WELL
WATER AND ENVIRONMENTAL HEALTH AT LONDON AND LOUGHBOROUGH

WELL Study

Public-Private Partnership and the Poor: An Initial Review

Task No: 164

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Summary

The purpose of this Study is to review existing work which addresses the impact of Public-Private Partnership (PPP) in the water and sanitation sector on service delivery to the poor, and to identify important gaps in current knowledge. This includes the potential risks and benefits of various institutional arrangements for the provision of infrastructure to poor communities.

There are three outputs.

1. A review of literature on PPP with reference to the poor.
2. The development of a PPP literature database.
3. An analysis of the potential risks and benefits of different forms of PPP arrangements on poor communities.

There is little documented evidence concerning the impact on the poor. Complex PPP arrangements have rarely been tried in low income countries with the exception of parts of Francophone West Africa.

A particularly successful approach is reported from Haiti, and involves the use of water supply cooperatives as a mechanism for service delivery. In general, the more complex PPP arrangements require greater risk mitigation; to date, these risks are largely unquantified. The potential risks relate to: finance and affordability; inadequate supply and allocation of water; the neglect of sanitation; lack of collaboration with community groups; and down-sizing of staff.

If the poor are to benefit fully from new approaches, there needs to be a clear focus on the Partnership element of “PPP” through developing links between the commercial private sector operators and local organisations which are either representative or acting as intermediaries.

There are important knowledge gaps which merit further investigation if the impact of increased PPP on the poor is to be evaluated. Firstly, it is very clear that most of the effort so far has related to water supply and that sanitation has been neglected; strategies for sanitation need to be proposed and tested. Secondly, proposed and actual experiences in regulating service provision need to be explored in order to review the risks and mitigating measures required to ensure benefits for the poor. Thirdly, it is unclear what incentives private operators need in order to increase service provision to the poor, and what practical mechanisms they might adopt to increase access to both water supply and sanitation services.

Given the potential scale-up for PPP activities globally, it is timely that the international donor community address these issues.

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Acronyms and abbreviations

CBO	Community-based Organisation
DFID	Department for International Development, British Government (formally ODA)
ESCOR	Economic and Social Research through DFID's Economic and Social Research Management Unit (ESRMU)
GNP	Gross National Product
NGO	Non-governmental Organisation
ODA	Overseas Development Administration
OFWAT	Office of Water Services (UK Water Regulator (financial), with the Environment Agency involved in environmental regulation)
O&M	Operation and Maintenance
PPI	Private Provision of Infrastructure
PPP	Public-Private Partnership
PSD	Private Sector Development
PSP	Private Sector Participation
PSI	Public Services International
SOE	State-owned Enterprises
Watsan	Water and Sanitation
WEDC	Water, Engineering and Development Centre, Loughborough University
WELL	Water and Environmental Health at London and Loughborough (London School of Hygiene & Tropical Medicine and WEDC)
WTP	Willingness to pay
WWW	World-Wide Web (the Internet)

1. Purpose

The purpose of this Study is to review existing work which addresses the impact of Public-Private Partnership (PPP) in the water and sanitation sector on service delivery to the poor, and to identify important gaps in current knowledge. This includes the potential risks and benefits of various institutional arrangements for the provision of infrastructure to poor communities.

The readership for the report comprises DFID staff, their local project partners in government and Non-governmental Organisations (NGOs), and consultants. The Study is intended to inform sector professionals who are developing project concepts for PPP arrangements in low-and middle-income countries.

There are three outputs.

1. A **review of literature** on PPP with reference to the poor.

   A wealth of literature exists on the many forms of PPP available today. Few of these adequately address the pressing issue of service provision to poor communities. The study identifies some of the key literature and research on the subject and attempts to distil issues pertinent to the poor.
2. The development of a **PPP database**.

   In order to manage the vast literature and knowledge on the subject, the Study has developed a database to assist researchers and practitioners in accessing relevant information on literature, projects and organisations involved in PPP.
3. Analysis of the **potential risks and benefits** of different forms of PPP arrangements on poor communities. Each of the modes of structuring a national water sector in terms of the management of services and ownership of assets entails potential risks and benefits. These need to be quantified and assessed in order to inform decision makers.

The Study draws on previous research funded by DFID, literature available through resource centres and the World Wide Web, workshops and discussions with personnel involved in PPP.

2. Background

The responsibility for water and sanitation provision has traditionally been in the hands of the public sector, whose performance has often been poor. Developing country governments are increasingly looking to the private sector to increase coverage levels and to improve the efficiency of service delivery. Private sector investment is also being sought as a mechanism to increase access to finance to supplement inadequate national budgets and that provided by donor agencies.

