



TECHNICAL ADVISORY SERVICES

FINANCING MECHANISMS FOR PERI-URBAN, SMALL TOWNS AND RURAL WATER SUPPLY

GOOD PRACTICE PAPER
2007

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Good Practice Paper 2007
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ACRONYMS & ABBREVIATIONS

ACP	African, Caribbean & Pacific group of states
AfDB	African Development Bank
AusAid	Australian Aid
CBO	Community Based Organisation
DBFO	Design, Build, Finance & Operate
DFID	Department for International Development
EIB	European Investment Bank
FDS	Fiscal Decentralisation Strategy
GDP	Gross Domestic Product
GPP	Good Practice Paper
GPOBA	Global Partnership for Output Based Aid
IFC	International Finance Corporation
IFI	International Financial Institution
MDD	Millennium Development Goals
OBA	Output Based Aid
ODA	Overseas Development Assistance
O&M	Operation & Maintenance
PAF	Uganda Poverty Action Fund
SIDA	Swedish International Development Agency
UWASNET	Uganda Water and Sanitation Network
VBARD	Vietnam Bank of Agriculture and Rural Development
WB	World Bank
WSPS	Water Sector Programme Support
WSSPS	Water & Sanitation Sector Programme Support
WS	Water Supply
WS&S	Water Supply and Sanitation

GLOSSARY-LIST OF FINANCING MECHANISMS FOR USE IN WS&S

Term	Definition
Affordability	A term used for judging the reasonableness (in terms of ability and willingness to pay) of tariffs for basic services. Typically assessed based on stated preferences (what people say they are willing to pay), revealed preferences (what people actually pay today), or general rule of thumbs (e.g. that total cost of water supply and sanitation as share of household income should not be above 4% in general and 6-10% of for the poorest)
Bond	Debt issued by a government or corporation in order to raise money for infrastructure investment for example in WS&S. Generally, a bond is a promise to repay the principal along with interest on a specified date. It is relatively more secured than equity and has priority over shareholders if the company becomes insolvent and its assets are distributed.
Carbon Credit	A credit provided under the flexible mechanisms of the Kyoto Protocol corresponding to reduced greenhouse gas emissions. For example, an investment project will result in reduced unaccounted for water and energy savings in a water supply scheme, this in turn will reduce consumption of fossil fuel and thereby reduce emission of CO ₂ , a greenhouse gas regulated under the Kyoto Protocol. The value of the reduced emission may be capitalized and traded under the Clean Development Mechanism (CDM) of the Kyoto Protocol, thereby mobilizing additional funding for the investment project.
Debt-equity swap	A transaction in which a corporation exchanges newly issued stock (equity) for existing bonds or debts. This is typically used to reduce an old and often non-performing debt burden for a public utility company in connection with a restructuring of the company and sector. The reduced debt enables the restructured company to re-access the loan market in connection with new investments.
Equity - various definitions	A financial instrument: The shareholders' ownership interest in a corporation in the form of common stock or preferred stock. It is the risk-bearing part of the company's capital and contrasts with debt capital which has priority over shareholders if the company becomes insolvent and its assets are distributed. An accounting term: Total assets minus total liabilities; here also called shareholder's equity or net worth or book value and reflecting the difference between what a utility is worth and what the owner owes against that utility (i.e. equivalent to the difference between the house value and the remaining mortgage or loan payments on a house).
Microfinance	Microfinance is a term for the practice of providing financial and social intermediation for the benefit of low-income people. Microfinance activities involve small loans, collateral substitutes, monitoring of loan disbursements and savings products. Most transactions involve small amounts of money, frequently less than 100 USD, which nevertheless for the individual poor may be the critical barrier to enabling a small scale business venture or a connection to a public utility. Microfinance is provided to individuals or to groups where group members agree to forfeit his or her saving in case of default by a group member.
Mixed Credit	Subsidized loan for WS equipment and services from OECD countries. Interest rate and other financial costs are subsidized by the donor country.
Public Private Partnerships (PPP)	A financial and organisational context for public service provision: A contractual long term cooperation between the public and the private sector on private provision of public services (e.g. water supply and sanitation) with the public sector retaining political and regulatory responsibility. A context for Corporate Social Responsibility: A framework for promoting better living conditions in developing countries by advancing corporate social responsibility and increasing opportunities for investments and enhanced competitiveness through innovation.
Output Based Aid	Output-Based Aid (OBA) is a strategy for explicit performance based subsidies for delivery of basic services (e.g. connection to piped water supply, sanitation, electricity).
Risk Guarantee	An insurance for loans used for financing infrastructure projects.

PREFACE

This good practice paper has been prepared for the Technical Advisory Service (BFT) by the Danish Water Forum through a team of consultants from COWI. The Danish Embassies in Bangladesh, Benin, Burkina Faso, Ghana, Kenya, Niger, Uganda, Vietnam and Zambia have provided valuable inputs to the paper.

The paper is based on a review of relevant recent literature on financing mechanisms for peri-urban, small towns and rural water supply and interviews held with selected Danida staff, advisers and consultants concerning their experience in the area. Comments to the paper have been obtained from a special event under the Danish Development Days (at 13th June 2007, Copenhagen), where the draft paper was presented and discussed. Finally, valuable comments and inputs to the paper have also been received from Barbara Evans and other sector experts from the Danish resource base including Danish Water Forum.

Comments to this Good Practice Paper should be sent to the contact person in Danida's Technical Advisory Services: Senior Adviser Kurt Moerck Jensen (kumoje@um.dk)

1 RECOMMENDATIONS

The Millennium Development Goals (MDG's) for water and sanitation (WS&S) are clear and time-bound targets that put pressures on developing countries and donors to find practical and sustainable solutions for establishment and management of basic infrastructure facilities for the benefit of millions of individuals. In this context, finance for required new investments, operation and maintenance is a key challenge. Additional funding based on financial viability would, however, not in itself result in achievement of MDG's. This would also require a strong commitment from governments, users and operators as well as a political will to implement principles of cost recovery for water supply (WS) investments. In this context, it is recommended to further explore the potential of scaling-up the application of the self-supply approach within regions and areas where this kind of user led and financed WS options can meet appropriate drinking water quality standards.

1.1 Alternative financing mechanisms

In recent years several new modalities for enhancing the available financing envelope for peri-urban, small towns and rural water supply have been tested. Some of these provide long term financing to water and sanitation projects under more flexible terms or from new sources. Others address specific market imperfections that limit the availability of financing to the water sector. Finally, significant donor support has been given to improving the framework conditions for private sector involvement in infra-structure financing.

The most promising new financing mechanisms are those which have been designed to bridge WS affordability gaps, mobilize users and the nascent domestic private sector, alleviate market failures, and enhance rather than replace domestic funding sources.

Among the most promising are:

- **Public Private Partnerships (PPP)**, where the public sector transfers the general responsibility for the delivery of a public service to a private company, but still keeps the political responsibility. PPPs may mobilize additional financial resources and private sector management capacity, promotes operational efficiency & innovation and provide incentive to optimize lifecycle costs. But PPP also means higher transaction costs and loss of future flexibility under the long term contracts.
- **Output Based Aid (OBA)**, where explicit output-based subsidies for basic service delivery may make service extensions into poorer areas financially viable for incumbent public or private operators in the WS sector. OBA subsidies are injected only at the time where outputs such as for example household connections have been delivered and independently verified;
- **Micro-finance**, which in particular in geographical areas where microfinance is already used for commercial activities could be an important instrument extended directly to individual households, community groups and small scale operators for financing water services.

It is recommended that future development assistance should consider using these mechanisms in the formulation of support to the WS sector.

Finally, it should be noted that a comprehensive improvement in the water supply situation in a country or region will often require a blending of several types of national and international long term financing combined with mechanisms for alleviation of specific market failures and improved framework conditions.

1.2 Framework for scaling-up use of financing mechanisms

None of the new financing mechanisms have occurred spontaneously in the WS sector and their further development will require support for improving framework conditions including:

- **Regulatory and financial framework for sector investments.** The framework needs in most cases to be further developed to better accommodate investments planning and implementation with focus on the appropriate design of the financing mechanism. The regulatory framework includes the development of the most appropriate arrangements for private sector participation in WS (Uganda provides an example). The financial framework would need on the one hand a clear political commitment to moving towards sustainable tariffs that cover operations and maintenance costs in the short term and an increasing share of system replacement costs in the longer term, and on the other side a clear strategy for development of financing modalities and subsequently anchoring these modalities in specific financial institutions and banks. Finance for user based WS services (e.g. up-grading of self-supply schemes) may be handled through microfinance institutions, OBA subsidies could be handled by commercial banks, whereas concessional finance may be better handled through a policy lending bank such as a national development bank.
- **Support for capacity development** within local and national financial institutions and at the Danish Embassies to handle existing and develop new financing mechanisms for WS. National development banks, commercial banks and microfinance institutions have often very limited experience and knowledge of the specific features and demands of the WS sector, as investment finance for the WS sectors historically has rarely been channelled through these institutions. Capacity development would be required for example in sector specific appraisal technique based on locally prepared feasibility studies.

It is therefore recommended that donor assistance should consider support to national enabling frameworks for scaling-up or replicating successful pilots of existing and/or new financing mechanisms for WS.

