawn on (“intercepted”) in the event of defaults on debt service by the sub-sovereign body. The availability of this device enhances the creditworthiness of municipal bonds, and led to the rapid growth of the Mexican municipal bond market.

Sources: OECD Task Team on Sustainable Financing to Ensure Affordable Access to Water Supply and Sanitation and Leighland & Mandri-Perrott (2008).

<sup>52</sup> E.g. in the Camdessus and Gurria Reports, also Blore, *et. al.* 2004.

## CHAPTER 3: THE ROLE OF STRATEGIC FINANCIAL PLANNING: WHAT, WHY AND HOW?

Strategic Financial Planning is a response to the problems of underfinancing and the policy dilemmas described in earlier chapters. The current chapter gives a more detailed account of the content, rationale and aims of SFP and the outcomes that may be expected from it. To provide perspective, it includes a brief *tour d'horizon* of experiences in OECD countries, to illustrate the variety of situations and their evolution over time. The chapter identifies six of the principal lessons from using SFP relevant to policy makers in developing and transition countries. It concludes with a checklist of points that will be useful for practitioners – officials and their professional advisers who are charged with implementing SFP in their countries.

### 3.1. WHAT is SFP? Definition and description

Strategic Financial Planning is concerned with *ensuring a national water policy is realistic and that finance is available to implement it*. SFP includes *an approach, a methodological process, and a product* (Box 3.1.).

#### Box 3.1. Strategic Financial Planning

- i) *Approach*: A national policy dialogue amongst interested parties with the aim of developing consensus on what water supply and sanitation services the country can or should afford in the next 20-30 years and how it will pay for them.
- ii) *Methodology* based on solid financial modelling that structures the process of consensus-building in the following steps:
  - assessment of current financing gap;
  - discussion of policy options that could help to close the financing gap;
  - development of alternative scenarios to improve water services;
  - identification of most appropriate scenario and associated policy mix.
- iii) *Product*: a specific output, such as a plan or report useful to policy makers.

Source: OECD Task Team

SFP differs from two other concepts which are often encountered in the development of the water sector:

*Sector Investment Plans (or Programmes)*: these set out the investments necessary to implement national (or regional) water sector objectives and should contain estimates of the capital and recurrent costs involved. Questions of timing, capacity and arrangements for carrying out the work should also be covered. A good SIP is indispensable to a SFP, and may be a good starting point.

*Master Plans:* these are comprehensive exercises covering all aspects of the future development of a particular sector, such as water supply, sanitation, hygiene, navigation, flood risk management, or water resource development. They normally entail extensive data compilation and analysis, appraisal and selection of specific projects and programmes, and detailed proposals for implementation. They are also likely to include cost estimates and proposals for financing.

There may well be an overlap between SFP and the SIPs and Master Plans, where these are available. The SFP would benefit from the availability of sector data from the Master Plan, and the cost estimates in the SIP. However, SFP's value-added arises from its dynamic and interactive nature, and its stress on realism and affordability, qualities which are not always present in Master Plans or even SIPs.

There are several options for SFP. It can be done either nationally or locally, for public or private agencies, for WSS only or for the water sector more widely. This Report, and most of the case material discussed in it, is focused on *national SFP for water supply and sanitation under public control*. However, SFP is equally applicable to regional or municipal planning<sup>53</sup>.

In practice, the focus of SFP has reflected the situations and concerns of the countries undertaking it. In the context of developing countries and the MDGs, financing strategies have focused on financial resource mobilization, financial programming, affordability and service coverage targets. Emphasis on financial resource mobilization particularly from international sources has tended to predominate.<sup>54</sup>

In EECCA countries the content of SFP has been similar, but with different emphases, reflecting their higher service levels and lesser reliance on external financial inflows. For countries undertaking this process (so far, Armenia, Moldova and Georgia, with the Kyrgyz Republic also at an advanced stage) SFP has enabled different stakeholders to evaluate the financial gap under baseline conditions (costing the 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).

SFP requires both a transparent policy dialogue and a sound analytical base that can be accepted by all stakeholders. An essential part is the assembly of comprehensive data on existing WSS and its costs - both 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 and the SWIFT model used by WSP<sup>55</sup> in Africa. (The FEASIBLE model is described further in section 3.3.)

### **3.2. WHY? The rationale, aims & expected outcomes of SFP.**

#### **3.2.1. Rationale**

SFP is 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. SFP seeks to answer several fundamental questions: *who* (users, taxpayers) should pay for *what* (operating/capital expenses, water/sanitation, rural/urban/periurban areas) and what

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<sup>53</sup> Two of the case studies produced for the Task Team (Aragon in Spain, and Michoacan state in Mexico) look at SFP from a regional perspective. The TT also received a presentation on the financial reforms in WSS in Greater Cairo in Egypt.

<sup>54</sup> EUWI Finance Working Group, *loc.cit.*

<sup>55</sup> The Water and Sanitation Program (of the World Bank).

should be the future service level. It determines *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 and engineering expertise.

SFP is 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. It is no silver bullet, though 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. Aims<sup>56</sup>**

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

SFP 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. It 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).

SFP should improve coordination between WSS actors and stakeholders, specifically improving the link between policy and projects and bringing the two into closer alignment. It 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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<sup>56</sup> 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 civil 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 total cost of compliance for drinking water and wastewater over the period 2007-2023 was estimated to be Euro 34 billion, with 12.7 for drinking water, 18.1 for wastewater and 3.2 for other purposes. For financial planning purposes this was distributed as follows (in % of total) : central administration 20, municipalities 31, Ille Bank 17, private sector projects 3, foreign loans 2, external grants from EU and elsewhere 27.

Water tariffs currently vary widely between municipalities, from Euro 0.3 to 1.5 per m<sup>3</sup>. In the larger towns and cities users generally pay the full cost of water and wastewater services, while in other towns they generally pay a tariff covering at least O&M costs. The future affordability of the investment programme was reviewed by stakeholders with the help of the FEASIBLE model. Although user charges are currently the main source of financing in most cases, the cost of the future investment programme will call for enhanced state support and the availability of external grants and public concessional loans, as detailed above. To alleviate the financial burden somewhat, it has been decided that wastewater investments should be carried out first in the larger municipalities. The “ring fencing” principle has also been enacted, whereby revenues collected from environmental charges should be used for providing environmental services.

Source: OECD Task Team on Water and Sanitation

In developing countries SFP 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 SFP in Mozambique is being linked to the development of a SWAp (Box 3.3)

### **Box 3.3. The Mozambique Financing Strategy**

With the support of WSP, the National Directorate for Water (DNA) in Mozambique has been developing a rural water supply financing strategy. 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. SFP 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 emerging from this process.

Source: WSP, 2007

In short, the objectives of SFP 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.

### 3.2.3. Expected outcomes

The OECD Task Team has summarized the outcomes of Strategic Financial Planning, based on its own experience of work in this area, as: a shared understanding of issues; consensus on realistic WSS infrastructure targets; more objective discussion of tariff policy; reflection of whether social and environmental objectives are suited to local context and conditions; opportunity to improve the dialogue with the Ministry of Finance; and possibility of incorporating results of SFP into the national Medium Term Expenditure Framework and Poverty Reduction Strategies.

This section dwells on four specific outcomes, in the areas of decision-making support, governance and processes, greater realism, and priority to sanitation.

#### *Decision-making support*

Not the least of the benefits of SFP is the production of comprehensive background information about WSS finances, in many cases 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. SFP takes 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.

#### *Governance and processes*

The process of SFP can trigger beneficial change in governance. Early attempts of the Ethiopian SFP<sup>57</sup>, 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; and the need to channel as much ODA as possible into common funds within normal budgeting processes.

SFP may not have immediate financial outcomes for the water sector. It first needs to affect the *processes*, or the governance structures that are in place (Box 3.4).

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<sup>57</sup> EU Water Initiative: *Financing Strategy for the water supply and sanitation sector in Ethiopia: Draft 2.0, Oct 2006.*

#### **Box 3.4. Ethiopia: mixed outcomes.**

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:

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)'

- Establishing the annual Multi-Stakeholder Forum (MSF)
- Designing a WASH Capacity Building POOL fund
- Strengthening monitoring and evaluation (M&E)
- Increasing accountability to stakeholders
- Emphasising hygiene and sanitation
- Linking financial to physical reporting

The SFP 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. Its most concrete outcome to date has been the design of a WASH Capacity Building POOL for sector development.

The strategy 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.

It was envisaged to hold 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. This was part of the momentum created by the EUWI<sup>58</sup> 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 also envisaged 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 SFP 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: OECD Task Team on Water and Sanitation

#### *More realism*

The value of SFP in injecting a dose of realism into planning 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

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<sup>58</sup> European Union Water Initiative

Force and culminating in the National Dialogues for Moldova, Georgia, and Armenia<sup>59</sup> 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).