The health and other benefits from improved water supply and sanitation facilities are well known; however there are still over one billion people in developing countries who do not have access to an adequate water supply and almost three billion lack adequate sanitation facilities (WHO-UNICEF, 1996). Poor people are most affected by this reality.

At the heart of the problem lies the tension between increasing coverage and implementing programmes and projects in a sustainable way. The international agenda grappling with these two objectives has developed in the following way:

Box 1: Cost to the poor

Globally, 2.9 billion people lack adequate sanitation and 1.2 billion are without access to safe water. Inadequate water and sanitation affects the poor in the following ways.

Health

Water-related illness accounts for:

- diarrhoea causing 3.3 million deaths per year mostly amongst children under five (and approx. a billion cases of diarrhoea each year);
- about one third of people in the developing world are infected with intestinal worms;
- 6-9 million people are estimated to be blind from trachoma; and
- 200 million are infected with schistosomiasis (WELL, 1999a).

Finance

An estimated 25% of people in Developing Country cities use water vendors purchasing their water at significantly higher prices than piped water (WELL, 1999b).

Time

Fetching and carrying water is a huge burden for many people, particularly women and children. When water is far away from the house or queuing times are long, people tend to collect less water than is needed for basic health requirements (the quantity of water used is usually more important for health than its quality).

Basic Needs

Adequate accessibility and reliability of supply are considered by many governments to be a basic human need.

- improving efficiency of supply, through restructuring utilities and public bodies, including a range of privatisation initiatives;
- increasing access for the poor through community-based projects in rural, peri-urban and slum areas;
- improving project sustainability and efficiency of supply through participatory approaches which respond to consumer demands;
- acknowledging the role of and increasing opportunities for the small scale, possibly informal, private sector; and
- developing mechanisms and creating incentives for PPP arrangements to adequately address the needs of the poor.

A new consensus has been reached that promotes extensive PPP in urban and peri-urban areas, but maintains that rural areas are best served through user committees with NGO support (Franceys, 1998). The private sector does have a role in rural areas, particularly in the supply of spares and major repairs.

3. Private sector involvement in water and sanitation

3.1 Terminology

The private sector has always been involved in the water sector in some form or other, from tendering for construction contracts in large urban supplies to the informal provision of vended water in unserved areas. However, a new role is currently being negotiated globally. Three terms have been used (often interchangeably) to describe this new role.

- *Privatisation*

  This term was commonly used towards the end of the 1980s to describe the increase in private involvement; in this paper it refers to the full hand-over of assets (or divestiture) to the private sector (see Table 1).

- *Private sector participation (PSP)*

  PSP refers to the role that the private sector can play in the delivery of services. There are varying degrees of private sector involvement from service contracts to concessions (see Table 1).

- *Public-private partnership (PPP)*

  PPP acknowledges the key role that both the public and private sectors have in service provision. The term is becoming increasingly popular as it emphasises the need for partnership to maximise the benefits which both sectors can contribute.

PSP and PPP have been used by some authors to describe the same arrangements. This Study uses the term PPP to describe the ‘formal’ and ‘informal’ arrangements for delivery of water and sanitation services. Table 1 lists these in increasing degrees of private involvement.

3.2 Types of PPP contracts in the water and sanitation sector

Table 1: Types of PPP contracts

Contract Type	Description	Watsan examples
Cooperatives	Cooperatives can position themselves to be the service providers for certain (often poorer, informal) areas of a city and manage facilities within these areas. This can take many forms.	Port-au-Prince, Haiti.
Service contracts	Public authority retains overall responsibility for O&M of the system and contracts out specific system components. Service contracts typically last 1-3 years and contract out services such as meter reading, billing & maintenance.	Mexico City; Santiago, Chile; Madras, India.
Management contracts	Public authority transfers responsibility for the management of a full range of activities within a specific discipline such as O&M. Remuneration is based on key performance indicators. Public authority typically finances working and investment capital and determines cost recovery policy. Usually 3-5 years.	Cartagena, Colombia; Gdansk, Poland; Mali; Gabon; Trinidad & Tobago.
Lease contracts (or '*affermage*')	Private operator rents the facilities from a public authority and is responsible for O&M of the complete system and tariff collection. Lessor effectively buys the right to the revenue stream and thus shares significant commercial risk. Usually 5-15 years but can be extended.	Cote d'Iv"ire; Guinea; Czech Republic.
BOT (Build, Operate, Transfer) contracts and their variations	BOT contracts are usually used to procure large, discreet items of infrastructure e.g. water treatment plants, that require significant finance. The private operator is required to finance, construct, O&M the facility for a certain period of time (usually >20 yrs) before transferring the facility back to the public authority. Variants of BOT are BOOT (Build, Own, Operate, Transfer), BOO (Build, Own, Operate).	Mendoza, Argentina (BOOT); Izmit, Turkey (BOT).
Concession contracts	Private operator takes responsibility for O&M and investment; ownership of assets still rests with the public authority. Concessions are substantial in scope (usually a whole city) and tenders are usually bid on the tariff. 25-30 years.	Buenos Aires, Argentina; Manila, Philippines; Canc£n, Mexico.
Divestiture	Full private ownership and responsibility under a regulatory regime.	England and Wales.