1.3 Financing mechanisms and their incorporation into different aid modalities

The sustainability and wider dissemination of new financing approaches require their ability to work and ultimately be mainstreamed under the framework of new aid modalities. This is both a challenge and an opportunity:

- The move from project support over sector program support through sector budget support to national programmes based on joint government and donor support, provides donors with opportunities for promoting innovative financing mechanisms and at the same time avoid donor competition;
- At the same time, decentralisation of aid management may make knowledge sharing on innovative mechanisms more challenging with a risk of changing focus towards more traditional approaches;
- Decentralisation in the recipient countries may pose a temporary barrier for complex and innovative approaches as these often require more capacity among implementing institutions than traditional approaches. Such capacity is often not immediately available at the local level. On the other hand, fiscal decentralisation could, through the political process, lead to higher ownership of the reform process, facilitate the introduction of new financing mechanisms and enable necessary, but politically sensitive moves, such as higher user tariffs and contributions leading to higher cost recovery.

With this in mind, it is recommended that Danish Development Assistance aims at:

- In the context of sector budget support, ensure that sufficient funding for the introduction of new or scale-up of existing financing mechanisms is provided. Sufficient flexibility should be exercised to revise/change financing mechanisms as a result of joint annual reviews and to introduce - if justified - new financing mechanisms;

- Ensuring that sufficient un-allocated funds are available within the financial frame of sector programmes for support to the introduction of new financing mechanisms where relevant;
- Promoting mechanisms to avoid “competition” between traditional financing and new financing mechanisms - this would require clear and simple eligibility criteria for new financing mechanisms.
- Disseminating knowledge about new aid modalities and innovative financial approaches in a decentralized system through for example lessons learnt papers and the annual water seminar.

Finally, it should be noted that the 2000 Danida Sector Policy for Water Supply and Sanitation remains consistent with recent donor thinking in the area and continues to serve as a useful reference document, even if it is gradually being replaced by thematic Good Practise Papers.

2 INTRODUCTION

The purpose of the Good Practice Paper (GPP) series is to provide and promote operational guidance for use in Danish development assistance programmes.

The specific objective of this GPP is to i) assess experiences and current trends in sector financing; and review and assess different options for and provide recommendations on specific financing and subsidy mechanisms to be used by Danida in the delivery of water supply (WS) infrastructure in peri-urban, small towns and rural areas.

BOX 1 - Definitions

A financing mechanism is defined as any means through which finance for infrastructure provision (here WS) is made available. This can include user tariffs, grants, subsidies, commercial or soft loans, mixed credit, micro credit, output based aid, risk guarantees, bonds, debt swaps or equity. These means of finance can be structured and blended in a variety of ways in order to achieve financial viability of a WS project.

Subsidies are any funds which reduce costs faced by individuals or groups. Subsidies may be implicit, as hidden elements of the water tariff, or of the interest rate on capital employed. Subsidies may also be explicitly used to reduce the investment cost to make a WS&S investment financially viable. In all cases subsidies are considered a financing mechanism in accordance with the above definition.

The general target audience for this GPP are staff at the Danish Ministry of Foreign Affairs, and Danish Embassies, national cooperation partners, advisers, other donor partners and external consultants.

As a result of the process and comments received during the preparation of the paper, it was decided to leave out the specific financing modalities related to sanitation. This is not because the good practices and lessons learned regarding financing of improved sanitation is considered less relevant by Danida. However, in spite of the fact that rural sanitation often has been planned together with water supply there are a number of distinct differences between the two services, which suggest that the financing mechanisms of the two services should be treated separately. Rural sanitation is considered a private domaine, whereas water supply very often is perceived as a public good. Furthermore, sanitation may institutionally be anchored in different line ministries than water supply, e.g. in Ministry of Health and/or Education and thereby might have another target audience at the national level.

The focus of this paper is on the use of financing mechanisms including subsidies for WS in peri-urban, small towns and rural areas. These areas include the following characteristics:

- *Peri-urban areas:* These areas are typically informal areas without a formal planning basis and fast growing as a result primarily of the rural-urban drift often resulting in poverty levels comparable with those of the rural areas or even worse. WS infrastructure includes typically piped water schemes providing supply through public stand posts and some individual connections with supplementary point sources such as open un-sanitary wells, boreholes or often polluted surface water sources.
- *Small towns:* Small towns are urban environments transferred into a rural setting. With the growth of small towns existing WS infrastructure such as small piped water schemes need to be extended and often into fringe areas with population groups representing lower income levels than those groups already served.

- *Rural areas*¹: Rural household income levels are generally lower than in small towns. Since WS facilities often include small piped schemes, boreholes and/or hand pumps and other point sources, which are often unreliable and remote, rural households represent a prime target group for improved WS services.

This Good Practice Paper is structured as follows:

Chapter 3-provides the context by presenting a number of key issues and challenges in the delivery of infrastructure for WS in peri-urban, small towns and rural areas, which are directly or indirectly related to the choice of a financing mechanism.

Chapter 4-presents selected donor policies and strategies in the use of financing mechanisms for WS and provides examples of Danida's use of financing mechanisms. The lessons from piloting new financing mechanisms are highlighted and selected promising new financing approaches are presented in more detail.

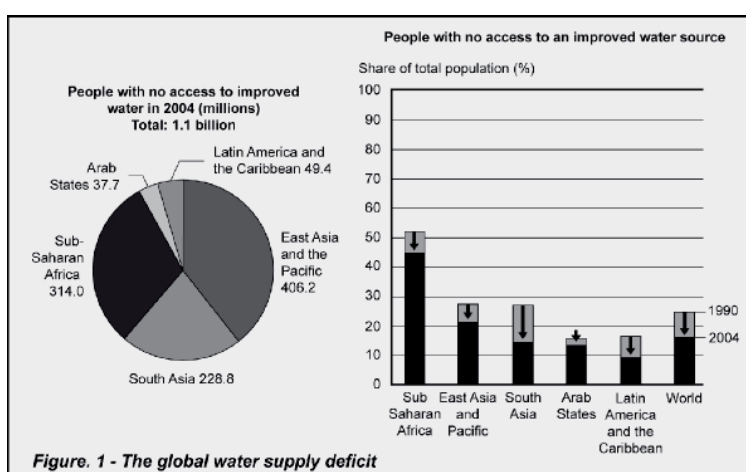
Finally, **Chapter 5**-provides an assessment of how alternative financing mechanisms could be incorporated into budget support as an emerging aid modality as well as into existing sector programmes.

¹ In the context of the present study rural areas include large villages and rural growth centres

3 CONTEXT AND ANALYSIS

3.1 Water sector development and the global agenda

Poverty reduction is the overall objective of Danish development assistance, and a fundamental pillar for achieving this global objective is the commitment to support achievement of the Millennium Development Goals (MDG) by 2015. The MDG directly related to water supply and sanitation (Goal 7, target 10) is to halve, by 2015, the proportion of people without sustainable access to safe drinking water and improved sanitation. This is a clear and time-bound target, which will require massive public and private investments. However, even where political will and sound policies are in place, affordable user contributions, currently available public funding and external aid alone are inadequate to bridge the gap between present and future needs and presently allocated resources.

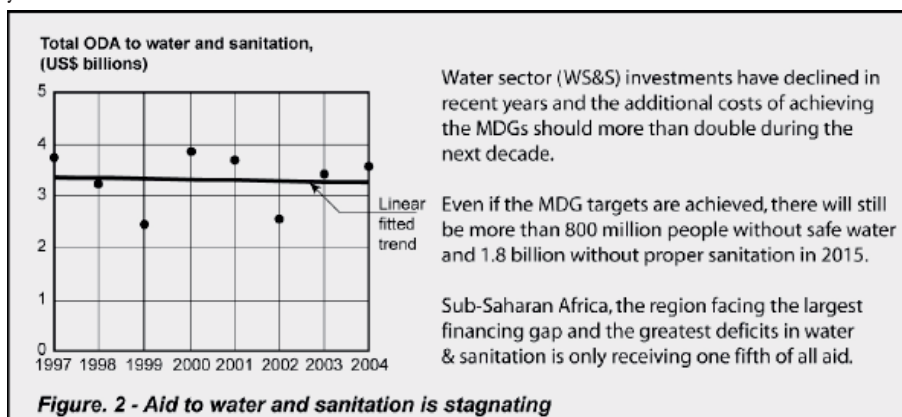


(source: Human Development Report, 2006)

Despite considerable efforts and investment during the past two decades, it is estimated that one in five people living in the developing world, or approximately 1.1 billion people, still lack access to adequate water supply facilities. The present situation with respect to the sanitation target is even more severe with almost 2.6 billion people without access to appropriate sanitation facilities.

In the efforts to fulfil the MDGs it will be important to safeguard equality in water provision, it be at the regional level (continental and/or within individual countries), the urban-rural divide, and between specific target groups (e.g. high/low income areas in urban areas, ethnic minorities, indigenous versus non-indigenous groups).

Recent documentations² conclude that the international aid for water and sanitation has slightly decreased during the last 7-8 years, whereas the overall national financial allocation has at best been stable on the global scale.



² UNDP, Human Development Report (2006); Financing Water for All, Michael Camdessus et al (2003)

For Sub-Saharan Africa there is an urgent need of a dramatic increase in sector allocation, contributed by users and donor agencies, but not least from the national budget allocations. Cross-country estimates suggest that reaching MDG target for Sub-Saharan Africa will require annual investments over the next decade of about 2.7% of the countries GDP, or USD 7 billion per year (both water supply and sanitation targets). This should be viewed against the estimated current national allocations, which together with cost-recovery and capital cost contributions from users/customers corresponds to about 1.0% of GDP. This huge financial requirement of more than two and a half times the present domestic financing is far from being met by the current donor sector support of approximately USD 830 million annually. In summary, there is a huge financial gap to be filled, if the MDGs are to be met. Especially the concerned national governments will need to give much more attention to water sector development in their national planning and budgeting than in the past.