**Table 3.1. Feasibility of alternative scenarios for Georgia**

	<b>Scenario 1 "All-in house tap connection"</b>	<b>Scenario 2 "Tap connection or stand pipes"</b>	<b>Scenario 3 Tap connection plus WWTP in coastal zone</b>
Capital investment over 2006-2015 (M GEL)	417.5	170.8	445.0
Capital investment per head per year	7.0	2.3	7.5
Year of elimination of the accumulated financial gap	2015-2018	2013-2014	2016-2019
Funding for WSS as proportion of the public expenditure budget (%)	4.7-3.9	3.0-2.7	4.7-3.9

Source: EAP Task Force / OECD, calculation from FEASIBLE

**Box 3.5. Results of National dialogues in Moldova, Armenia & Georgia**

In *Moldova* the dialogue (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, and helped to inject realism into these plans. There has been a demand to translate the strategy 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 3.1) and difficulties of raising the necessary funding. A follow-on project is being planned to develop a FS for rural WSS.

The Czech Republic recently took an important step towards SFP by requiring owners of water supply and sewerage systems to draw up and implement financial plans for the replacement of their infrastructure networks, taking at least a 10 year forward perspective<sup>60</sup>. This obliges asset owners (which in the Czech Republic include both municipalities and some private owners, plus a number of joint ventures) to make full provision for the capital costs of replacement from their own borrowings or from profits. Since 1994 the Czech Republic has ceased central government subsidy for WSS tariffs, but subsidies from municipal

<sup>59</sup> The FS for the Kyrgyz Republic is currently under preparation. EAP data on Russia is still only partial.

<sup>60</sup> Amendment 76/2006 Coll. of the Act on Water Supply and Sewerage Systems (Czech case study).

budgets continue and grants for capital investment have also continued from both the State Environmental Fund and from the EU. Previously assets funded from grants were not amortised, hence no financial planning was made for future replacement. The new legislation changes this, and also entails a review of existing operating contracts which prevent the asset owner generating sufficient revenues for future replacement. These changes will feed through into higher tariffs.

### *Recognition & priority to sanitation*

In Uganda (Box 3.6) SFP 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”.

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

#### **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.”<sup>61</sup>

Source: OECD Task Team on Water and Sanitation

<sup>61</sup> This quote, and other material in this section, is drawn from the Uganda case study.

The impact of the Uganda SFP on sanitation is similar to that in Armenia (Box 3.7).

**Box 3.7: Outcomes from SFP 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

#### **3.2.4. OECD countries' experience**

Most OECD countries practice some form of strategic financial planning for WSS.<sup>62</sup> The status of WSS services in OECD member states is still evolving and it is important to keep a historical perspective on their development. In many countries the drivers are external (for EU countries, the Water Framework Directive) and fluid (e.g. the inter-calibration exercise linked to the Water Framework Directive).

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". Municipalities collect tariff revenues from users. These tariffs include abstraction and pollution charges that are transferred to the six River Basin Agencies. These authorities in turn subsidise municipalities to enable them to finance water and wastewater infrastructure.

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<sup>62</sup> The Province of Ontario in Canada has produced a strategic report on the financial implications of rehabilitating its ageing water infrastructure: Swain *et.al.* *Watertight: the case for change in Ontario's water and wastewater sector. Report of the Water Strategy Expert Panel.* Publications Ontario, Toronto, Canada, 2005.

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 demands. There are concerns whether they are sustainable and fully appropriate to deal with the huge and growing backlog of modernizing and replacing ageing infrastructure (section 1.2.2), and coping with the costs of rising expectations, growing environmental concerns, and new regulatory obligations. Many 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. Conversely, *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 adjusted to a feasible local pace
- 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 revenue (the 3Ts, tariffs and other user contributions, tax-based subsidies and transfers such as ODA).
- Many systems contain hidden subsidies and under-funded costs, especially under-investment that has major 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 strategic financial planning linked to the general budget process, both locally and centrally
- 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.

### **3.3. HOW SFP should be done**

#### ***3.3.1. Lessons for policy makers***

Making SFP work in the water sector is not easy. Countries start from different levels of institutional capacity, available planning tools, and legal and organizational status. Hence SFP has to be tailored to each country’s situation. However, there is a growing body of case material from SFP processes from which to condense certain lessons:

- SFP must be led by a champion and fully owned by host country institutions, supported by their government at a suitably high level. This applies particularly to the engagement of stakeholders both in and outside the water sector, civil society and international donors;
- The objectives of SFP have to be specific, realistic and linked to other relevant policy formation. This link implies that SFP needs time in order to engage stakeholders in a medium/long term process;
- The methodology and modelling used to develop the sector analysis must be credible and fully endorsed by all major stakeholders, including the Ministry of Finance. This implies an appropriate level of sophistication, the choice of hard data, and a continuous balancing of expenditure needs with available financing;
- For best effect SFP should be closely aligned with existing institutional arrangements for sector policy making;
- SFP should 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. This will often imply support to enable beneficiaries to engage in horizontal policy dialogues (involving several authorities and civic society) and to perform policy analysis using the methodology and models of the SFP;

Each of these points is expanded below, followed by the presentation of a “practitioners’ checklist”.

### *Ownership and leadership of the process*

SFP takes a long term perspective, whereas WSS authorities can be forgiven for having short term pre-occupations which take priority over the longer vision. Practical managers may well perceive long term planning as bearing little relation to their world of frequent and arbitrary budget cuts and long delays in disbursements. To overcome their reluctance to invest time and managerial resources in SFP it is essential for the process to have a "champion". This requires support by Government at a suitably high level with a realistic expectation for "rewards" in the shape of additional finance and/or relevant policy outcomes. Support from the Ministry of Finance (MOF) is likely to be crucial in this regard.

The MOF must fully adopt a fund raising strategy for internal and external public sector finance. Most MOFs are reluctant to delegate revenue raising to line ministries. The MOF is also a crucial party in the development of economic instruments for the water sector, especially those that require substantial fiscal reform. If a strong alliance can be built between WSS and the MOF, there is a better chance of the sector focusing on improving its efficiency and enabling subsidies to be better used. There will also be better prospects for using innovative economic instruments such as tariffs and licenses (e.g. for water abstraction).

The MOF will have other concerns which can be pursued through SFP. The development of SFP is a potential entrance point for other sector dialogues over such matters as the commercialization of WSS services and the role of the private sector. In Korea, in the past private sector participation has been limited to stand-alone facilities, but recently the government has been reviewing measures for effective management of the system through PSP in services. The prospect of finance is a powerful spur to SFP. The availability of EU funds and the prospect of EU membership have stimulated sector governance reforms in EU applicant countries, as illustrated in the Czech Republic and Turkey case studies.

### *Realistic objectives and link to other policy domains*

SFP can have various objectives, each with implications for stakeholder involvement, tools, data and other requirements. However, in all cases there are certain basic prerequisites:

- The objectives of the SFP have to be specific and realistic.
- It should be linked to other relevant policy domains, in particular the annual budget and the Medium Term Expenditure Framework.
- The link to related policy domains implies that SFP needs to allow enough time and should engage stakeholders for at least the medium term.

A common starting point of SFP 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 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 a neglected area of public spending, as noted above (section 3.2.3.).

In practice the two aspects of a SFP – 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.

One issue to clarify is the scope of the sector and the sub-sectors it includes. SFP 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. In some cases it is appropriate to start within a single coherent sub-sector that is ready for a SFP and then broaden it to include other elements later.

Another issue to clarify is the level at which to set targets. Consistency in the use of targets (national targets; MDGs; regional or central targets) is necessary for effective progress. Over a period of time it is common for countries to set a variety of targets which may be inconsistent. Nationally set targets often do not correspond to targets or priorities set locally, which can lead to national targets and plans being ignored by local authorities.

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, could be viewed as perpetuating and condoning hardship. It is one of the key purposes of strategic financial planning to address these dilemmas. The link to other policy processes - and in particular the national budgeting and the MTEF processes - provides an anchor for target setting. The models and methodology used should include tools to assist policy makers to come to terms with these dilemmas. For instance, scenario analysis shows how alternative policy targets, financing sources, and assumptions about other crucial variables interact in order to illustrate feasible compromises.

*SFP methodology should be credible and fully endorsed by all major stakeholders*

For the SFP to be accepted by all major stakeholders and for its results to lead to concrete actions (policy changes, budgeting decisions, additional donor funds etc.), its methodology should be credible and endorsed by all major stakeholders. This entails *inter alia*:

- effective dialogue between water sector experts and financial specialists, in language which is intelligible and resonant to both sides;
- WSS should present an effective case to the Ministry of Finance for its proper share of budgetary allocations. This should set out concrete measures for the attainment of long term targets and include these in the case for annual 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 will be enhanced by greater predictability and timeliness of funds;
- Essential data on the status of WSS are often lacking, insufficient and unreliable, thereby hindering credible sector planning. One of the positive by-products of a SFP may be the creation of a base-line dataset on the current status of this sector. Reliable data on the performance of WSS is often absent.