Adapted from Sansom (1998); Johnstone & Hearne (1998); Rivera (1996)

Sansom (1998) distinguishes "complex" PPP such as concession and lease contracts from service and management contracts.

PPP is sometimes done by institutions that have elements of joint public and private involvement. There are two cases in point.

Corporatisation where public utilities are formed as autonomous commercial enterprises with a Managing Director and Board, but remain in public ownership; they may contract out services to the private sector as has been done in Santiago, Chile. Another example is The Netherlands.

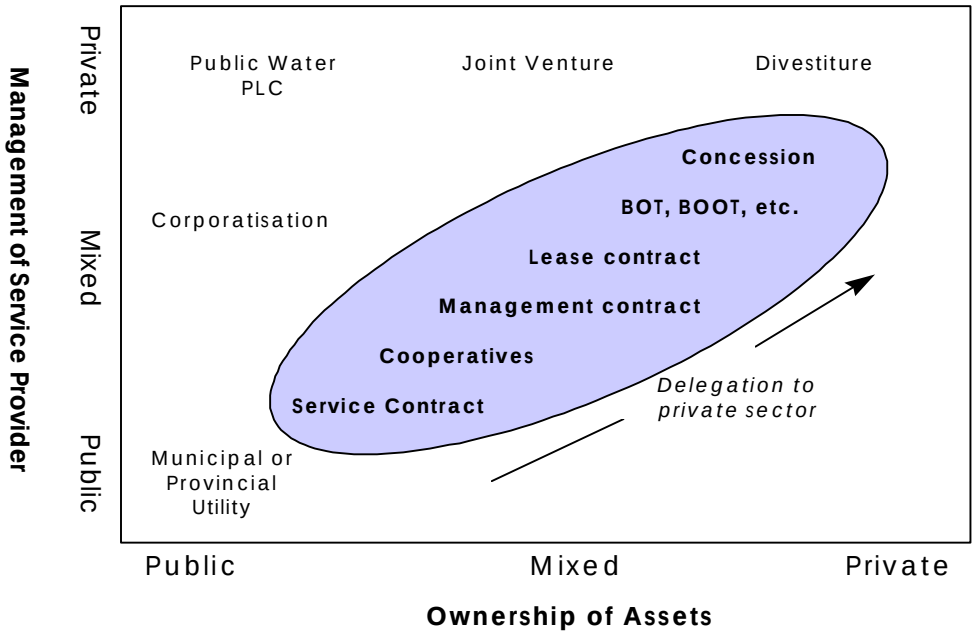
Public-private joint ventures enable shared public and private responsibility and ownership through a separate corporate entity. Representation, responsibilities, finance and profits need to be stipulated. An example is Subic Bay in the Philippines (DFID, 1999).

Box 2: Water Supply Cooperatives

Cooperatives are an innovative way of using community groups to manage service delivery to poor communities. In Port-au-Prince, Haiti (Collignon, 1998) community management concepts traditionally used in rural water supply are being applied to supply 14 shanty towns (210,000 inhabitants).

The restructuring programme (assisted by a French NGO (Hydro Conseil) consists of constructing distribution systems in previously unserviced areas. Water is supplied in bulk from the public authority, but O&M is done by local user associations. Water is sold at public standpipes at a price three times lower than the price charged by water vendors. The user association can invest their profits from selling water either on extending the water supply system, or on other local services such as sanitation.

Central to the understanding of the different PPP arrangements is the distinction between the responsibility for management of the service and the ownership of the infrastructure. Figure 1 illustrates the various modes of organisation of service delivery and types of PPP contract (Table 1) as points on the continuum between public and private management and ownership.



Adapted from M. Blockland and O. Braadbaart (Franceys, 1998)

Figure 1: PPP contracts within public and private management and ownership

3.3 Who are the Poor?

DFID's White Paper on International Development (DFID, 1997a) refers to people living on *"less than a 1US$ per day at 1985 purchasing power parities adjusted to current price terms"* as suffering 'extreme poverty'. Of the 1.3 billion people (nearly one quarter of the world's population) living in extreme poverty, 90% live in Sub-Saharan Africa, South Asia and East Asia and the Pacific (World Bank, 1997b).