BOX 2 - Trends in water sector funding for investment (global scale)

Water supply infrastructure is ultimately paid for by i) customers, through their own outlays or water tariffs; ii) taxpayers, through various local and/or national fiscal allocations; and/or aid donors through grants or loans.

At the end of the 1990ies the breakdown of the financial sources for the global water sector was estimated to be: domestic public sector 65-70%, domestic private sector 5%, international donors 10-15%, and international private companies (utility companies) 10-15%. It will be seen that public funding obviously is important, but in the developing world this source of sector funding could be at risk due to the fiscal position of the respective countries.

With respect to private sector investments globally, the pool of private companies with the resources and willingness to invest has shrunk, leaving the ones that remain more risk-averse. When it comes to poor or emerging countries only about 3% of the population (primarily urban) is now served by operators that are fully or partly private.

(source: Financing Water for All; World Panel on Financing Water Infrastructure; chaired by M. Camdessus)

Many governments have failed in making the water sector a priority or to tackle long-standing problems in institutional fragmentations. This is also reflected in the generally weak position the water sector has or has had in the national Poverty Reduction Strategy Papers. Or as concluded in a recent study carried out by ODI and Water Aid³ of the extent to which water supply and sanitation figured in Poverty Reduction Strategy Papers (PRSPs) in Sub-Saharan Africa “Water supply and sanitation have been inadequately reflected both in terms of the process of PRSP preparation and the content of emerging PRSPs”.

BOX 3 - Zambia, Poverty Reduction Strategy Framework - less focus on water sector

“Poverty-related issues are addressed in the Poverty Reduction Strategy Paper (PRSP) of March 2002. Only 3.5% of the PRSP budget has been allocated to the water sector (incl. irrigation), and it is noted that the majority of the financial allocation is earmarked to construction and rehabilitation of multipurpose dams (close to 57%); the rural WS&S sector will receive about 32 %; whereas the peri-urban sector not specifically has been allocated financial allocation. However, the PRSP states that provision of WSS services shall be extended to approximately 2.5 million peri-urban residents, who are not supplied with minimum standards. It is generally acknowledged that the fairly limited budget allocation for improved drinking water and sanitation for the rural and peri-urban population does not match the requirements, if the MDGs in any reality shall be met.”

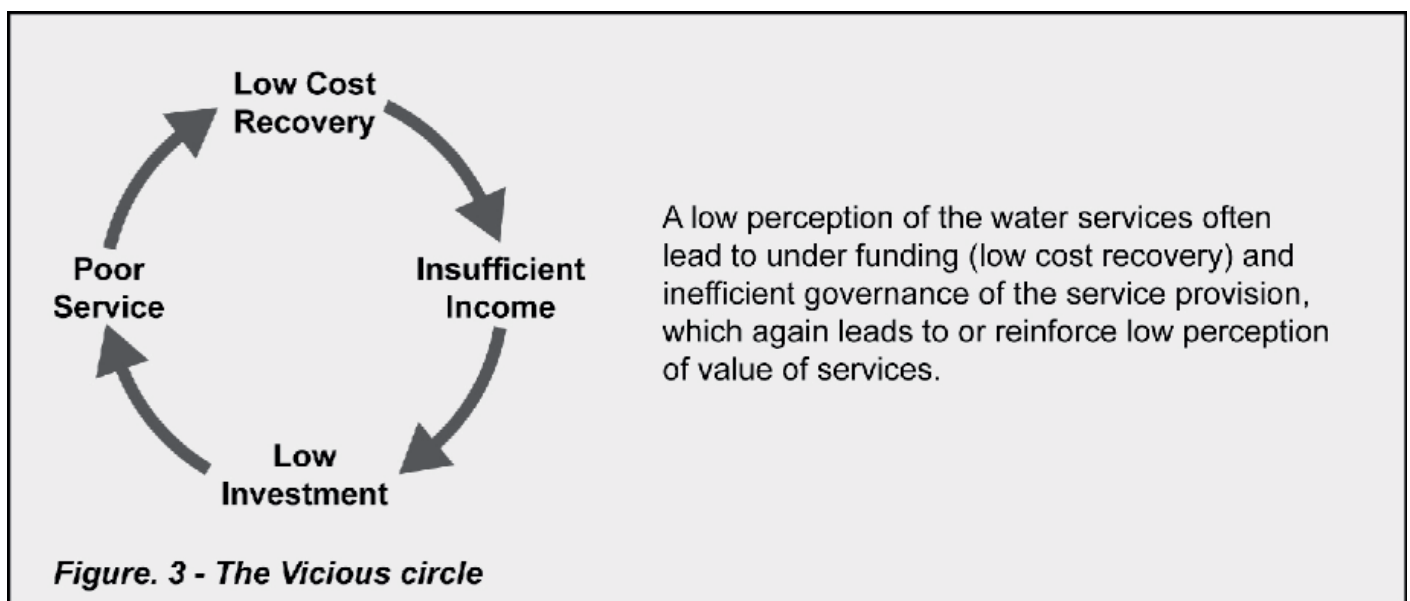
(source: Government of Zambia & Danida, Identification and Preparation Study of Water and Sanitation Sector Programme Support (2004))

3 T. Slaymaker and P. Newborne (2004); Implementation of ws&s programmes under PRSPs, ODI London

3.2 Ensure financial viability and equality

It is evident that there is a substantial financing shortfall across the water sector of both capital investments to meet the un-served people, as well as finance for a sustainable operation and maintenance and future replacement of existing facilities. The finance for capital investments will have to be mobilised from public and private sources at the national level supported by the international community, whereas the resources for operation and maintenance will have to be built on realistic and affordable water tariffs, which together with pro-poor subsidies can sustain the water supply services. With respect to financial viability some of the main lessons learnt are:

- *Inadequate cost recovery mechanisms to safeguard the investments.* Financing of realistic and sustainable operation and maintenance costs for WS in developing countries has, generally, been relying on scarce public funds. Where water tariffs are charged to consumers, they are normally far below actual O&M costs⁴. It is evident that maintenance cost should be funded to guarantee the physical life-time of facilities, otherwise increased rehabilitation cost at a later stage or ultimately shorter life-time make urgently required investments even more expensive. However, in most cases focus tend to give priority to new investments to meet the MDG's, and the subsequent need for increased funding for rehabilitation and preventive maintenance is rarely being met. This results in shorter physical lifetime of facilities and the start of a vicious circle.



- *Subsidies have been mis-directed.* Considering that the rich and more affluent people are quite well served with piped water supply facilities, whereas there is a vast group of poor people who lack access to potable safe water it is clear that subsidies have been misdirected. Subsidies for WS are required in cases where affordable tariffs cannot provide full cost recovery. This is the case for a majority of WS projects in rural areas, rural growth centres and small towns. Any strategy for subsidies should be based on clear objectives and transparent criteria. Furthermore, it will be important to distinguish between the funding source of the subsidy (local/central government budget and/or donor); the beneficiaries (household, community, utility, local government agency); and what to be subsidized (capital and/or part of O&M costs). It should therefore be ensured that water sector reforms focus on effective targeting, to make sure that investments meet the needs of the poor; and development of cost recovery mechanisms that effectively target the use of subsidies for access for the poor.

⁴ Addressing the Water Crises, DFID (2001), page 18: "...the amounts allocated for O&M of irrigation schemes are typically less than 50% of the requirements; a similar level of under-funding exists with water and sanitation services."

- *Policies in place-what about political will?* During the last decade governments have increasingly put in place appropriate sector policies promoting cost recovery mechanisms as a means to ensure sustainability in the sector. In some countries the political will to implement cost recovery has been absent and in some cases even actively worked against (politicians tell communities that water is a free good even when this is contradictory to the national policy).

The above aspects have led to an increased finance gap and should therefore all be addressed as part of the challenges in designing financing mechanisms in the WS sector.

3.3 Can we afford not to invest in the water sector?

As concluded by the Human Development Report 2006 “From a human development perspective the real question is not whether the world can afford to achieve the MDG target. It is whether it can afford not to make the investment needed”. Having seen the significant future investments needed one could question the economic justification for this level of sector investment. Research carried out for the Human Development Report (viz. G. Hutton & L. Haller. Evaluation of the costs and benefits of water and sanitation improvements at the Global level. WHO, 2004) provides convincing arguments for more investments to the sector. One of the key conclusions of this study is that, for all different levels of water and sanitation service improvement and across all major geographical regions worldwide, the benefits by far outweigh the investments up to as much as 60 times and never less than three times. For the poorest countries in Asia and Africa every dollar invested generates between 5 and 11 in economic benefits (on average \$ 1 investment has a potential pay back of \$8).

3.4 Essentials for delivery of cost-effective WS investments

A number of major challenges will need to be addressed in connection with the design of a financing mechanism for water supply. Challenges are different from place to place, but a selected list of fundamental issues for the identification of appropriate finance mechanisms include as a minimum the following ones.

3.4.1 Changed role of government, users and the private sector?

The role of government in water service provision is changing. Previously governments planned, designed, financed, constructed, and managed the schemes and facilities and had an all inclusive role. Today governments are increasingly leaving the operational responsibilities to lower level of government, the communities and in some cases to the private sector. Central level government agencies concentrate their efforts on policy and strategy formulation, regulatory and legal issues as well as monitoring and evaluation. However, the institutional framework for and capacity of local government agencies, user associations and private sector operators to assume responsibility for O&M are often not in place, which lead to ad-hoc and insufficient approaches and results.