Various generic models are available to underpin SFP. These include FEASIBLE (Box 3.8), which has been developed by the OECD with the support of Denmark. This is a user-friendly and well designed tool with a clear user interface. It has been applied in a dozen countries in Eastern Europe, Central Asia, Asia and Africa. SWIFT, which has been developed by the Water and Sanitation Program hosted by the

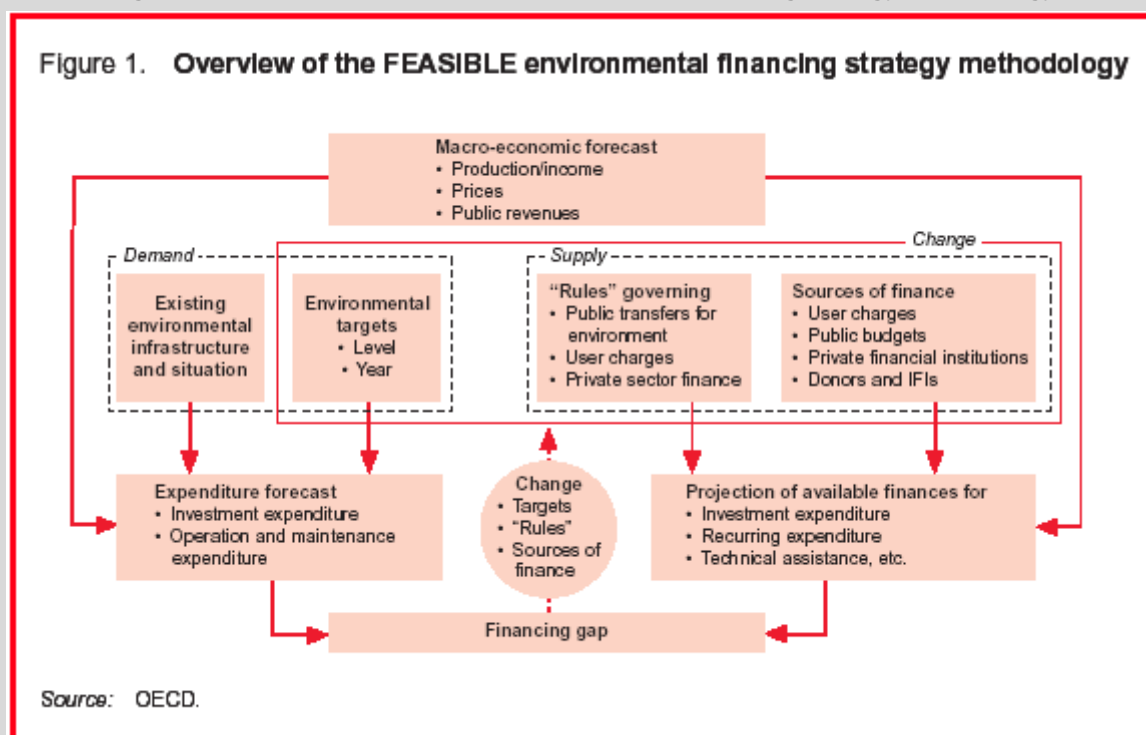
World Bank, is also very comprehensive, with many possibilities for analysing and presenting financing flows. SWIFT is not yet complete but FEASIBLE is publicly available for testing and use<sup>63</sup>.

### Box 3.8: The OECD's FEASIBLE model

The basic approach underlying the FEASIBLE method is to collect detailed technical data on the existing state of infrastructure, select public policy targets in water supply and sanitation, determine costs and timetables for achieving them, and compare the schedule and volume of expenditure needs with available sources of finance. This analysis generally reveals financial deficits which would likely arise during the planned implementation. FEASIBLE can then develop various scenarios to determine how the gaps might be closed. This could involve identifying measures to help achieve the targets at lower cost; identifying ways to mobilize additional finance; adjusting the ambition level of the targets; or rescheduling tasks and targets. Figure 1 provides a schematic overview of the FEASIBLE methodology.

An important feature of FEASIBLE is the emphasis on realism and affordability. The model can assess the levels of finance (public, private, domestic, foreign) that might be available under different macro-economic and fiscal conditions. In this way it provides a check on what public budgets might realistically be expected to contribute. It can also help to assess the potential social implications of increasing tariffs by determining the impacts of such price increases on household income. It helps to systematically review the obstacles that would need to be removed in order to mobilize private sector and foreign financing for environmental infrastructure. Thus FEASIBLE can support a process of dialogue and consensus building among stakeholders and build bridges between policy development and implementation.

Figure 1. Overview of the FEASIBLE environmental financing strategy methodology



Both the abovementioned models link long term targets to annual budgetary requirements and specify measures to be adopted. Alternatively, tailor-made models can be developed and used. 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.

<sup>63</sup> From: [www.oecd.org/water](http://www.oecd.org/water).

Even with a robust SFP resulting from an exercise which meets the criteria above, the absorptive capacity of the WSS institutions is often limited, among other reasons due to weak project preparation and poor capacity for implementation (Box 3.9)

**Box 3.9 Kenya case emphasizes the importance of practical support to local water service providers (WSP)**

Direct support to WSPs with practical techniques based on local conditions for formulating efficient organizational/institutional structures is important for sustainable service delivery. Although national level policy and legislation, such as the sessional paper on National Water Resources Management & Development and the Water Act 2002 respectively, have been formulated with external assistance from international partners, they cannot be effectively utilized in actual operation and management of WSP without direct financial and technical assistance. Those documents are seldom widely disseminated, rarely understood and reflected on actual operation and management, especially on small-medium scale of WSPs. This is basically because of insufficient human resource within these WSP who have not obtained appropriate knowledge and experience for translating national level policy, laws and regulations, into operation and management of water supply project, while taking into account the actual conditions at site.

Source: WSP

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

The level of disaggregation possible in SFP will depend on how much detailed information is available. It is possible in some countries to analyse financial balances regionally, 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.<sup>64</sup> 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 Kenya 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.

WSS services often suffer from populist measures of local politicians. Whatever the motives for such policies, their effect has been to deprive the sector of necessary tariff revenues and financial support relative to other sectors. While national SFPs are not likely to fundamentally change this situation, regional or local planning may go some way to alter awareness and perceptions if it can engage politicians, NGOs and other civil society representatives. "What If" analysis, including the effects of "business as usual", may inject a dose of realism into local discussions.

*Align with existing institutions and processes*

The SFP should facilitate policy reform and achieve practical results. It is therefore important to link SFP to regular budget processes, in particular the medium-term expenditure framework, and other

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<sup>64</sup> WSP, 2007 (Virjee).

procedures such as long term sectoral and regional plans. How these links are established will differ from country to country.

In some countries the institutional and planning framework for WSS is easily defined, while 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 SFP need to be set at the outset and take account of the institutional system. In Kenya, for example, the SFP reflects the institutional structure laid down in the Water Act.

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 SFP 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 SFP based on the lowest planning and budgeting units of government.

Different sectors, such as water supply (urban and rural), sanitation, industrial wastewater treatment, irrigation and water resources management, may have different institutional structures, responsible ministries and subsidy regimes. The structure of the SFP, as well as the design of the planning process and decisions on which stakeholders to involve, all need to take this into account from the beginning.

*Ring-fencing<sup>65</sup> may be necessary to impose central priorities*

In countries with fiscal decentralization it is the local authorities not the sector ministries that determine allocations to WSS relative to other priorities. Funds from central government are not always ring-fenced for a specific sector when they arrive in provincial or district offices. WSS practitioners and advocates have to work for the inclusion of WSS programmes in district work plans, which drive the budgeting process. This implies a focus on developing work programmes to attract more money, rather than the reverse process of bidding for funds and then planning how to spend them.

However, central governments, with donor support where appropriate, may wish to over-ride local priorities to advance programmes of particular importance, and ring-fence part of their local allocations for these purposes. Even where the fiscal system is fully decentralized, sector ring-fencing can be a useful expedient to overcome systematic under-financing<sup>66</sup>. Examples include the proposed sanitation grant in Uganda (Box 3.6) and the National Target Program in Vietnam.

*Crucial role of donors*

Donors typically play three roles: a source of finance for the plan preparation and the eventual spending programme; support to WSS capacity building; and engagement in policy dialogue. Although their command over finance is important for their credibility, donors also have a vital role in capacity building and driving reforms to governance.

- Donor finance (including IFI loans and OECD/EUWI programmes) has been an important element in the process, and eventually the implementation, of recent SFPs in developing,

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<sup>65</sup> In some countries, earmarking is a more familiar term for this.