There is widespread acceptance that poverty is complex to define, and involves a range of indicators related to health and well-being as well as income. Access to adequate water and sanitation is an important indicator.

In relation to PPPs, we can draw a distinction between macro- and micro-economic circumstances.

- *Poor countries*

  These can be defined as low income (GNP per capita of $765 or less) and lower-middle income economies (GNP per capita $766 to $3,035) (World Bank, 1997b). Most Sub-Saharan and South Asian countries (which form an important focus of DFID activity) are classified as 'poor'. It is interesting to note that few 'complex' PPP contracts have been let in poor countries; apart from the few in Francophone Africa, we are unaware of many others. Brook-Cowen (1997) considers methods of getting the private sector involved in poor countries.

- *Poor communities / neighbourhoods*

  In some towns and cities as many as half of the population live in informal slum or peri-urban settlements which frequently fall outside the net of formal service provision; many of the urban poor live in these areas. Whilst there is evidence of small scale private 'informal' provision of services (such as water vending), it is important to review evidence of the extent to which the private commercial sector has engaged with this situation. Rural areas have generally been untested by PPP; however the potential does exist for certain levels of private involvement in these areas.

3.4 Technical options for service delivery to the poor

Planning mechanisms for water and sanitation need to be demand responsive. This means locally appropriate levels of service, rather than the adoption of universal norms or standards on an *a priori* basis. It is not helpful to apply general classifications such as rural, middle-income, and the like. Different levels of service are reflected in the different technical options which are available, and this has important implications for financing, cost recovery, operation and maintenance, and institutional capacity. Some examples are shown in Figure 2.

Demand responsive approaches which match the level of service with customers ability and willingness to pay (WTP) are currently favoured by many agencies. Supplying a mixed level of service will often be the most appropriate means of responding to the range of WTP encountered in any service delivery area. This service differentiation may be financed through price discrimination, subsidy or cross-subsidy or innovative cost recovery techniques. The proportion of poor customers within a service area, cost of supply and WTP for certain levels of service will dictate the supply options and resultant tariffs. We note that the implications of these approaches when applied to sanitation are much less clearly defined than for water supply.

Increasingly sophisticated levels of service will be more expensive to supply, but may increase WTP. Higher levels of water service generally result in higher consumption and

certain sanitation options, for example water-borne sewerage, require reticulated water supplies with individual house connections .

The use of service differentiation to improve WTP, cost recovery and therefore financial sustainability has been used successfully in Durban Metro Water, South Africa. Poor areas within the city (approximately 30% of the total 3 million) are offered a choice of water connection: full pressure, 'high tank' or 'low tank', each with different connection charges and monthly tariffs. Customers either not wanting or not willing to pay for individual connections can use the water kiosks operated by community members. These are standpipes from which water is sold at an affordable rate. Substantially improved cost recovery for the system has been attributed to the supply being demand responsive, enabling consumers to choose their level of service and allowing easy upgrading (Suez Lyonnaise des Eaux, 1998).

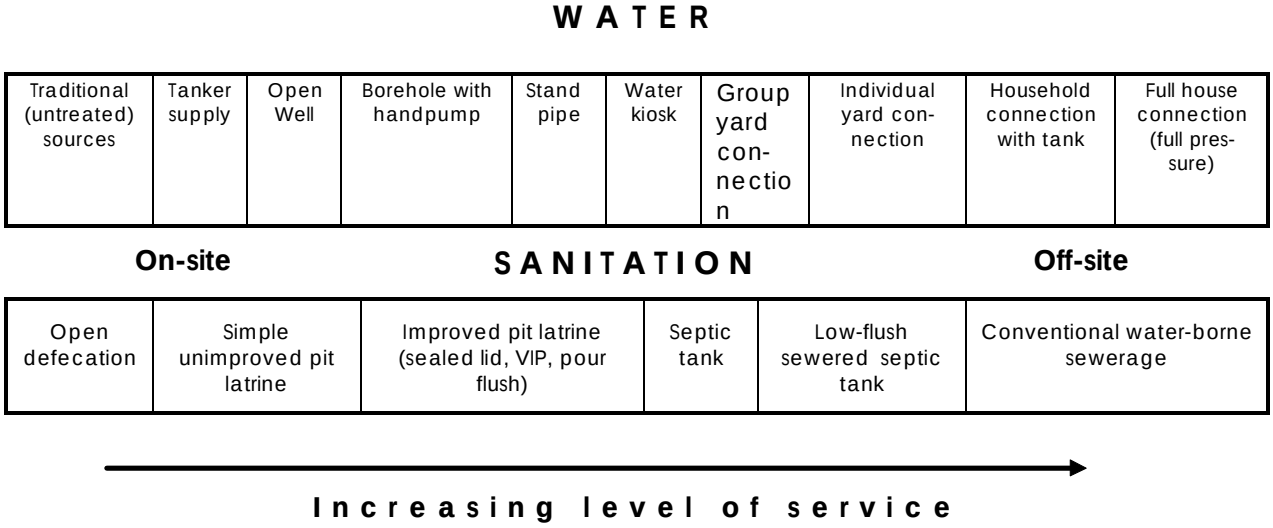
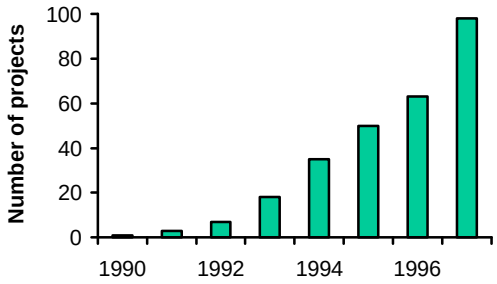