Although the role of government is changing the public sector agency often still maintain legal ownership of water supply facilities. The schemes are generally operated with a financial deficit due to insufficient cost recovery from tariffs. Many public budgets have prioritized financing of salary expenditure of public servants as well as day-to-day operating expenses of utilities, leaving aside maintenance costs. The tariffs paid by users are most often politically defined and not based on a realistic budget for sustainable O&M. This does however vary: in Egypt, average tariff levels are approximately one fourth of the O&M cost level, whereas in Uganda they are equal to the O&M cost level for the small towns water supply sector. Provided the government maintains ownership to facilities, community management or lease contracts could clearly place and define the specific responsibility for maintenance to avoid malfunctioning and reduction of the physical lifetime of facilities. The involvement of the private sector - if it exists and has the capacity and willingness to participate in WS (see Box 4) - should be based on a clear set of regulatory and legal documents outlining public private partnership models, based on which development in the sector could take place.

BOX 4- Private or Public Operators

The experiences of the past 1-2 decades reveal that the public-private arrangements in the water supply sector outside developed countries (e.g. France, the UK) are in principle based on models where the ownership of the infrastructure and overall control of the policy environment rest with governments. The private partner (operators) are contracted to perform certain tasks related to operation, management and potential expansion of infrastructure. It is also experienced that the introduction of private operators in a country that has no experience with PPP is a long and difficult process. Compared with other infrastructure sectors (e.g. power, telecommunication), the water sector has been the least attractive to private investors. Only 3% of the population (beginning of the 2000-century) of poor and emerging countries is now served by operators that are fully or partially private.

However, the PPP approach is still considered an important element in improving the water sector performance and developing the sector to provide cost-efficient services to the customers.

(source: Financing Water for All; World Panel on Financing Water Infrastructure; chaired by M. Camdessus)

The involvement of the user group with its duties and responsibilities is of paramount importance to the sustainability of the WS infrastructure. With higher tariffs and thus higher cost recovery targets the involvement of users is expected to increase, not necessarily resulting in legal ownership, but through increased influence on management and decision making through the user groups.

3.4.2 Can financial viability be achieved?

Financial viability is a basic requirement for all WS investments. A number of elements should be in place to achieve financial viability such as :

- *Adequate tariffs to meet cost recovery*
Tariffs are from a sustainability point of view the essential source of finance for WS. Tariff reforms may be required to allow the utilities or community based groups to set tariffs in accordance with cost recovery principles with due concern also for affordability aspects⁵. The target for schemes in rural areas, small towns and peri-urban areas should be to reach O&M and replacement cost recovery over a fixed period of time. Therefore there is a need for subsidies, which target the low-income users. Full cost recovery and thus financial viability may be achieved when affordable tariffs for low-income users are coupled with the injection of a financial subsidy, which would reduce the investment cost thus reducing the capital cost element. Income levels, affordability and willingness to pay should be addressed in setting water tariffs. Income differences between small towns and rural growth centres/rural communities may justify the difference in tariff levels applied. Furthermore, investment cost per capita in extension projects of small towns will be lower than those per capita investment cost in rural growth centres, where a completely new water investment project is often to be established. In all this means higher cost recovery level for the extension project of the small town. The difference in cost recovery levels suggests a higher subsidy level to be applied in the case of a new water project in the rural growth centre and large village schemes than for the extension project of the small town.
- *Affordable pro-poor tariffs*
Introduction of pro-poor tariff policies⁶ may not necessarily include cross-subsidization of consumption through the use of increasing block tariffs according to increased consumption. Such tariff practices, which may be coupled with high connection cost, serve only to increase the perceived risk of connecting low-income households who will consume only in the lowest, subsidized block of tariff. Many households indicate relatively high willingness to pay for reliable services suggesting that a uniform consumption tariff would be a more economically rational approach. The removal of connection fees or alternatively access to finance for the connection fee may be seen as an even better and more pro-poor tariff strategy.

5 Full cost recovery reflects the situation where tariffs cover the full financial cost of service delivery i.e. O&M cost, replacement cost, loan repayment and interest on debt service and a management fee for the operator

6 Water Supply and Sanitation in Low-Income Urban Areas, Good Practice Paper, 2006. Danida

But such subsidies should be explicit and targeted towards the poor (as identified under transparent eligibility criteria and targeting mechanism) to avoid the costly consequences of blanket subsidies.

- *Cost sharing of capital investment*

Subsidies or grants provided by central and local governments are still considered important to ensure full cost recovery, still with the risk that funding for O&M and reinvestment may not be fully forthcoming from the users for a period of time. As a result of decentralisation it is expected that local government subsidies and grants to WS will increase, however at the expense of central government contributions. Ideally public subsidies should be combined with cost sharing by users. Usually, capital cost sharing by users includes a user contribution amounting to a fixed percentage of the total investment cost as well as the full cost of user connections. Users contribution could in some cases be provided in kind for example as labour input for civil works related to the construction of WS facilities. Furthermore, access to microfinance can facilitate access to user contributions for capital investments. In addition to subsidies and cost sharing from individual users, equity from the Community Based Organisation as well as grants from the municipality or from the local water authority could contribute to achieve financial viability of a WS scheme provided that affordable tariffs are applied.

There are no blue print solutions to the challenge of achieving financial viability. What works in one country in terms of using financing mechanisms and private sector involvement may not work in other countries. General guidelines such as this paper are useful to the extent that they present different experiences, approaches and case studies. However, most often approaches implemented in one developing country cannot be directly applied in other countries without revision and adjustment in accordance with local conditions.

3.5 The aid effectiveness framework

While the pressure of achieving the MDGs is increasing, there is also a shift in approaches for how to support this to materialise in the most cost-effective way. The current move from project support to sector-wide approach (SWAp) is a fact in many countries within several sectors, and the next step to budgetary support is also on the move.

The current trend in water sector financing is that donors are delivering an increasing part of their support directly to national budgets for a full range of development activities. An example is Tanzania where the donor community through a joint Sector Working Group is supporting the Government's Water Sector Development Programme (2006-2025) with substantial funding. Another example is for the future Danish sub-sector support to the rural water & sanitation sector in Uganda and Vietnam.

This joint development framework is guided by the **Paris Declaration on Aid Effectiveness** endorsed at the 2005 World Summit. It represents a commitment to holistic, coherent and harmonised development assistance that supports nationally developed and led poverty reduction strategies, all guided by the five principles of i) partner country ownership of the development process; ii) alignment of donor support to national partner's development strategies, institutions and procedures; iii) harmonisation of the donor support and achieve transparency and collective effectiveness; iv) managing resources and improving decision-making for results; and finally v) mutual accountability for development results by donors and partners.

4 LESSONS LEARNT

This chapter presents lessons learnt regarding selected donor policies and strategies towards the use of financing mechanisms for WS, and subsequently provides examples of applied financing mechanisms in programmes supported by Danida. Furthermore, the chapter introduces some of the newer and more innovative financing mechanisms that have been or are currently being developed for use in WS&S. Finally a number of recommendations on new financing mechanisms as well as for the establishment of the necessary framework for applying new and innovative financing instruments will be made.

4.1 Danida approaches to WS&S finance and subsidies

The Danida Aid Management Guidelines coupled with thematic Lessons Learnt Papers will gradually replace the Danida WS&S sector policy documents developed in 20007. The Danida sector policy documents have clearly formulated a number of key recommendations related to the use of financing mechanisms in rural WS&S as shown in the box below:

Box 5 - Key recommendations related to financing mechanisms in WS&S in the Danida policy documents of 2000:

- Long term sustainability of the WS system requires financial viability of the organisation responsible for the WS system (whether this is a village based consumer group, or a public or private urban utility);
- Users should share the cost of the initial capital investments;
- User tariffs should be sufficient to provide cost recovery of operation and maintenance costs and contribute a proportion of future investments;
- Public subsidies may be legitimate in achieving WS&S benefits for underprivileged and poor people; however with scarce public financial resources transparency is required on objectives, targets, criteria and procedures to justify the use of subsidies;
- In cases where users select a higher level of water supply service and technology than the basic minimum service level defined, the users should have to cover the full incremental costs.

(source: Water Supply & Sanitation, Danida Sector Policies , 2000)

Danida policies on essential areas related to financing viability, such as cost recovery, subsidies and the role of the private sector are compared to policies of other donors in the following table.

Table 1- Selected Donor WS policies on cost recovery, subsidies and the role of the private sector

Agency	Cost recovery	Subsidies	Role of the Private Sector
Danida (rural WS)	O&M cost and a proportion of investment cost	Subsidies are legitimate in achieving benefits for the poor- however criteria for use of subsidies should be transparent and in no cases exceed present government subsidy level	Can support strengthening the collaboration between the public and private sectors and channel funds for investments through public-private partnerships provided guarantees for social equity and services for the poor
DFID ⁸	O&M cost as a minimum	Subsidies may be applied based on careful analysis	Private sector has a role in mobilizing new finance for WS.
SIDA ⁹	Cost recovery systems ensuring sustainable yet affordable services	Cross-subsidization in favour of the poor may be required to ensure full cost recovery	Supports facilitation of international and domestic private banking sector lending to investments in public and private WS&S infrastructure for poor people in rural and urban settings
African Development Bank ¹⁰	O&M cost	Social equity should be ensured	Based on community ownership to facilities, the private sector should provide goods and services required
GPOBA ¹¹	O&M cost + minimum 10% of investment	Explicit, output-based and targeted to the poor.	Key to ensure competitive pricing of investments and efficient operations

All donors require as part of their policies tariffs, which as a minimum cover O&M cost with variations in the proportion of investment cost coverage required. Also most donors are acknowledging the use of well-targeted subsidies for the poor in order to achieve cost recovery. Their policies also acknowledge the role of the private sector through public private partnerships (Danida), in mobilizing and providing finance for WS&S investments (DFID), in facilitation of private banking sector lending to WS&S investments (SIDA), in providing goods and services (AfDB) and in ensuring competitive pricing of investments (GPOBA).