<sup>66</sup> Ring fencing and earmarking may be thwarted if local authorities reduce their own planned financing to offset the amount of the central grants. This is the concept of *fungibility*.

emerging and transition countries. It has been crucial in Ethiopia, Uganda, EECCA countries, Turkey, Mexico and elsewhere. In some cases the prospect of EU grants has been a driver of the process (Czech Republic, Turkey). SFP provides an important opportunity for aligning donors' expectations and requirements with each other and with the host government and fitting their programmes into national SWAps (putting the Paris Declaration into practice). In all this, it is appropriate for donors to review their aid modalities to make better use of existing funds, as well as to use aid imaginatively to produce greater volumes of finance.

- SFP exercises have highlighted bottlenecks in capacity in WSS, especially in local administrations. At this level, much of the planning and management is carried out by technical personnel lacking sufficient familiarity with financial management. More generally, throughout the sector there is a need for more commercial skills and customer-orientation. Donors can promote peer group support directly through “twinning” using their own utilities, or indirectly by funding such organisations as the Water Operators’ Partnership. Other areas for capacity building in utilities are leadership development, change management, contract management and specific technical and financial skills<sup>67</sup>. ODA can also be used in the provision of technical assistance for strengthening public expenditure management systems. A number of commentators<sup>68</sup> have deplored the decline in the quality of data about the water sector in general, due to reductions in public and international budgets for data collection and monitoring – this is another area where donor finance would have good returns.
- Finally, donors can encourage, and themselves become involved in, stakeholder participation and dialogue. A well co-ordinated SFP exercise can promote good governance through improving transparency in the process of allocation and revenue raising. Drawing stakeholders into these discussions advances the notion of dialogue and cooperation in determining the sector’s future. The SFP in Ethiopia is a case in point, proving the crucial importance of continuing the reforms and consolidating what had already taken place, such as the local capacity building and collaborative decision-making structures at local, regional and national levels. The SFP 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 SFP highlighted capacity building and governance improvements as necessary first steps.

Donor agencies should be prepared to draw on their domestic experience of strategic financing of WSS and share this experience with developing countries, while recognizing that each country needs to evolve its own appropriate model.

In conclusion, donor agencies have a key potential role in SFPs. However, they should exercise caution in championing SFPs in order to avoid the risks of undermining the “ownership” of the process by their development partners. SFPs that are excessively donor-driven are unlikely to be sustainable.

### ***3.3.2. Checklist for practitioners***

This section sets out a number of issues to be considered when carrying out a SFP, presented in the form of a practitioner's checklist. It lays no claim to be exhaustive or prioritized, and is not a blueprint. Rather, it is a list of issues to be kept in mind based on the experience of practitioners who have worked on SFP, particularly for the OECD and WSP.

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<sup>67</sup> Van Ginneken & Kingdom (2007).

<sup>68</sup> E.g. at the OECD Global Forum, Dec 2008.

### **☑ Emphasise sector performance and value for money alongside funding**

In many countries WSS struggles to provide an adequate public service, which makes fund raising an up-hill task. In Vietnam, for example, the Government is reluctant to grant funds to provinces for new schemes if the old ones are not functioning, and this attitude is common elsewhere among finance ministries. Some government officials even view the prospect of WSS ministries developing SFPs as a distraction from their more urgent task of improving the performance of their sector.

Finance Ministers are prone to 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 SFP 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 SFP 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 SFP exercise.

### **☑ Take a holistic view of expenditure, revenues & costs**

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 Sector Investment Plan and fund raising strategy need to consider the full life cycle of assets and take into account operation 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 SFP is seriously incomplete and investment plans risk becoming mere wish lists.

It is also important to consider expenditure and revenues (tariffs, taxes and transfers) interactively. The SFP should recognize that certain revenue sources (for example tariffs) can be used to finance all types of expenditure, whereas other sources are effectively ring-fenced (e.g. donors typically prefer to fund investment). Another factor complicating the SFP is that certain revenue sources may not be easily transferable from one region (or utility) to another (for example tariff revenues) while other sources may be allocated more freely - donor funds are typically more flexible geographically.

A number of SFP exercises in Eastern Europe and Central Asia revealed that the cost of merely maintaining the existing infrastructure would more than exhaust the total WSS revenues. In Moldova and Armenia just maintaining the existing service level would call for a large increase in revenues. In such cases, the option of decommissioning parts of the infrastructure in order to provide an adequate service level overall has to be considered. .

### **☑ 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 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.

Whether the model is generic or tailor-made the key point is that it should be a decision **support** tool. It fulfills its function when the methodology is endorsed by all stakeholders and when it is able to have an input to policy. In practical experience this requires that the model is clearly rooted in a description of the existing situation, that the level of detail is "right", that cost functions are generally accepted and that its results can be presented in a non-technical manner.

#### **☑ Process design is important**

The design of the strategic financial planning process may be as important as the tool is. A good design includes:

An iterative process. In most cases the expenditure needs of the initial investment plan is likely to be far from what can be financed in a sustainable manner, and even further away from current revenues. An iterative process should progressively review targets and revenue sources until expenditure needs are matched by revenues available. This applies to both recurrent and investment cost items, and within all administrative geographical boundaries.

Adequate calendar time. Development of a SFP is a process which should allow enough time for stakeholders to deliberate their traditional positions.

Involvement of all key stakeholders. The involvement of the right group of stakeholders is crucial for getting an acceptable result. Key stakeholders are normally representatives of Ministry of Finance and relevant sector ministries, municipal authorities, NGOs and other civil society groups, trade unions, etc. Involving personnel at the right level of seniority will help to make the results more acceptable in the sponsoring bodies. The participation of people who are too senior creates a risk that they will not attend all the sessions. On the other hand too junior people may not be able to carry their institutions along with the decisions they have been involved in making.

Engagement of donors. How donors are involved depends on what national co-ordination mechanisms have been agreed. It is important to avoid SFPs becoming donor-driven (even though it may have been initiated by them).

#### **☑ Keep It Simple and Clear**

There is a choice to be made between methods and models with differing degrees of complexity, sophistication, and cost. Trade-offs may be necessary. In some cases it will be easier to tailor the SFP to the specific country concerned rather than attempting a generic model or approach, though 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. But whichever methodology or model is used, the output of the policy dialogue should be a set of simple messages, which will be most persuasive in contesting budgets and championing WSS.

Practitioners have found that in the course of preparing a strategic financial plan there is often confusion between different kinds of information. To clarify discussion and make progress on the SFP practitioners have found a step-wise approach useful (Box 3.10).

### Box 3.10. A step-wise approach

#### 1. Baseline - existing situation:

Agree first on factual data, (e.g. population, the existing coverage figures, the volume of existing infrastructure (km of pipes, connections etc), the existing state of repair of systems, etc ). This may seem obvious, but such basic data is often lacking or dated.

#### 2. Baseline - general economic forecast:

This includes a macro-economic scenario (for both public spending and household incomes, which affects affordability) and decisions on parameters such as the planning horizon and the development of available water resources (which may be affected by climate change risk). Policy variables which are non sector-specific should be isolated from those specific to WSS. A commonly accepted baseline is a pre-condition for WSS and Ministry of Finance experts to have a meaningful policy dialogue.

**3. Set of targets.** These include coverage targets, desired water quality, service quality (house-connections versus street kiosks; in-house sanitation versus shared pit latrines), reliability, etc.

**4. Measures, their cost and their financing.** Specifying targets, in combination with the choice of technology, basically determines the investment programme, which should then be fully specified and costed. On a parallel track, future financing options have to be considered and explicitly described.

An iterative approach will be necessary for 3 and 4, since targets influence costs and their financing options, while the latter have a feed-back on targets.

### ☒ Scenario analysis is a vital part of the toolkit

Scenario analysis is a cogent element in SFP. This requires the SFP to be underpinned by a mathematical model (either generic or tailor-made). For the purpose of the scenario analysis the step wise approach suggested in box 3.10 is very helpful. Discussions of strategy are often bedeviled by disagreements about the starting situation or details of the baseline forecast (e.g. macro-economic or population projections). Agreement should first be reached on the starting point (the existing situation) and then the baseline scenario should be developed. This will allow the substantive discussions to focus on targets, measures necessary to reach them, and their spending and financing implications. Scenarios are useful to analyse the impact on expenditure and financing of alternative targets. The model can also provide a quantitative analysis of the impact of alternative assumptions (e.g. population forecasts) for projected revenues and expenditures.

### ☒ The SFP needs updating

It is essential for the SFP to be kept up-to-date if it is linked to the MTEF and to the national budgeting and financial reporting systems. An updated strategy will save time and work for officials involved in planning and budgeting. In Malawi the strategy is linked to the Results Based Framework, a means of measuring the performance of line ministries. Linking a SFP to the standard procedures 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 SFP should contain the necessary guidance, and 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.

**☑ Use the SFP to explore new funding sources**

The prime focus of a SFP should be on consolidating the basic revenues accruing to WSS. However, these revenues should be used where possible to attract other forms of funding such as loans, bonds, equity and the many hybrid forms that are now available. The governments of many countries in which SFP is happening are locked into a “public finance” mentality in which financing options beyond national budgets and ODA are not seriously explored. The SFP should challenge this mindset by considering all options for developing both basic revenues and repayable funding sources.