Figure 2: Some technology options for different levels of service

3.5 Sector trends

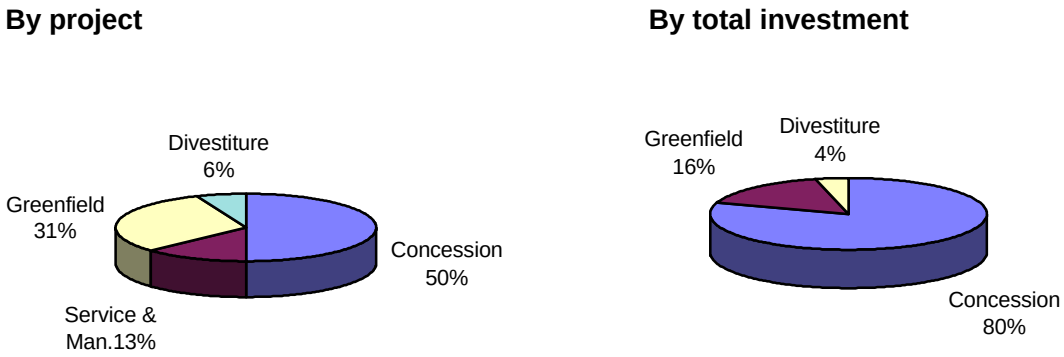
The private sector has traditionally been involved in naturally competitive areas such as industry, agriculture and retail operations. PPP in sectors that operate as 'natural monopolies' for example water supply, electricity and telecommunications, is a relatively recent trend. However over the past decade there has been a fundamental shift in the role government plays in providing infrastructure. Many governments are moving away from owning and operating infrastructure to regulating infrastructure services provided by the private sector. Figure 3 shows this exponential growth in the water sector in Developing Countries.



Source: PPI Project Database in Silva et al, 1998

Figure 3a: Cumulative water & sanitation projects with private participation

The global market for international operators in the water sector in developing countries is estimated to be worth $100 billion a year (reported in the Financial Times 25/7/98).



Source: PPI Project Database in Silva et al, 1998

'Greenfield' projects refer to projects where there is no infrastructure prior to investment

Figure 3b: Private participation in water & sanitation by type of contract (1990 - 97)

A survey investigating the use of PPP in 81 utilities (Sansom et al, 1998) found that:

- 47% were classified as State Owned Enterprises (SOE) and not involved (or considering) any PPP;
- 33% used service or management contracts; and
- 16% used 'complex' PPP such as concessions, leases and BOTs.

The growth in the more complex PPP contracts has mainly occurred in lower-middle and middle income countries in regions such as Latin America, Eastern Europe and South-East Asia. Amongst the low-income countries, only francophone West Africa has an established record in complex PPPs. Initiatives are being actively pursued in Southern and Eastern Africa as well as South Asia, with support from donors, with varying degrees of success.

4. Review of literature

The increased global interest in Public-Private Partnership in the water sector has resulted in the publication of a large amount of literature. A comprehensive review of all literature pertinent to PPP is outside the scope of this study; however an attempt was made to distil the wealth of information into some useful format and isolate literature and research that address the needs of the poor.

4.1 Key PPP literature

4.1.1 World Bank Toolkits

The World Bank (1997a) Toolkits for Private Participation in Water and Sanitation, World Bank, Washington D.C. (http://periplum.cdinet.com/wstoolkits/).