8 Addressing the Water Crisis-healthier and more productive lives for poor people. Strategies for achieving the international development targets. DFID 2001

9 Strategy for Water & Sanitation, 2004. SIDA

10 Rural Water Supply and Sanitation Initiative, 2004

11 The Global Partnership on Output-Based Aid (GPOBA) is a multi-donor trust fund established in January, 2003 by DFID and World Bank. The purpose of GPOBA is to fund, demonstrate and document OBA approaches to support the sustainable delivery of basic services in developing countries. Further information is available on www.gpoa.org

4.2 Danida's support to different financing mechanisms in WS&S through selected sector programmes

Table 2 provides an overview of the sources of funding for rural WS&S in the countries where Danida assists WS&S sector development.

Table 2 - Distribution (%) of Sources of Finance for Investment in Rural WS&S Sector-Percentage (2000-05)

	Central Government	Local Government	Bilateral & multilateral donors	International and local NGO's	User fees and private sector ¹²	Total-%
Bangladesh	30	0	34	4	32	100
Benin	16	0	78	3	3	100
Burkina Faso	11	0	85	2	2	100
Egypt	90	0	10	Negligible	Negligible	100
Ghana	11	1	85	2	1	100
Uganda	30	1	65	2	2	100
Vietnam	19	10	23	2	46	100

Source: Country Reports

The main funding source for WS&S in the Sub-Saharan African countries is ODA through bilateral and multilateral donors. The ODA share of total sources of finance is in the range of 65-85% in Benin, Burkina Faso, Ghana and Uganda and in these countries the contribution of central and local governments ranges from 11-31%.

Vietnam and Bangladesh also represent lower than 30% central and local government funding for rural WS&S. However, both countries have considerable higher user contributions; in Vietnam 46% and in Bangladesh 32%. Vietnam is the only country with a significant local government funding contribution of 10%.

Egypt is notable with negligible user fees in spite of relatively high GDP per capita and a sector policy promoting cost recovery.

Danida's specific activities in the above countries are mainly rural/small towns focused except for Bangladesh, Egypt and Vietnam.

All in all it can be concluded that the main source of funding for rural WS&S investments is ODA through significant grants, supplemented by relatively minor central & local government funding together with a symbolic cost sharing from users (if any).

In most countries private sector funding of rural WS&S has been negligible. However, the private sector participation in publicly sponsored projects involves design, construction and supervision.

¹² Private sector involvement in investment funding has been negligible in all countries in the past, but is presently being tested in Uganda under a pilot OBA project for Small Towns and RGCs.

Nevertheless, the recent experience, e.g. from Uganda where 16 private operators with a reasonable success have been operating donor funded water supply systems in 65 small towns and will take co-responsibility for investment finance under an ongoing OBA project, is encouraging.

4.2.1 Danida support for financing mechanisms for WS in selected countries

Danida's modalities for channelling of funds and the principles and mechanisms for investment support, including subsidies have been defined in the Sector Programme Support documents and/or as agreed upon during annual sector reviews. The sector programme document co-signed by Danida and the recipient country specifies cost sharing arrangements, tariff structure, the justification and mechanism for use of subsidies and cost recovery levels. Furthermore the programme document may specifically mention agreements with one or a number of financial institutions, which have a mandate to provide finance including guarantees for WS investments.

In some countries with a more conducive financial environment, i.e. where full cost recovery in WS&S may be achieved and where a few financial institutions have started to provide lending for WS infrastructure, Danida's support is to some extent making use of established financing mechanisms. The following examples are taken from Danida's support provided for the WS sectors in Vietnam, Uganda, Bangladesh and Zambia

Vietnam

In Vietnam, Danida's supports the National Target Program for Rural Water Supply and Sanitation (2006-2010). In this new joint programme, donor funds will be provided through government channels and implementation will be carried out by and within the government structures in accordance to the Vietnamese rules and regulations, and in line with the new aid modalities as defined by the Paris Declaration¹³. The program is being implemented in provinces with focus on providing water supply and sanitation for the poor.

The more specific principles for cost recovery for implementation under the programme include tariff affordability with O&M cost recovery as a minimum. The general principles for subsidies include:

- A maximum of 80% grant for water supply for very poor households
- A maximum of 60% grant for water supply for the poor households
- A maximum of 40% grant for piped schemes for all connected (very poor, poor and non-poor).

The remaining finance requirement should be a self contribution which may consist of any combination of equity and loan. In designing the financing mechanism it is expected that soft loans from Vietnam Development Bank (annual interest rate of approximately 6%) may be utilised for rural piped schemes whereas household water supply and sanitation may be financed through the Social Policy Bank or through other types of micro-finance.

A total of US\$ 125 million has been jointly funded by AusAID, Danida and the Netherlands of which Danida's contribution is 66 million US\$ for a period of five years starting from late 2006.

Uganda

Danida has as part of its previous sector programme under the Small Towns W&S Component supported the Government policy to use private operators who through management contracts have gained useful experience in operation of water supply schemes for small towns and rural growth centres. Today 65 small towns (2-10,000 inhabitants per town) are being operated by 16 private operators under 3 year operations contracts at tariffs which cover O&M costs. This background where operations cost coverage has been achieved and several years of experience with private sector participation has been gained has recently enabled a shift towards longer contracts and more risk transfer to the private sector under an Output Based Aid (OBA) pilot (further described in Section 4.3.1 below).

13 Paris Declaration on Aid Effectiveness, March 2005

In Uganda, the current second phase of the Water Sector Programme Support, WSPS II, will end in 2007. Basket funding, i.e. joint funding together with the government and other development partners is provided for Sector Capacity Building, Water Resources Management Development, Support to Technical Support Units and Support to Small Towns. Sector earmarked budget support is provided for rural water supply. Financial procedures are aligned to the Ugandan Poverty Action Fund (PAF) and to the Fiscal Decentralisation Strategy (FDS) for rural water supply. The total present budget of WSPSII is DKK 309 million.

Danida is currently jointly with five other development partners considering its future support to WS&S. One likely component under the next programme is the development of a WS&S investment fund for small towns and rural growth centres. This fund may be used to support specific financing mechanisms based on new models of public private partnership such as for example Output Based Aid (OBA).

Bangladesh

In December, 2005 the Government of Bangladesh signed an agreement with Danida regarding the Water and Sanitation Sector Programme Support Phase II (WSSPS-II). Denmark will provide 350 million DKK for a five year period. The programme has five immediate objectives of which the first three relate directly to the MDG's for water supply and sanitation, while also addressing the goals specified in the Poverty Reduction Strategy Paper. The remaining two immediate objectives contribute to the promotion of demand driven services based on democratic principles and the strengthening of a rights based approach to the provision of drinking water and sanitation services. The programme also expects to contribute to the establishment of a comprehensive Sector Development Programme as a basis for a future Sector-Wide-Approach to planning and implementation and, eventually, Sector Budget Support.

A specific grant financing mechanism for water supply and sanitation infrastructure to be applied under the programme has been established through the HYSAWA Fund. Based on a set of eligibility criteria the fund may provide grant financing for projects under Local Government (Union Parishads).

Zambia

In order to facilitate improvement in service provision to the low-income areas, the National Water Supply and Sanitation Council (NWASCO, WSS regulator) established the Devolution Trust Fund (DTF) in 2002 under provisions of the Water Supply and Sanitation Act No. 28 of 1997 to provide Commercial Water Utilities (CUs) with a financing mechanism to extend service provision to the urban poor.

DTF issues calls for proposals based on which grant applications from CU's should provide information on technical, socio-economic, financial, and management criteria. DTF assumes the role of a fund manager, ranks applications and decides on subsequent grants. The DTF is non-profit making and therefore all resources are used for improving water supply and sanitation services to the target population.

DTF has granted approximately EUR 1.2 million for sustainable water supply systems in peri-urban and low-income areas of in Kitwe, Ndola, Chiolilabobmwe, Chingola and Mongu Towns. Since its start DTF has benefited an estimated 185,000 people in low-income areas. So far DTF has mobilised approximately EUR 8.8 million through EU, KfW and Danida.

4.3 Self Supply - Community led investments in improved water supply

An often overlooked water supply facility that by sector statistics normally is classified as belonging to the un-covered population is the people provided with a *self-supply* of water. The term self-supply refers to local level or private initiatives by individuals or community groups that have improved their own domestic water supply without much assistance from outside. The self-supply approach is characterised by being mainly a rural concept, applying low cost technical solutions (open protected wells, shallow boreholes, rainwater harvesting etc).