One source often overlooked and underestimated is self supply, by people who improve and construct their own systems using their own finance to contract local workers or use their own labour. The investments of householders themselves, in cash and kind, should feature in the SFP. Migrant remittances are also an important potential source of funds for WSS, given the right channels. The development of savings outlets, microfinance and other innovative financial partnerships involving communities, users, NGOs, banks, the private sector, donor agencies and local governments can help to tap into self-help and self-supply resources, including users’ own funds.<sup>69</sup>.

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<sup>69</sup> Refer to WSP, Mehta and COWI references in Annex 1

## CHAPTER 4. CONCLUSIONS, RECOMMENDATIONS AND SUGGESTIONS FOR FUTURE WORK

### 4.1. Main Conclusions

#### 4.1.1. 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.

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 poorer countries by ODA grants and IFI loans. Recurrent spending on operations and maintenance is reimbursed from tariff revenues and subsidies. Ultimately all WSS expenditure has to come from the 3Ts, tariffs and other user contributions, tax-base subsidies or transfers such as ODA.

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 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. There are advantages in delivering subsidies to compensate for low “affordability” of certain social groups in a targeted manner, e.g. through social security payments, rather than through a general under-pricing of water. However, this may not be possible in all circumstances.

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.

There 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, predictable, properly justified and specifically designed to achieve their purpose.
- Finance Ministries recognize the potential contribution of WSS 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.

#### *Strategic Financial Planning*

All the above underscores the value of strategic financial planning (SFP), though this is not a panacea, and is not a substitute for reforms in policy and governance. SFP 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.

The *objectives* of SFP 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;
- identifying sustainable sources of finance and financial modalities to support the future development of infrastructure and services.

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 Strategies.

#### ***4.1.2. Lessons for policy makers***

- SFP must be led by a champion and fully owned by host country institutions, supported by their government at a suitably high level. This applies particularly to the engagement of stakeholders both in and outside the water sector, civil society and international donors;
- The objectives of SFP have to be specific, realistic and linked to other relevant policy formation. This link implies that SFP needs time in order to engage stakeholders in a medium/long term process;
- The methodology and modelling used to develop the sector analysis must be credible and fully endorsed by all major stakeholders, including the Ministry of Finance. This implies an appropriate level of sophistication, the choice of hard data, and a continuous balancing of expenditure needs with available financing;
- To be effective SFP should be closely aligned with existing institutional arrangements for sector policy making;
- Notwithstanding the above, ring-fencing money for specific purposes (e.g. sanitation) may sometimes be necessary to impose central priorities on local administrations
- SFP should 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. This will often imply support to enable beneficiaries to engage in horizontal policy dialogues (involving several authorities and civil society) and to perform policy analysis using the methodology and models of the SFP;

#### ***4.1.3. Lessons for practitioners***

Some of the main lessons learned from recent experience with SFP can be distilled as follows

- include measures for improving performance and value for money, as well as funding proposals;
- take a holistic view of expenditure, revenues and costs;
- use models to support decisions, not to replace them;
- designing the right process for SFP is important;
- keep it Simple and Clear;
- scenario analysis is a central part of the methodology;
- SFP needs regular updating;
- use the SFP as an opportunity to explore new funding sources or modalities.

### **4.2. Recommendations**

#### ***4.2.1. Developing country governments***

Developing country governments should consider to:

- 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 in order to achieve financial realism.
- 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 SFP based on sound research and analysis, including a policy dialogue with all relevant stakeholders.
- Develop and strengthen capacity to effectively carry-out SFP, ie by strengthening the financial expertise in the authorities that deal with water.
- To ensure effective implementation of SFP, 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 SFP.

#### **4.2.2. Development agencies**

Development agencies should consider to:

- Support SFP 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 SFP, 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 Water Operators Partnership and bilateral “twinning”).
- Draw on domestic experience of strategic financing of WSS and share this experience with developing countries.
- Provide technical assistance to support efforts of developing countries to strengthen their public expenditure management systems.

#### **4.2.3. 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 SFP as an essential tool for the implementation of WSS programmes, and should take part in the dialogues involved in this process.

#### **4.3. Future work**

OECD and other appropriate bodies can facilitate the actions advocated in this report through their research and outreach programmes. The following topics for future work have been discussed in the OECD Task Team on Sustainable Financing to Ensure Affordable Access to Water Supply and Sanitation, and are suggested for consideration.

- Help 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.
- Expand the scope of SFP 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 financial or economic realism.
- 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.
- Produce a policy document for donors on strategic financial planning on the basis of the current report.

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## ANNEX2. MEASURING AID TO WATER SUPPLY AND SANITATION

This note contains statistics on Official Development Assistance (ODA) for water supply and sanitation. It presents the key findings of the publication “CRS Aid activities in support of water supply and sanitation, 2001-2006” (OECD/WWC 2008) with updated figures for 2007.

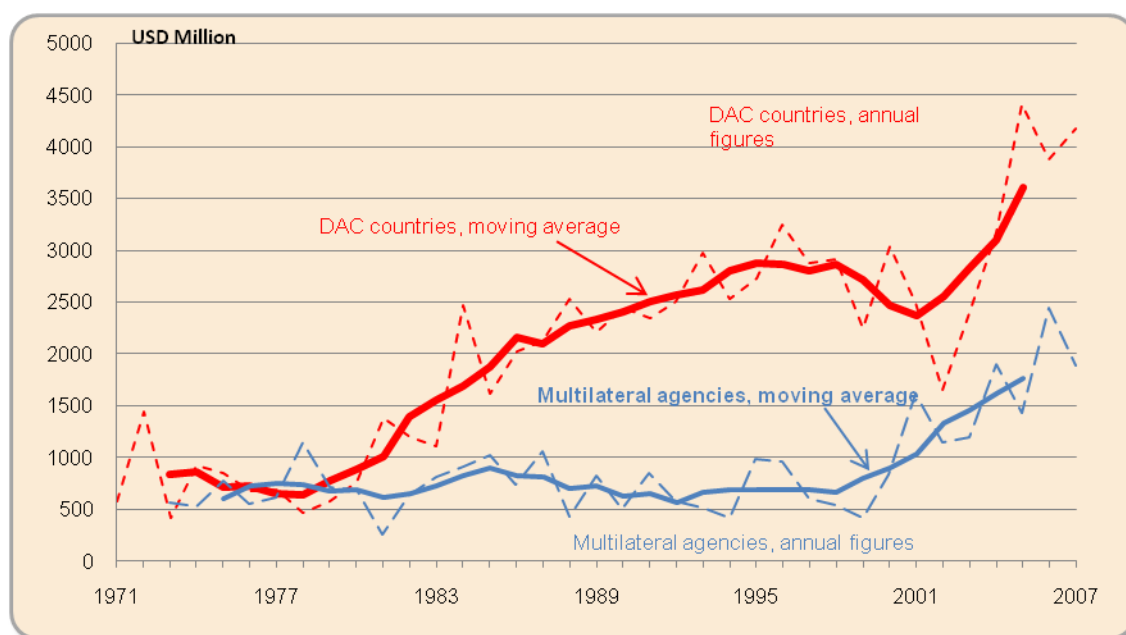
### Trends in aid for water supply and sanitation

Aid for water supply and sanitation has risen since 2001 after a temporary decline in the second part of the 1990s. In 2006-2007, DAC members’ bilateral annual aid commitments to the water supply and sanitation sector rose to **USD 4.7 billion**, double the 2002-2003 figure in real terms. Taking into account multilateral agencies’ outflows, the total was **USD 6.2 billion**. Over the period 2002-2007, bilateral aid to water increased at an average annual rate of 19%. Multilateral aid also rose swiftly over the period 2002-2007 (11% annually).

The share of aid to water supply and sanitation in total aid (sector-allocable aid) is an indication of the extent to which donors’ aid programmes focus on water issues. For DAC countries, the share has increased over the period 2002-2007, rising from 6% in 2002-2003 to 9% in 2006-2007 (Table 1). This illustrates renewed emphasis on the water sector in members’ aid programmes.

**Chart 1. Trends in aid to water supply and sanitation**

1971-2007, commitments, 5-year moving averages and annual figures, constant 2006 prices



As regards their development co-operation policies in the water supply and sanitation sector, twelve DAC members refer to specific policy documents to guide their interventions in the water sector, while others do not have a specific co-operation policy for water. Some consider that the implementation of the principles of harmonisation and alignment of the Paris Declaration is not compatible with specific donor strategies or investment targets in the water sector.