The 'Toolkits' are the most comprehensive guide to PPP in the water sector. They are the product of extensive research and benefit from inputs from many people involved with PPP. However, they do not directly address issues pertinent to this Study.

Toolkit 1 'Selecting an Option for PSP' sets out the issues that a government must work through to identify which kind of private sector arrangement best meets its needs and circumstances.

Toolkit 2 'Designing and Implementing an Option for PSP' focuses on the detailed arrangements governments need to ensure when implementing complex PPP contacts.

Toolkit 3 'What a PSP Arrangement Should Cover' advises governments on the contractual and regulatory documents required. It also provides a checklist of risks that can be incurred.

4.1.2 DFID Occasional Paper No. 3

DFID (1997b) Private Sector Participation in the Water and Sanitation Sector, DFID Water Resource Occasional Paper No. 3, prepared by Richard Franceys WEDC, Loughborough University and IHE, Delft (http://www.lboro.ac.uk/well/occpaps/no3.htm).

The paper provides a clear exposition of some of the problems of providing effective, equitable and efficient water and sanitation services in developing countries, presents the case for PPP, and considers some PPP options. It advocates the need for donor agencies to support a multitude of small-scale PPP interventions, as opposed to supporting the relatively few major international concessions, to ensure adequate service provision to lower-income groups.

4.1.3 WASH Report No. 84

Walker, Jane (1993) Preparing for Private Sector Participation in the Provision of Water Supply and Sanitation Services, WASH Technical Report No. 84, USAID, USA.

This report states the case for increased PSP in the water sector in order to increase efficiency and attract private sector investment. It is designed to assist governments in developing countries and donor agencies to overcome obstacles for increasing the level of PSP. It is targeted at policy-makers in public sector institutions who are contemplating PSP.

4.2 PPP and the poor

The following references abstracted from the database (see Appendix 1) are those which mention the problems of providing for the poor. Note that none of these demonstrate substantial research on the subject, and most allude to the problem without offering any real recommendations.

Box 3: Realising social objectives in PPP

A recent study on the environmental and social objectives in PPP by the International Institute for Environment and Development (Johnstone & Hearne, 1998) concluded the following:

- PSP is increasing in countries with greater degrees of poverty and less regulatory capacity, therefore social objectives need more careful consideration; and
- governments may need to subsidise (and cross-subsidise) basic levels of service in order to satisfy basic health requirements.

In 'complex' PPP, governments need to assume a regulatory role to ensure social objectives are realised. This should include:

- ensuring service providers do not use their privileged position in the market to exploit customers;
- allow for services to be differentiated in order to satisfy user preferences; and
- integrating "formal" PSP with informal strategies which are consistent with overall sector objectives.

1. **Bond, Patrick** (1997) Privatisation, Participation & Protest in the restructuring of municipal services, WWW, http:///www.sn.apc.org/afwater/graphics/ppp_debate.htm

   Grounds for opposing the World Bank promotion of PPP from a South African trade union perspective.

2. **Brook-Cowen, Penelope J**. (1997) Getting the Private Sector Involved in Water - What to do in the Poorest of Countries, Viewpoint Note No. 102, World Bank - Finance, Private Sector, and Infrastructure Network, WWW http://www.worldbank.org/html/fpd/notes/102/102summary.html

   The paper argues that developing country governments will find it difficult to attract private sector interest in water provision. Four options are recommended for increased PPP: taking a stepwise approach (incremental upgrading); simplifying contracts; contracting-out parts of the regulatory function; and 'increasing predictability in the use of discretion', that is, the need for management information for proper regulation.

3. **David, Cristina** (1998) MWSS Privatisation: Implications on Efficiency, the Poor, and the Environment, Paper presented at the IIED Workshop (November, 1998).

   The case study of Metro Manila (Philippines) describes the implication of the concession contract on the poor, particularly in relation to coverage levels and tariffs.

4. **DFID** (1999) Public-Private Partnerships - the way ahead. Better Water Services in Developing Countries - Safeguarding the Interests of the Poor. DFID, London, UK.

   An 'Information Note' describing key issues in PPP with recommendations for risk mitigation.

5. **Hemson, David** (1997) Privatisation, Public-Private Partnerships and Out-Sourcing: The Challenge to Local Governance, Johannesburg, South Africa.

   A paper presented to the 'Local Government White Paper' Research Process outlining some possible implications of PPP on the poor.

6. **Johnstone, Nick & Hearne, Robert** (1998) Private Sector Participation in Urban Water and Sanitation: Realising Social and Environmental Objectives in Developing Countries, International Institute for Environment and Developed, London, UK *See box 2.*

7. **London Economics** (1998) Improving Water Services through Competition, DFID Occasional Paper No. 6.