It is well known that millions of people in Asia (e.g. Bangladesh, India, Vietnam) are relying on own private wells, and recent information from the African continent reveal that up to 40% of the so-called “people without access to safe drinking water”, or close to 20% of all rural households, are drawing water from private shallow wells, borewells or springs¹⁴ with a potential for upgrading to a sanitary safe source. Several experiences of the self-supply approach have been obtained from African countries with quite positive perspectives for the future (ref. Box 6).

Box 6 - Experience with Self-Supply Approach from Zimbabwe, Uganda and Zambia

Zimbabwe

Much of the first initiatives on self-supply took place in Zimbabwe, following the recognition of the importance of the so-called “family wells”, which are private wells. Prior to 1980, around 30-40 percent of the rural population obtained domestic water from un-improved private wells. From the early 1990s onwards there were a rapidly accelerating program to support the improvement of self-supply sources, so that by 2002, an estimated 50,000 upgraded private wells - shallow wells with head-walls, concrete drainage structures, and windlasses or handpumps - were serving about 1/2 million people. The investment costs for up-grading these wells have been covered by the users themselves with only a minor subsidy element of approximately 20%.

Uganda

In 2005 an investigation was undertaken on self-supply improvements to water supply in south and east Uganda⁶. It was found that as much as 39% of the rural population are classified as “un-served”, but rely on self-supply sources (from unlined shallow wells or water holes to drilled boreholes). Most self-supply sources serve an extensive user group (more than ten households), with very few reserved for the exclusive use of individual owners.

Since completion of the investigation study, it has been agreed by the Ugandan Government to implement a pilot intervention to assess the scope for incremental self-improvements to existing water sources by the users themselves. The pilot will include knowledge transfer to the users, technical support, and a very small - less than 10% - subsidy of the construction costs for up-grading the water supply facilities. More experiences and lesson learnt will appear late 2007 when the pilot is completed, and after which further decisions will be taken concerning the possibility of scaling-up this concept as part of the National Rural Water & Sanitation Programme.

Zambia

In Zambia, around 3 million rural people (or close to 45% of rural population) lack access to safe water, and uses springs, unlined wells, and scoopholes as drinking water sources. Subsidies for communal supplies (e.g. boreholes with handpumps or piped schemes), generally target larger communities/villages. Recognising this situation the Zambian government together with DFID launched a study in 2001 with the purpose of assessing the potential for rural poor in improving their own water supply facilities with minimal subsidies. The short-term results of this project are in summary:

- the self-supply concept is being adopted and promoted within Zambia by a number of NGOs as well as governmental organisations (e.g. Min. of Health, Min. of Energy and Water Development);
- the National Water and Sanitation Strategy guidelines and investment funds offer self supply as an option;
- all six districts which piloted self supply approaches have sourced funds for continuation, in response to community demands; and
- more than 200 groups (more than 20,000 people) benefited from the pilot project, at under USD 4 per head, and a further 1,000 water point improvements have been planned in one province.

The self-supply concept combines community empowerment with cost efficient WS solutions, and with only minor investments will it be possible to up-grade the present self-supply facilities to safe water sources to a significant number of the present “non-served” population. It is estimated that up-grading of a self-supply water facility to a full safe source can be achieved for a per capita cost of 4-5 times less than unit capital costs for a conventional new rural WS scheme. The positive response in many countries with the self-supply approach - not only from rural households but also from governments and policy makers - suggests that it is an approach that deserves wider application.

4.4 Lessons from the use of new financing approaches in the WS sector

This section gives an update of the most recent experience from the use of new and innovative financing mechanisms in the WS sector. The section is mainly based on i) the results of the 2005 study “Examination of Potential of the ACP-EU Water Facility for Encouraging Increased and Innovative Financing in Water and Sanitation”; ii) WS project experience from WB and EU funded projects carried out since 2005; and iii) recent information on financing mechanisms as presented and discussed during the World Bank Water Week (February 2007).

The 2005 study covered traditional and innovative financing products available to the water and sanitation sector in ACP from a range of IFIs, regional development banks and commercial banks operating in the region.

In general three groups of interventions were identified:

- Providing long term financing to water and sanitation projects;
- Alleviating specific market imperfections that limit the availability of financing to the water sector; and
- Improving framework conditions for private sector involvement in infra-structure financing.

The text box below provides an overview of the interventions providing long term financing to water and sanitation projects and examples of the donors using them.

Box 7 - Long term financing to water and sanitation projects

Grants for non-commercial activities (Bilateral donors, ACP-EU Water Facility, EuropeAid, African Water Facility, AfDB’s Rural Water Supply and Sanitation Initiative)

Long term financing for sovereign borrowers (World Bank, EIB-ACP Investment Facility, EIB own resources, Regional Development Banks)

Long term financing for sub-sovereign borrowers (EIB-ACP Investment Facility, USAID Development Credit Guarantee mechanism, World Bank’s Municipal Fund, Regional Development Banks)

Loans to private infrastructure projects (EIB-ACP Investment Facility, IFC, African Water Facility, Commercial banks, Regional Development Banks)

Equity and subordinated loans to private infrastructure (EIB-ACP Investment Facility, IFC, Commercial banks, Regional Development Banks)

Financing for Small Scale Service providers (Microfinance tools, EIB-ACP Investment Facility, EuropeAid)

The Finance Working Group of the EU Water Initiative and the World Panel on Financing Water for All in 2003 have both reached the conclusion that the present level of funding available from donors and other sources is far from sufficient for meeting the investment needs to comply with the MDGs and the WSSD targets for drinking water and sanitation (see also chapter 3.1).

One approach to need to increase spending for the water supply and sanitation sector is to look at how Overseas Development Assistance (ODA) can help mobilise other sources of financing, including increased international and local private sector funding for water and sanitation. In this respect it is important to recognize that a number of specific market imperfections prevails, which limit the availability of financing to the water sector and that new and innovative as well as flexible financing mechanisms therefore are required in order to obtain the maximum leverage effect of ODA and to attract more resources from a broader range of sources. Some of the key market imperfections (which presently only receives limited attention by donors) are:

- *Lack of access to local currency instruments*
The lack of local currency instruments is a particular problem as many water supply projects derive all or most of their revenues in local currency, making hard debt funding inappropriate. At the same time most international funding is available in hard currency only making utilities/scheme owners very vulnerable to currency devaluations.
- *Conflict between financial viability and affordability*
Many projects targeting the poor need investment subsidies or even transitional operating subsidies to be financially viable. Even through such subsidies can often be justified based on the significant socioeconomic benefits resulting from clean water (see chapter 3.3), there has been only few examples of donor funding leveraging private capital. The introduction of Output-Based aid (OBA) where donor funded explicit performance based subsidies to deliver basic water supply services complement or replace user fees is a move in this direction.
- *High or uninsurable risks*
Perceived high country or sector risks means that risk guarantees backed by international finance institutions and sometimes partly by national governments are an often overlooked precondition for mobilizing investment in WS by operators/owners. Furthermore, most IFIs require a sovereign guarantee, which may be difficult to obtain for sub-sovereign borrowers.

The text box below provides an overview of the interventions alleviating specific market imperfections that limit the availability of financing to the water sector and examples of the donors using them.

Box 8 - Alleviation of market imperfections

Lack of local currency instruments (EIB-ACP Investment Facility, PIDG family of financing mechanisms, Regional Development Banks)

Need for subsidies for projects targeted on the poor to be financially viable (GPOBA)

High and uninsurable country risks (EIB-ACP Investment Facility, MIGA, Regional Development Banks)

Other non-commercial risks (EIB-ACP Investment Facility, MIGA)

Finally, it should be noted that framework conditions in terms of adequacy of the legal and institutional set-up as well as the high up-front cost of developing projects to the standard needed for appraisal by international institutions and the limited capacity at public and private stakeholders are barriers to introduction to more innovative financing approaches. The text box below provides an overview of the specific interventions available for improving framework conditions for private sector involvement in infrastructure financing and examples of the donors using them.

Box 9 - Improving framework conditions

Improving enabling environment (Bilateral Donors, EuropeAid, IFC, PPIAF)

Reducing up-front cost of project development (Bilateral Donors, EIB ACP Investment Facility, PIDG family of financing mechanisms, IFC, Regional Development Banks)

Strengthen public procurer's capacity (Bilateral Donors, PIDG family of financing mechanisms, IFC, UNDP Public-Private Partnerships for the Urban Environment PPPUE, Regional Development Banks)

Strengthen private sector's capacity (EuropeAid, PIDG family of financing mechanisms, UNDP Public-Private Partnerships for the Urban Environment PPPUE)

In practise none of these interventions can stand on their own and a comprehensive improvement in the water supply situation in a country or region will often require several types of long term financing, some of which will need alleviation of specific market failures and improved framework conditions.

This in turn is a challenge in itself as government and private financial sector capacity is often very limited outside the capitals and major business centres. Implementation through a local bank/credit institution with existing banking relations to the project holder may therefore often facilitate a gradual move towards more complex financing mechanisms. As an example a bank/institution, which has already provided loans for members of a Community Based Organisation (CBO) to finance their commercial activities (such as agricultural production) could be approached for financing WS investments implemented by the CBO.

Three new financing mechanisms in the WS are discussed further below:

- Public Private Partnerships (PPP), where private financing and management capacity is mobilized, but public control is retained;
- Output Based Aid (OBA), where explicit output based subsidies are used to improve the financial viability of water infrastructure provision for the poor; and
- Microfinance, where user communities are mobilized to take a joint responsibility for improved services

4.4.1 Public Private Partnership (PPP)

A Public Private Partnership (PPP) is a long term contract based cooperation where the public sector transfers the general responsibility for the delivery of a public service to a private company, but still keeps the political responsibility.