## Main donors

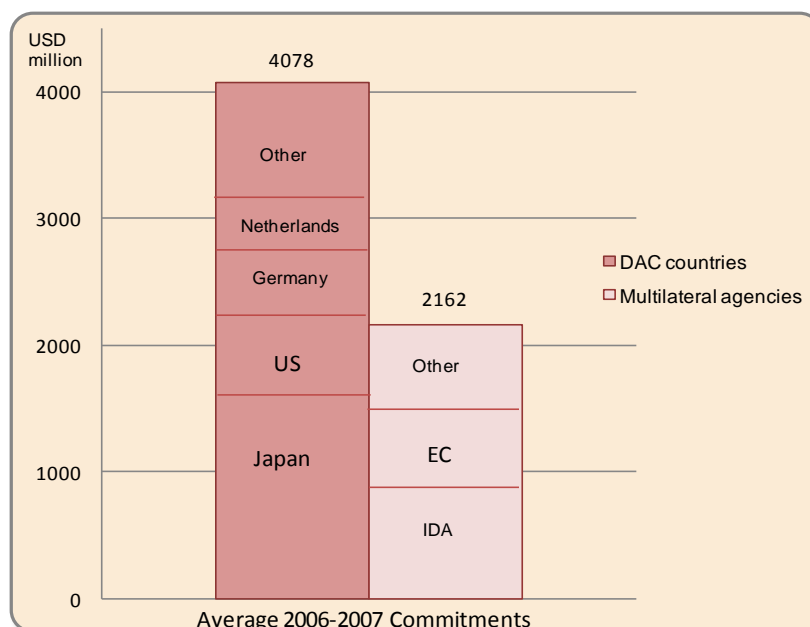
Japan is the largest donor to this sector, accounting for 26% of total aid in the period 2006-2007 (see Table 1). It is followed by IDA (15%) and the United States (10%). IDA is also the largest multilateral donor to the water supply and sanitation sector.

The bulk of Japanese aid related to ODA loans for infrastructure projects in China, Costa Rica, India, Indonesia and Panama. On their own, these projects represented one quarter of total DAC members' aid for water. Reconstruction projects in Iraq by the United States also made up a significant proportion of the total.

The donors that extend the highest proportions of their aid to the water sector are the AfDF (22%), Japan (19%), the AsDF (17%), the IDB Special Fund (12%), and Denmark, Netherlands and IDA (11% each).

**Chart 2. Aid to water supply and sanitation, top donors**

2006-07 annual average commitments, USD million, constant 2006 prices



**Table 1. Aid to water supply and sanitation by bilateral donor and multilateral agency**

2002-07, annual average commitments and shares in total sector-allocable aid, constant 2006 prices

	Commitments, USD million			% of Donor Total			% All donors		
	2002-2003	2004-2005	2006-2007	2002-2003	2004-2005	2006-2007	2002-2003	2004-2005	2006-2007
Australia	31	10	6	3	1	0	1	0	0
Austria	21	19	21	8	8	7	1	0	0
Belgium	44	38	74	5	5	8	1	1	1
Canada	71	81	20	5	5	1	2	1	0
Denmark	56	184	87	8	13	11	2	3	1
Finland	24	23	36	8	6	10	1	0	1
France	234	151	299	7	4	6	7	3	5
Germany	344	421	516	9	9	9	10	8	8
Greece	1	1	2	1	1	1	0	0	0
Ireland	22	18	18	7	6	4	1	0	0
Italy	54	42	48	9	7	7	2	1	1
Japan	694	1320	1603	10	16	19	21	24	26
Luxembourg	13	15	11	10	12	8	0	0	0
Netherlands	154	184	392	8	8	11	5	3	6
New Zealand	2	3	3	2	3	2	0	0	0
Norway	32	40	31	2	3	2	1	1	0
Portugal	0	2	1	0	1	0	0	0	0
Spain	89	55	79	7	5	4	3	1	1
Sweden	58	73	57	5	5	4	2	1	1
Switzerland	32	53	38	5	8	5	1	1	1
United Kingdom	86	70	144	3	2	3	3	1	2
United States	106	1029	593	1	6	3	3	19	10
<b>Total DAC countries</b>	<b>2166</b>	<b>3832</b>	<b>4078</b>	<b>6</b>	<b>10</b>	<b>9</b>	<b>65</b>	<b>70</b>	<b>65</b>
AfDF	132	131	333	11	10	22	4	2	5
AsDF	169	141	251	11	8	17	5	3	4
EC	264	583	583	4	9	7	8	11	9
IDA	575	796	917	9	10	11	17	14	15
IDB Sp.Fund	0	0	46	0	0	12	0	0	0.7
UNICEF	24	17	32	5	4	5	1	0.3	0.5
<b>Total Multilateral</b>	<b>1165</b>	<b>1668</b>	<b>2162</b>	<b>6</b>	<b>9</b>	<b>10</b>	<b>35</b>	<b>30</b>	<b>35</b>
<b>Total</b>	<b>3331</b>	<b>5500</b>	<b>6240</b>	<b>6</b>	<b>9</b>	<b>9</b>	<b>100</b>	<b>100</b>	<b>100</b>

Notes:

- DAC members' figures refer to their bilateral aid. In addition to undertaking bilateral aid activities in the water sector, DAC members also contribute to multilateral agencies active in the field of water. In order to provide the most complete picture possible of the total ODA effort the donor makes in respect of the water sector, data on DAC members' imputed multilateral aid for water can be compiled. These imputed multilateral contributions are not included in the above table to avoid double-counting with the multilateral agencies' outflows, but are available in the full publication, and will be separately provided at [www.oecd.org/dac/stats/water](http://www.oecd.org/dac/stats/water).

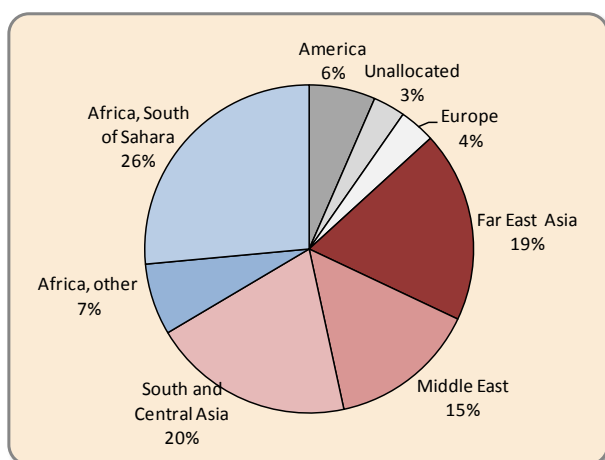
- The United Kingdom commissioned a study to assess total DFID spending in the water sector, including water-related components of other projects. This suggested a higher level of bilateral spending, £ 129 million (approximately USD 238 million) in financial year 2005-2006. (See full publication).

## Main recipients

The main recipient regions over the whole period 2002-2007 were Asia (54%) and Africa (33%). Least Developed Countries (LDCs) received 23% of total aid for water supply and sanitation (WSS), and Other Low Income Countries (OLICs) 38%. Loans represented 38% of total water aid to LDCs, and 77% of the total to OLICs.

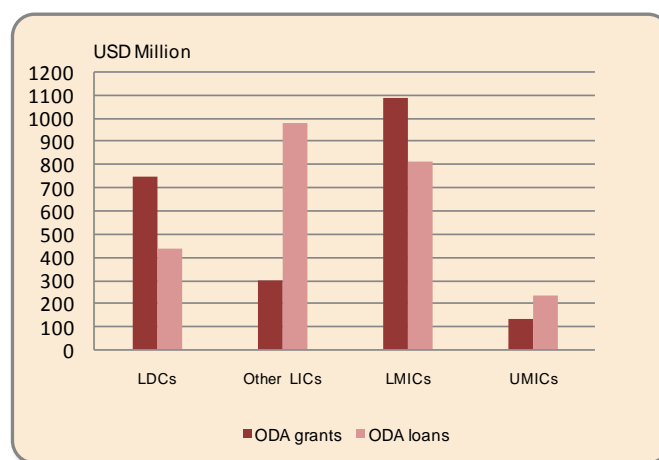
**Chart 3. Distribution of aid to WSS by region, average 2002-07**

Commitments, constant 2006 prices



**Chart 4. Distribution of aid to WSS by income group, average 2002-07**

Commitments, constant 2006 prices



In addition to ODA loans by Japan and reconstruction projects by the United States, DAC members' largest activities were undertaken in South Africa (Water for growth and development by the EC); Tunisia (Rehabilitation and extension of waste water treatment network by France); India (State partnership in Rajasthan by the EC); and Egypt (Sustainable water and sanitation services for health security and prosperity by the United States).