   The study recommends that the introduction of competition would have profound effects on reducing costs and improving services.

8. **Nation, Fitzroy,** (1998 July) Liquid Assets, No. 29, PANOS Media Briefing, http://www.oneworld.org/panos/briefing/water.htm

   A paper suggesting governments should be cautious when considering PPP.

9. **Nickson, Andrew** (1997) Pipe dreams. Does privatised water offer poor urban neighbourhoods a better supply?, International Development Department, University of Birmingham, WWW article, http://www.id21.org/static/2bg13.htm

   The article concludes that private intervention is no immediate solution to the problems of supplying water to the urban poor. Many other factors affect coverage.

10. **Public Services International**. Most literature is on the PSI home page (http://www.world-psi.org/english/) or at the PSI Research Unit (http://www.psiru.org/).

    The site contains information and comment on global privatisation issues, including the anti-privatisation campaign particularly targeting pending PPP contracts.

11. **Rogat, Jorge** (1998) Thames Water and Suez Lyonnaise des Eaux Lead GWP Seminar, WWW article http://www.gwp.sida.se/gwp/news/art43.html

    News brief about the Global Water Partnership Stockholm Water Symposium (October 1998) where papers were delivered regarding the effects of PSP on the poor.

12. **Sayeed, Asad, Ercelawn, Aly; Kamran, Ahmed; Nauman & Siddiqi, Sarah** (1997) Transforming City Water Services - Hard choices in High Stakes for Karachi, CREED, http://www.sangat.org/creed/nation.html

    Arguing that the proposed PSP of the Karachi Water and Sewerage Board (concession contract) will have adverse effects on the poor and increase existing inequalities.

13. **Suez Lyonnaise des Eaux** (1998) Alternative solutions for water supply and sanitation in areas with limited financial resources. Received from Northumbrian Lyonnaise International, UK *See box 6.*

4.3 Other relevant research

1. **Development Bank of Southern Africa** (DBSA) (report expected in April 1999) Impact of Privatisation on the Poor.

   DBSA funded research to investigate and formally publish the Bank's research work on the welfare consequences of privatisation on the poor;

2. **BPD** (September 1998 - 2001) *See box 4;*

3. **IDD** (current) Role of government in adjusting economies.

   Extensive DFID funded research (through ESCOR) on how public administrations needs to change to take on new roles of working in partnership with the private sector and communities (Sub-Saharan Africa & South Asia);

4. **IIED** (report expected April 1999) see box 3;

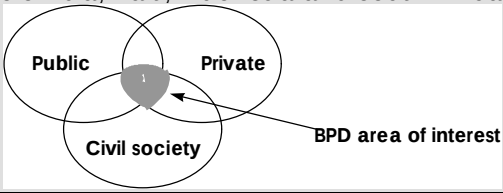
5. **Sansom, Kevin; Franceys, Richard & Morales-Reyes, Javier** (1998) Contracting-out of Water and Sanitation Services: Phase 1 & 2, DFID KAR ref. R6574, prepared by WEDC

   A wide ranging research project in India, Latin America and Sub-Saharan Africa in response to the growing interest in PPP through Contracting-Out. Phase 1 is complete (Sansom et al, 1998), Phase 2 is underway;

Box 4: Business Partners for Development

BPD is a World Bank initiative investigating the impact of **tripartite partnerships** between the public and private sector and civil society on the urban poor. BPD aims to produce evidence of positive developmental and business impacts and to show that these partnerships can be scaled-up to regional and national levels and used more widely throughout the world.

The Water and Sanitation Cluster aims to identify specific lessons learned about partnerships from existing projects which are providing responsive and affordable water services to urban poor and to demonstrate that these can be replicated and scaled-up. The secretariat is hosted by WaterAid and advised by a Steering Group representative of the three sectors. Seven focus projects have been identified in Argentina, Bolivia, Colombia, Haiti, Indonesia and South Africa.



6. **WEDC** (Oct 1998 -) Pricing and service differentiation of utility watsan for the poor, DFID funded KAR ref. R7130

   The project purpose is to enable Water Utilities to structure and market watsan service options at appropriate price levels to meet the needs of low-income groups.

5. Development of a database for PPP

A Microsoft Access database has been developed to collate information sources on ‘PPP and the poor’. The database is structured to facilitate future research needs on the topic. It is loaded with most of the data found by this Study, and its structure can be used as a ‘template database’ for future research. It is intended for use as a ‘data hub’ to record and update current research on the topic. The database uses primary and secondary data entered into ‘tables’ on organisations, projects and literature involved in PPP. ‘Queries’, ‘forms’ and ‘reports’ have been developed to aid useful searches of the database. The database is described in more detail in Appendix 1.