The benefits from PPP are that it may mobilize additional financial resources and private sector management capacity, promotes operational efficiency & innovation and provide incentive to optimize lifecycle costs. But PPP also means higher transaction costs and loss of future flexibility under the long term contracts.

PPP covers a broad variety of cooperation models from simple operating and maintenance contracts over DBFO contracts (where design, construction, financing and operation is contracted to the private sector) to long term concessions (where also user charges are collected).

The international experience is that a well structured PPP requires that there are a sufficient number of interested private sector suppliers to create competition; that it is possible to specify the required outputs; that it is possible to make the project financially viable (including possible grant elements); that the public sector is ready to transfer key design decisions as well as management autonomy in the O&M phase to the private sector. Furthermore, the rationale for using PPP should be based on more than one objective - often the key driving force behind PPP is to mobilize additional financial resources, but even PPPs have in the end to be paid by a combination of revenues and budgets/donors.

A successful example is Uganda where water supply systems in 65 small towns - initially financed by donors - have been operated by 16 local private operators under well functioning 3 year operating and maintenance contracts since around 2001.

This has however required significant donor support for developing the enabling environment (in particular the formats of performance contracts between the ministry and the local water authorities and the operating and maintenance contracts between the local water authorities and the private operators), and for capacity building both at the public procurer and the private contractor. It has furthermore required political commitment to allow tariffs to cover O&M costs and be adjusted with inflation.

The existing contracts have limited risk transfer and no role for the private operator in system extension or construction of Greenfield systems. A key barrier for further development of the system in Uganda has been that affordability concerns prevent tariffs from covering any significant share of investments in system expansions and only after combining the existing sector model with an OBA scheme (see below) has it been possible to transfer responsibilities for system extensions and construction of new water supply schemes to the private sector.

4.4.2 Output Based Aid (OBA)

A key challenge in establishing infrastructure access to the poor is that affordability concerns often limit the scope for full cost recovery. Water supply tariffs covering O&M costs are often an affordable alternative to alternatives such as buying from neighbours or water vendors and sustainable tariffs that cover O&M costs are becoming a politically acceptable proposition in more and more countries. However, significant contribution from tariffs towards system renovation costs or Greenfield investments¹⁵ are often neither affordable for the lowest income groups nor politically acceptable.

Although water abstraction directly at the spring or well may in principle be the cheapest form of water it involves a number of non-monetary costs in terms of time spend on walking to a distance source, health impacts from non safe water, conflicts with neighbours and vendor, and security issues for young girls outside the busy day hours. Improved water supply provision for the poor is therefore often viable from an economic point of view as documented e.g. in the key 2004 WHO Study¹⁶.

Output Based Aid (OBA) is new financing mechanism or aid modality that bridges the gap between attractive socioeconomic returns and lack of financial viability caused by low affordability.

OBA is a strategy for explicit performance based subsidies for delivery of basic services (e.g. connection to piped water supply) to the poor. It is explicit because it is explicitly recognised why the subsidy is provided, who is receiving the subsidy, what is being subsidized and with how much. It is performance based because the payment of the subsidy is directly linked to the output (the establishment of supply for eligible households) rather than the input.

The Global Partnership on Output Based Aid (GPOBA) is a multi-donor trust fund established in January, 2003 by DFID and World Bank. The purpose of GPOBA is to fund, demonstrate and document OBA approaches to support the sustainable

¹⁵ A Greenfield investment, is a financial investment by a company/government to construct a project by basic components.

¹⁶ Evaluation of the Costs and Benefits of Water and Sanitation Improvements at the Global Level (2004), Guy Hutton and Laurence Haller, Water, Sanitation and Health Protection of the Human Environment, World Health Organization.

delivery of basic services in developing countries. The sectors covered are water and sanitation, energy, telecommunications, transport, health and education. The key focus area is Sub-Saharan Africa, and water sector OBA pilots are under implementation in a number of countries including Vietnam, Laos, Cambodia, Egypt, Uganda, Tanzania and Mozambique.

OBA improves the financial viability of a pro-poor infrastructure project and may therefore work well with competitively procured private participation. However, it also works with incumbent public providers.

The lessons from the GPOBA pilot projects presently under implementation in the water sector are that OBA increases transparency of where subsidies are going by linking them to an output, it allows pro-poor targeting, it increases the accountability of provider and shifts performance risk to provider by paying largely after delivery of output, it promotes innovation and efficiency through focus on outputs and competition, and it may support increased private sector participation in the sector.

However it is also now clear that OBA works better where sector reform promotes stable tariff regime, cost recovery for (at least) O&M and Private Sector Participation, it requires a certain degree of development in the institutional set up in terms of contract law and banking system, and the shift from input to output based specifications means new challenges for both the public contracting authorities and the private sector operators/contractors and therefore necessitates capacity development at both.

4.4.3 Microfinance⁴⁷

Microfinance consists of making small loans, usually less than \$200, to individuals, usually women, to establish or expand a small, self-sustaining business. Microfinance is typically collateral free but secured by a cross default provision within a given group of borrowers (e.g. a village).

Historically, microfinance has focused on commercial activities such as trade and small scale producers, but interest in applications for infrastructure access to the poor is increasing. An example of successful application in infrastructure is Grameen Foundation's Village Phone, originally pioneered in Bangladesh, which establishes mobile phone businesses that provide "pay phone" service for entire villages. This approach has recently been replicated in a number of countries in Sub-Saharan Africa.

In the water sector, increased focus on cost recovery strategies and the need for community ownership of water systems means that poor communities and households often need to pay 10-20% of capital investments up front and in cash as their capital cost contribution. A similar challenge exists in relation to system rehabilitations and major repairs where projects originally funded by donors have not accrued the necessary funds for maintenance through the tariffs.

To overcome such problems, ASCI in Ethiopia and K-Rep in Kenya provide financial services to Community Based Organisations (CBOs) for water in rural areas. The CBOs have a separate account for community investments and make regular savings deposits which enable them to access funds for larger repairs and maintenance.

Another example where microfinance can help households to access water services is in peri-urban areas where the high lump sum costs of household connections normally have to be paid upfront to the water utility. In Abidjan, CREPA Côte d'Ivoire, an NGO, partnered with SODECI, the public water utility, to enable poor households to connect to the water supply network. Microfinance was provided backed by grant funding from UNDP and supported by a capacity building program aimed at mobilizing household savings to repay the loan and ongoing water bills. This example is now being replicated in Ouagadougou where the credit is being managed by a microfinance institution.

Microfinance has also been used to support small-scale providers and borehole operators who tend to lack access to credit, which would for example enable them to buy water storage facilities, drill boreholes or build small water networks.

17 This section draws partly on Microfinance for water supply services, Catarina Fonseca, 2006

Without such access, most operators rely on family or informal loans, limiting their potential for growth. In Cambodia, GRET (an international NGO) provides guarantees on commercial loans for piped water systems in rural areas, in case of default of the investor. With a guarantee, the commercial bank can provide medium-term (3-5 year) loans for water supply, with lower collateral requirements and to entrepreneurs whose risk profile becomes lower with the guarantee.

Finally, an interesting example of blending of microfinance and OBA is the GPOBA pilot with K-Rep Bank in Kenya. K-Rep Bank provides microfinance to groups or individuals living in peri-urban or rural areas. Individuals are organised in Community Based Organisations and have jointly applied for finance for a piped water supply systems to replace current practices of buying water from water vendors at prices far beyond O&M cost levels. Water connections are financed through individual microfinance loans extended by K-Rep Bank to the user group members. Through an OBA subsidy coupled with affordable but sustainable tariffs, the loan service will be reduced to an affordable level over a longer maturity (up to 5-6 years).

4.4.4 Blending of financing mechanisms

The selection and use of financing mechanisms for WS infrastructure investment should take into account key parameters such as cost recovery issues, ownership, availability of banks' or financial institutions' willingness to provide finance for the sector as well as the overall development of the financial market in the country. Table 4.3 provides an overview of existing and future options of financing mechanisms and their applications for WS investments.

Table 3 - Financing Mechanisms for WS-Existing and Future Options

Financing Mechanism ¹⁹	Application in WS
Tariffs including cross-subsidization	Tariffs are applied for all WS investments
Equity & user contribution	Applied for most WS investments
Grants	Grants funded by government or donors for capital cost are applied for most WS investments due to low cost recovery
Microfinance	Loans for individuals or groups for financing water connections as part of a piped scheme or hand pumps-Pilot stage
Output Based Aid	Pilot stage for piped water in small towns and rural growth centres
Risk guarantees	Pilot stage
Mixed credit	Used in urban WS
Commercial loans	Used for financing financially viable water supply investments-mostly in urban WS
Debt-Equity swaps	May be used for financing large urban WS
Bonds	Future option
Carbon credits	Future option

19 Definitions are shown in Glossar

The design of the most appropriate financing mechanism for specific WS&S investment will require blending of the options shown in table 3.

4.4.5 Support to national up-scaling of investments in the WS sector

The financing mechanisms described in sections 4.3.1-4.3.2 represent both innovative and practical approaches for use in WS infrastructure investments. They should be adjusted to local conditions and replicated if they prove to be successful.

The achievement of the objectives of MDG's and in particular sustainable results would to a certain degree depend on the development of concrete and innovative financing mechanisms. More importantly, the national capacity to implement sustainable investments on a larger scale such as stipulated by the MDG's could be the limiting factor, even in a case where international and local finance would be available.