**Table 2. Main recipients and donors of aid to the water supply and sanitation sector, 2006-07 average commitments in millions of USD, constant 2006 prices**

USD million, average 2006-07	Japan	IDA	United States	EC	Germany	Other donors	Total donors	% of water aid to all recipients
India	635	130	6	47	4	9	830	13%
Iraq	2	0	429	0	0	7	438	7%
China	335	3	1	0	47	14	400	6%
Bangladesh	54	6	0	0	0	241	301	5%
Viet Nam	57	55	0	0	5	167	284	5%
Tanzania	16	92	1	4	22	85	221	4%
Morocco	37	0	1	25	55	79	196	3%
Kenya	6	83	3	4	11	78	184	3%
Indonesia	80	71	2	0	2	21	176	3%
Ethiopia	7	67	2	32	0	66	174	3%
Other recipients	375	410	148	471	370	1261	3036	49%
<b>Total amount</b>	<b>1603</b>	<b>917</b>	<b>593</b>	<b>583</b>	<b>516</b>	<b>2028</b>	<b>6240</b>	<b>100%</b>
<b>% of water aid from all donors</b>	<b>26%</b>	<b>15%</b>	<b>10%</b>	<b>9%</b>	<b>8%</b>	<b>33%</b>	<b>100%</b>	

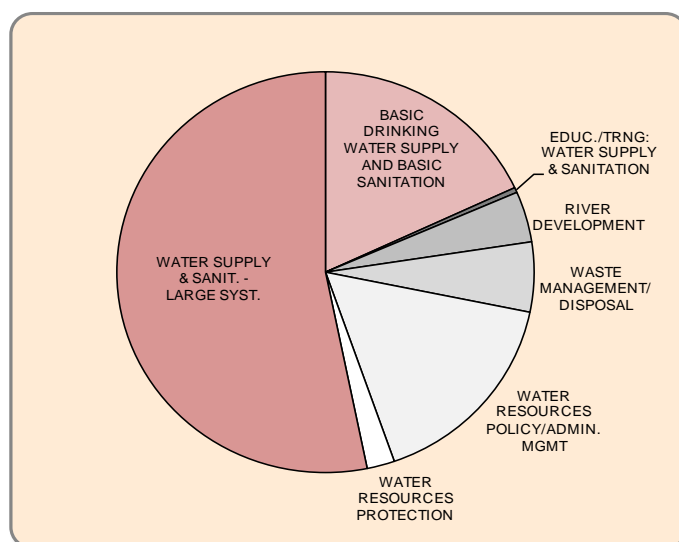
### Main sub-sectors

Projects for “large systems” are predominant and accounted for more than half of DAC members’ total contributions to the water supply and sanitation sector in 2006-2007.

River development activities include contributions for dam repair, basin management (e.g. Mekong River Commission, Nile Basin Initiative, and other river basins such as the Niger and Senegal in Western Africa and the Kura in Central Asia). In total, regional basin management activities accounted for about USD 19 million in the period 2006-2007 for Sub-Saharan Africa and USD 30 million for Asia.

**Chart 5. Sub-sectoral breakdown of DAC members’ aid to water supply and sanitation**

Commitments in 2006-2007, constant 2006 prices



64% of total ODA for large systems was in the form of loans, and loans also represented 44% of the financing of river development. By contrast, DAC members relied almost exclusively on ODA grants to finance basic drinking water supply and sanitation. Grants were also predominant in the sub-sectors of

water resources policy and administrative management, water resources protection and education and training.

### Allocation of ODA and degree of access to WSS facilities by recipient countries

The region most in need of improved access to water supply and sanitation, Sub-Saharan Africa, received 26% of total aid. The next most needy region, South and Central Asia, received 20% of total aid for water over the period.

A significant portion of aid is allocated to countries in difficult situations. Afghanistan, Chad, Laos, Madagascar, Mali, Mozambique, Niger and Zambia all suffer from poor access to water supply (less than 60%) and to sanitation (less than 55%) and received at least on average USD 2.5 per capita over 2005-2006.

However, numerous countries with low levels of access to water supply and/or sanitation received very little during the same period (e.g. Angola, Central African Republic, Republic of Congo, Somalia, Togo received less than USD 0.5 per capita) while the countries with higher levels of access received more (e.g. Albania, Costa Rica, Iraq, Jordan, Lebanon and Malaysia all received at least USD 13 per capita).

### Charts 6 and 7. Aid to water supply and sanitation per capita in relation to the degree of access to facilities by recipient countries

Chart 6. Water Supply

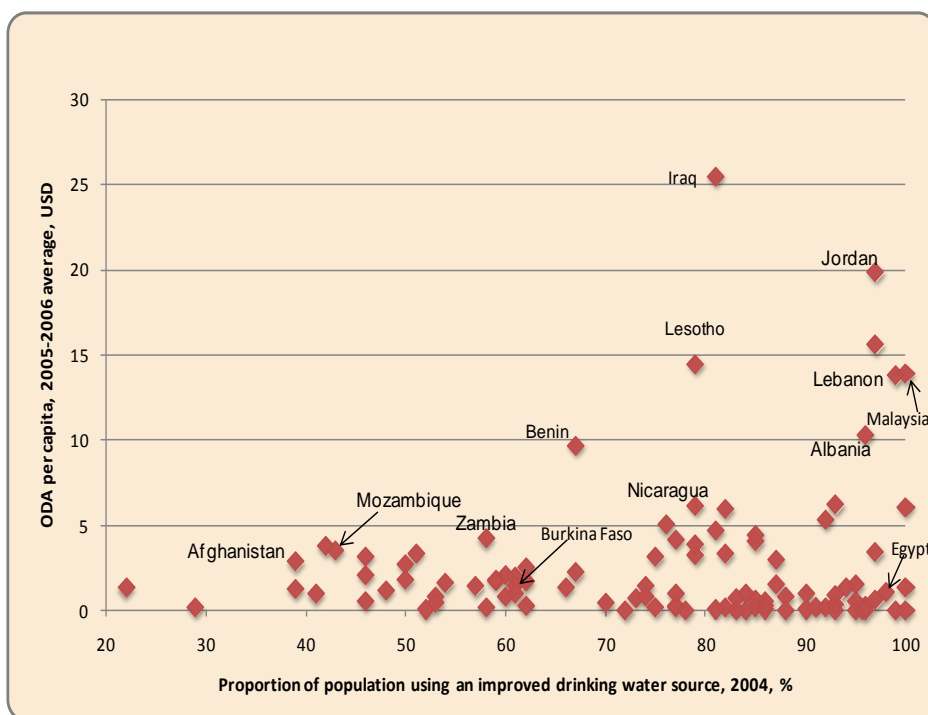
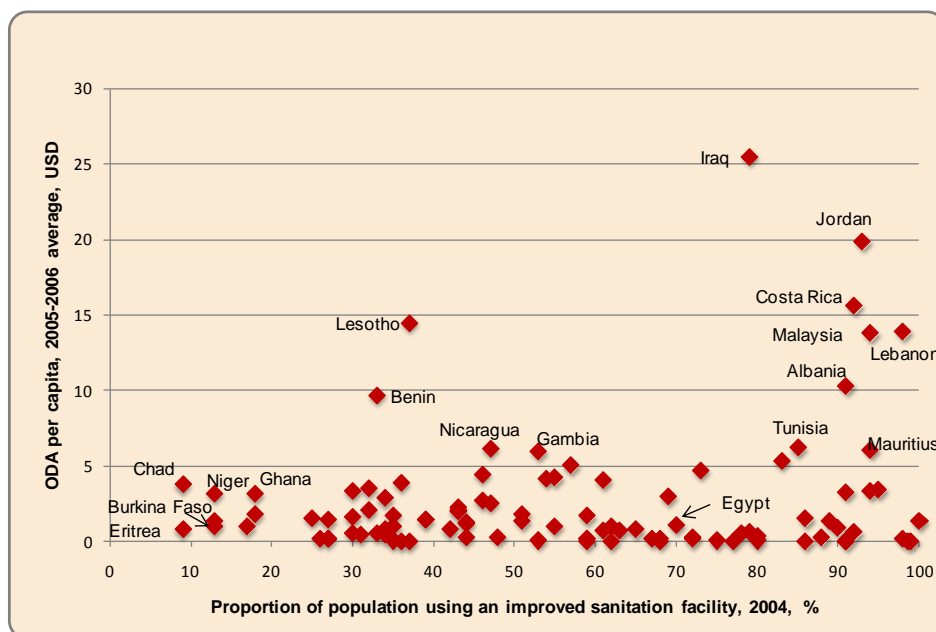


Chart 7. Sanitation



## TECHNICAL NOTE

### Monitoring flows to the water supply and sanitation sector

#### DAC statistics - CRS Aid Activity database

*DAC and CRS data are the unique source for official, standard and comparable statistics on Official Development Assistance (ODA).*

The OECD Development Assistance Committee (DAC) collects aid flows at activity level through the Creditor Reporting System (CRS) and expanded CRS (CRS++), and in the form of aggregates through the annual DAC Questionnaire. The data collection is based on a standard methodology and agreed definitions. Data can be used to analyse trends and compare the efforts of donors.

#### *DAC definition of water supply and sanitation*

The DAC defines aid to **water supply and sanitation** as including water resources policy, planning and programmes, water legislation and management, water resources development, water resources protection, water supply and use, sanitation (including solid waste management) and education and training in water supply and sanitation.