Thus a number of constraints exist in the partner countries relating to the up-scaling of sector investments, including regulatory and financial deficiencies that would need to be addressed through means like:

- **Regulatory and financial framework.** The framework needs most often to be further developed to better accommodate investment planning and implementation with focus on the appropriate design of the financing mechanism. The regulatory framework includes development of the most appropriate Public Private Partnership arrangement for WS (Uganda provides an example). The financial framework would need a clear strategy for development of financing mechanisms and subsequently anchoring of financing mechanisms in specific financial institutions and banks. Finance for user connections may be handled through microfinance institutions; financing mechanisms involving OBA subsidies could be handled by commercial banks, whereas concessional finance may be better handled through a policy lending bank such as a national development bank. For countries²⁰ with a developed national sector programme and a sector investment plan the initial elements of regulatory and financial framework including a financing strategy may already be in place. According to AfDB 17 countries in Africa has this framework in place, whereas 27 countries still need to develop this framework.
- **Capacity development within financial institutions** to develop and handle financing mechanisms for WS. National development banks, commercial banks and microfinance institutions have very limited experience and knowledge of the specific features and demands of the WS sector. Very few bankable WS projects have been presented to these institutions. Thus capacity development would be required for example for financial institutions in sector specific appraisal technique based on locally prepared feasibility assessments.

²⁰ Reference is made to Rural Water Supply and Sanitation Initiated by The African Development Bank according to which countries have been classified by their suitability and state of preparedness to receive and implement rural WS&S interventions.

5 FINANCING MECHANISMS FOR WS IN THE LIGHT OF DIFFERENT AID MODALITIES

The chapter provides an assessment of how existing and new alternative financing mechanisms could be incorporated into the emerging new aid modalities which is characterised by harmonisation and alignment of aid delivery in line with the Paris Declaration on Aid Effectiveness. Consequently, it will be relevant to discuss financing mechanisms in light of increasing sector budget support moving towards general budget support, as well as into existing sector programmes.

Budget support is aid channelled directly to partner governments using their own allocation, procurement and accounting systems. Sector budget support is linked to performance indicators but de-linked from specific project activities²¹. Sector budget support is distinguished from general budget support by being earmarked to a specific sector and with conditionalities related to the sector. Sector budget support is based on sector strategies and sector investment plans prepared by recipient governments who negotiate for financial support with a group of donors that have agreed on the national sector policy framework, including a set of sector related conditionalities (such as for example cost recovery and financial viability) and monitoring indicators. Donor finance is channelled into the national government budget or the sector ministry budget and usually reflected in a medium term expenditure framework. Often joint government and donor annual sector reviews take place to monitor sector progress.

5.1 The use of new financing mechanisms in the context of sector budget support

In Danida's programme countries for WS, sector programmes will be or have already been replaced by different types of sector and sub-sector budget support.

The sustainability and wider dissemination of innovative financing approaches require their ability to apply to and ultimately be mainstreamed in the framework of new aid modalities. This is both a challenge and an opportunity:

- The move from specific project support over sector program support to sector budget support and national programmes may provide donors and their partner countries with a framework for promoting innovative financing mechanisms;
- Decentralisation of Danish aid may make knowledge sharing on innovative mechanisms more challenging with a risk of not being in a position to change focus from traditional approaches towards alternative methodologies;
- Decentralisation in the recipient countries may pose a temporary barrier for complex and innovative approaches as these often require more capacity among planning and implementing institutions than continuation with traditional approaches. Such professional capacity is often not immediately available at the local level. On the other hand, fiscal decentralisation could, through the political process, facilitate the introduction of new financing mechanisms including higher user contributions and changed tariff structures, which could lead to higher cost recovery.

Sector budget support appears to be a suitable aid modality for accommodating new financing mechanisms, in some cases even more appropriate than the sector programme support:

- Sector budget support may be accompanied by the precondition of introducing "deeper" financial reforms, such as for example a national tariff reform, which could lead to improved cost recovery and subsequently financial viability of WS investments. Another example is the separation between policy lending and commercial lending, which in the case of Vietnam has led to the establishment of Vietnam Development Bank and Vietnam Bank for Social Policy. Such fundamental changes, which could be instrumental for development of new financing mechanisms, are easier to implement by a group of donors who are providing substantial finance for the WS sector at national level than by an individual donor implementing a sector programme in a number of provinces.

21 Definition from "Evaluation of General Budget Support 1994-2004", IDD& Associates, 2006

Joint annual reviews related to sector budget support should have the in-built flexibility, provided agreement between donors internally and between donors and recipient government, to support required revisions of existing and/or development of new financing mechanisms. Required revisions of financing mechanisms should of course be considered as an activity to be carried out between annual reviews, whereas annual reviews primarily should formalise agreements. The preliminary experience from sector budget support (e.g. Uganda and Vietnam) suggests that initial agreements as reflected in programme documents primarily focus on the grant element of the financing mechanism and leave self finance and loan finance elements to be further developed during inception and implementation periods. This makes sense since the major donor contributions are used for grants to cover capital investment primarily for WS infrastructure where cost recovery is low.

Agreement between donors and recipient countries would also be required in taking appropriate actions when targets for sector budget support have not been met. Such agreements may be facilitated through higher degree of ownership by recipient government and improved working relations between recipient government and donors as a result of the process, which has led to an agreement for sector budget support.

In connection with the planned joint donor assistance to the water sector in Uganda, the likely component of a Joint Partnership Fund for WS&S in small towns and rural growth centres reflects that donors have not been comfortable with the controls surrounding sector budget support. Thus the Joint Partnership Fund may be used as a specific tool for supporting development of financing mechanisms, such as for example the replicating or scaling up the OBA financing mechanism currently being tested through GPOBA support.

One of the challenges in relation to sector budget support is the process required to agree on the framework for the support between a group of donors and a recipient government. Based on donor support to a sector strategy and a sector investment plan, implemented in accordance with national policies and procedures, agreements are required between government and donors on the conditionalities as well monitoring indicators and follow-up procedures.

5.2 New financing mechanisms in relation to ongoing sector programme support

From a planning point of view, new financing mechanisms for WS should ideally be introduced and agreed with a recipient country as part of the formulation of the sector programme, or when entering into a new phase of an existing programme. Support to the introduction of new financing mechanisms, which have not been defined as part of the initial programme, is feasible, but would require:

- Sufficient funds are available within the financial frame of the sector programme for support to the introduction of new financing mechanisms;
- Agreement with recipient country as part of annual sector programme review on the need for supporting the introduction of new financing mechanisms and on the objectives, outputs, activities and inputs to be provided.

The challenge is to avoid “competition” between traditional financing and new financing mechanisms. With sector programmes being implemented in specific districts and provinces an assessment of national financing mechanisms in the sector should be carried out by the relevant sector ministry to avoid competing approaches. Furthermore a more general challenge is to put in place clear and simple eligibility criteria for new financing mechanisms and ensure sufficient capacity development of implementing financial institutions.

The opportunities in relation to sector programmes have already been described (Refer to Chapter 4) in terms of implementing a number of financing mechanisms for the benefit of WS users. Experience from use of these mechanisms in specific local government areas is important for the country and the donor and also in relation to a subsequent formulation of sector budget support jointly with other donors.

In fragile states with very limited national and sector institutional capacity Danida support has to balance the emergency needs with more long-term sustainability aspects. Project support would usually be the preferred aid modality option and the financing mechanisms discussed in the paper may therefore not be relevant.

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APPENDIX 2 - DIFFERENCES BETWEEN INPUT AND OUTPUT BASED AID

The traditional approach of channelling public funds to the provision of WS&S in developing countries is input-based i.e. public finance is used for inputs such as civil works, equipment etc and not tied to the delivery of specific outputs.

In Output-Based Aid (OBA) the subsidy or a significant part of the subsidy is tied to the delivery of specified outputs or results. Furthermore the subsidy is designed in such a way that it enables a service provider (private operator or NGO) to mobilise essential private financing for the investment. The main differences between traditional and output based approaches are illustrated in Figure 2.1.

Figure 2.1 Traditional and Output based approaches to service delivery in WS&S

The OBA schemes promote a number of the key objectives and strategies as outlined by different donors in their respective WS&S policies and strategies for WS&S as highlighted in the table below

Table 2.1 OBA as a financing mechanism - how does it match donor policies and strategies for financing mechanisms in the WS&S sector

Donor objective or strategy	OBA Financing mechanism
Cost sharing	Is required in order to design an OBA scheme most effectively-contributions through user connections, from operators and local water authorities/municipalities
Cost recovery	All WS&S schemes where cost recovery cannot be achieved are potential OBA schemes-tariff levels are set based on willingness and ability to pay surveys
Subsidy	The subsidy will be injected because tariff levels are insufficient to ensure full cost recovery. The subsidy benefits all consumers of the scheme and is therefore easier to use in areas where users have similar income levels, i.e. in small towns where existing water supply projects are extended into areas of poorer population groups or in rural areas. The subsidy level is explicit and transparent and fixed at a level which allows full cost recovery including debt service. Subsidy levels range between 70-90% of all investment costs in small towns and rural areas
Private sector participation-private operators	Private sector participation is facilitated through the subsidy leading to financial viability of the project
Monitoring indicators	The fact that the subsidy will be provided only when the output (as for example number of connections) has been delivered and independently verified would highly facilitate monitoring