The water supply and sanitation sector is divided into the sub-sectors shown in Box 1. This classification does not distinguish between aid flows for water supply and aid flows for sanitation. Possibilities for introducing such a differentiation in future data collection are presented under the *Methodological challenges* below.



The definition of aid for water supply and sanitation excludes dams and reservoirs primarily for irrigation and hydropower and activities related to river transport which are recorded elsewhere in the classification (aid to agriculture, energy and transport respectively). Statistics shown in this note are all based on the DAC “narrow” definition of water supply and sanitation. However, the *Donor profiles on aid to the water supply and sanitation sector* shown in the full publication include data based on a “wider” definition (see “*CRS Aid activities in support of water supply and sanitation, 2001-2006*”, *OECD/WWC 2008*).

DAC statistics classify humanitarian aid as a separate category (the main purpose being to save lives in an emergency context), and do not record the ultimate sector of destination of humanitarian interventions (water, health, education, etc.). Statistics shown in this note therefore do not take into account donors’ expenditures on water supply and sanitation that occurred in the context of humanitarian aid.

### ***Recording of loans in ODA statistics***

While the bulk of ODA is extended in the form of grants, loans constitute a large share of ODA to certain sectors. About half ODA to water supply and sanitation in 2006-2007 was in the form of loans.

To qualify as ODA, a loan must be concessional in character and convey a grant element of at least 25%. Concessional in character means the interest rate of the loan must be below market interest rates. The grant element is expressed as the percentage by which the present value of the expected stream of repayments falls short of the repayments that would have been generated at a given reference rate of interest (in OECD DAC statistics 10%). Thus the grant element is nil for a loan carrying an interest rate of 10%; it is 100% for a grant; and it lies between these two for a loan at less than 10% interest. To qualify as ODA, a loan must convey a grant element of at least 25%.

If the loan satisfies the ODA criteria, the whole amount is recorded as ODA. The grant element is not used to discount the face value of a loan in DAC reporting. Repayments of the principal of ODA loans count as negative flows, and are deducted to arrive at net ODA, so that by the time a loan is repaid, the net flow over the period of the loan is zero. (Interest is recorded, but is not counted in the net flow statistics.)

### ***For reference: definition of ODA***

Official development assistance is defined as those flows to countries on the DAC List and to multilateral institutions for flows to ODA recipients which are:

- i. provided by official agencies, including state and local governments, or by their executive agencies; and
- ii. each transaction of which:
  - a) is administered with the promotion of the economic development and welfare of developing countries as its main objective; and
  - b) is concessional in character and conveys a grant element of at least 25 per cent (calculated at a rate of discount of 10 per cent)

**Box 1. Aid to the water supply and sanitation sector: definition and sub-sectors**

**Water resources policy and administrative management (CRS purpose code 14010)**

Water sector policy, planning and programmes; water legislation and management; institution capacity building and advice; water supply assessments and studies; groundwater, water quality and watershed studies; hydrogeology; excluding agricultural water resources (31140).

**Water resources protection (CRS purpose code 14015)**

Inland surface waters (rivers, lakes, etc.); conservation and rehabilitation of ground water; prevention of water contamination from agro-chemicals, industrial effluents.

**Water supply and sanitation - large systems (CRS purpose code 14020)**

Water desalination plants; intakes, storage, treatment, pumping stations, conveyance and distribution systems; sewerage; domestic and industrial waste water treatment plants.

**Basic drinking water supply and basic sanitation (CRS purpose code 14030)**

Water supply and sanitation through low-cost technologies such as handpumps, spring catchment, gravity-fed systems, rain water collection, storage tanks, small distribution systems; latrines, small-bore sewers, on-site disposal (septic tanks).

**River development (CRS purpose code 14040)**

Integrated river basin projects; river flow control; dams and reservoirs [excluding dams primarily for irrigation (31140) and hydropower (23065) and activities related to river transport (21040)].

**Waste management/disposal (CRS purpose code 14050)**

Municipal and industrial solid waste management, including hazardous and toxic waste; collection, disposal and treatment; landfill areas; composting and reuse.

**Education and training in water supply and sanitation (CRS purpose code 14081)**

Note: To assist in distinguishing between “basic drinking water supply and basic sanitation” on the one hand and “water supply and sanitation – large systems” on the other, consider the number of people to be served and the per capita cost of provision of services.

- Large systems provide water and sanitation to a community through a network to which individual households are connected. Basic systems are generally shared between several households.

- Water supply and sanitation in urban areas usually necessitates a network installation. To classify such projects consider the per capita cost of services. The per capita cost of water supply and sanitation through large systems is several times higher than that of basic services.

**Example of data collection at activity level**

For most types of financial flows, the CRS database records the face value of the activity at the date a grant or loan agreement is signed with the recipient (“commitments”). Data on the amounts disbursed each year are also available at the activity level (“disbursements”). Aid flows are measured on a calendar year basis.

*Example:* Japan committed a loan to Peru in 2000 to support a project to “Improve the sanitation in Lima marginal areas”, with subsequent disbursements from 2004 onwards (current million Yen).

*Original commitment*

Year number	Donor	Agency code	Project type	Recipient	Sector	Amount	Flow	Currency
2000	Japan	JBIC	PE-P30	Peru	14030	22 029	Loan	Yen

*Subsequent disbursements*

Year	Annual disbursement	Cumulative disbursement	Remains to be disbursed
2004	1 071	1 071	20 958
2005	1 610	2 681	19 348
2006	2 181	4 862	17 166

## Methodological challenges

### *Budget support not allocated to sectors*

A number of donors try to increasingly channel their aid to developing countries through general budget support instead of undertaking specific projects in identified sectors. Donors’ budget support, once integrated in developing countries’ domestic budgets, will contribute to the development of the water sector, but this contribution is not tracked and not taken into account in CRS/DAC statistics on aid for water.

General budget support contributions are not earmarked for any specific use but are accompanied by various understandings and agreements on the government’s development strategy. This implies that an individual donor cannot control the extent to which its contribution focuses on a particular sector. Furthermore, the contributions are spent through the recipient government’s own financial management system. Donors do not control the spending but monitor the implementation of the recipient’s strategy as a whole on the basis of an agreed set of indicators.

The United Kingdom estimates its contribution to the water sector through general support based on the assumption that recipient governments spend the same proportion of their budget support on the water sector as the percentage of their total estimated spending on water (as set out in their PRSPs). This methodology was discussed within the *DAC Working Party on Statistics (WP-STAT)* but there was no consensus to use it in standard DAC statistical presentations. The discussion will continue but, in any case, such data would be considered as estimates, and would need to be presented separately from standard statistics on aid flows by sector (as for imputed multilateral contributions).

### *Separating aid to water supply from aid to sanitation*

The UN have declared 2008 the *International Year of Sanitation* to highlight the specific challenges involved in the sanitation area. For UN Water and the EUWI African Working Group, it would be desirable to distinguish between aid flows for the purpose of water supply and those for sanitation only. The situation of countries vis-à-vis water supply or sanitation can vary a lot, with sanitation being a more acute problem than water supply in a number of developing countries.

The WP-STAT addressed this methodological issue at its meetings in June 2008 and February 2009, with a group of members presenting a proposal for introducing separate purpose codes for “water supply” and “sanitation”. Members favoured having disaggregated data on water and sanitation in principle, but wished, for practical reasons, to also retain the existing combined codes. Indeed, the differentiation was not always possible for projects mixing both aspects. The proposal will be submitted for formal approval at the May 2009 meeting of the WP-STAT.

In the meantime, to test the feasibility of introducing separate purpose codes, members were asked to try and allocate amounts of their largest projects over 2005-2006 against “water supply” and “sanitation” components. Members were able to allocate 42% of their total bilateral aid against the two components, and stated that a further 20% addressed both aspects but components could not be estimated. No information was provided for the remaining 38% of aid. Among the projects examined (62% of total aid), the allocation suggests that almost half of the amount examined goes to water supply aspects, and 21% to sanitation, whereas the remaining 32% address both aspects in unknown proportions.

## Strategic Financial Planning for Water Supply and Sanitation

Substantially more investment is needed in both OECD and developing countries to achieve water and, especially, sanitation policy objectives, and to realise the associated economic, social and environmental benefits. Optimising the need for investment through demand-side measures, such as better planning and low-cost technologies, and ensuring an adequate supply of finance will be essential to meet those objectives.

Strategic financial planning that blends the “3Ts” – tariffs and other user contributions, tax-based subsidies and transfers including official development assistance – provides an important means for agreeing on water- and sanitation-related targets and how they will be achieved. This requires good information and analysis, policy dialogue among stakeholders, and appropriate measures to reduce the demand for, and increase the supply of, finance. This report reviews good practices in strategic financial planning in OECD and developing countries and summarises key lessons for policy makers and practitioners.