The database has several potential applications for researchers and practitioners interested in PPP. For example, the user could be prompted to enter the type of PPP contract, location or type of organisation and the database would retrieve information pertaining to organisations, projects and literature on the user search. This could be listed in a report or linked to a relevant e-mail contact or website URL.

Dissemination of the database can be done through the internet, although certain areas within the database may need to be protected (by password) in order to satisfy data protection legislation. Potential use of the database needs further investigation.

6. Potential risks and benefits to poor communities

We present the findings from the review of PPP and the poor in terms of an analysis of the potential benefits and risks associated with the more complex PPP contracts such as concessions and leases. Table 2 provides summary guidance based on our findings with respect to each of the main types of contact.

6.1 Potential Risks

A summary of the potential risks discussed in this section is presented in Box 5

Box 5: Potential risks in PPPs for the poor

Finance/Affordability Risks:
- piped water connection charges are too high;
- water tariffs for individual house connections are too high;
- new capital investment in wealthier unserved areas is given preference over unserved poorer areas;
- subsidy policy and regulations agreed at the start of a contract may not be appropriate after a number of years; and
- stepped tariffs can disadvantage poor communities when large numbers of people are using one metered connection.

Water Supply/Allocation Risks:
- inadequate supply of water to unauthorised slums in existence at the start of the contract;
- inadequate supply of water to unauthorised slums that are not in existence at the start of the contract; and
- Operator gives preference to wealthier communities in the allocation of limited water supplies.

Sanitation and Community Collaboration Risks:
- Operator reluctant to invest in latrine provision;
- Operator reluctant to collaborate with hygiene promotion activities;
- Operator may not have the skills/inclination to engage in constructive dialogue with community groups in poorer areas; and
- Operator reluctant to provide appropriate customer services to meet the needs of poor community groups.

Staffing Related Risks:
- unregulated declining wages; and
- large numbers of redundancies without appropriate retrenchment packages.

6.1.1 Finance/Affordability Risks

a) *Water pipe connection charges are too high for some poor communities.*

An Operator may seek to recoup his costs for new house connections and associated tertiary infrastructure, through a connection fee that may not be affordable to some communities. (e.g. Griffin, 1995).

Mitigating measures may include: availability of credit through micro-finance facility; subsidised connection charges; connection charge amortised into water bill; use of local labour to make connections; innovative technologies.

b) *Water tariffs for individual house connections are too high and the Operator is reluctant to invest in standpost supplies.*

Tariffs are invariably raised before and after complex contracts are commenced in order to generate sufficient income for future investments. The higher charges may not be affordable to poorer groups. The Operator may be reluctant to invest in standpost supplies, or other intermediary levels of service, because it is difficult to collect revenues for this supply option. (Briscoe et al, 1990).

c) *New capital investment in wealthier unserved areas is given preference over unserved poorer areas by the Operator.*

An Operator will seek to maximise his profit from new investments and may therefore tend to prefer to invest limited capital funds in wealthier unserved areas or services to commercial areas rather than poor unserved areas, even though there may be provisions in the contract to counteract this tendency.

d) *Subsidy policy and regulations agreed at the start of a contract may not be appropriate after a number of years.*

Even if subsidies on water and sanitation charges are negotiated and agreed prior to contract signature either for certain areas of a city or for particular service options, there is a risk that the agreed subsidy levels may become inappropriate over the course of time. Renegotiation can prove difficult.

Box 6: Problems supplying poor neighbourhoods

A major operator of PPP contracts in developing countries sees two main barriers to supplying poor neighbourhoods (Suez Lyonnaise des Eaux, 1998):

1. connection costs are too high e.g. Buenos Aires;
2. customer management costs are too high due to:

– high percentage of unpaid bills;
– high rate of unbilled or fraudulent consumption;
– it is not always cost effective to bill due to low consumption; and
– high maintenance costs.

The problem of supplying areas without secure land tenure is also cited.

Fifteen case studies are drawn from Asia, Africa and Latin America.

e) *Stepped tariffs can disadvantage poor communities when large numbers of people are using one metered pipe connection.*

Although block or stepped tariffs are designed to be 'pro-poor' by charging less per kilolitre to households who consume less water, they can have the reverse effect, for example, in crowded apartment blocks where a number of families use a single metered connection which may result in consumption going up to the next tariff step or threshold. These people pay more than others living in less crowded conditions. The location of the water meter and the tariff system, as applied to situations where there are multiple households, is of key importance. Similar problems can occur in low income developments where the service provider delivers water 'to the gate' (Cotton, 1999). It also becomes an issue with a PPP contract when the Operator is more vigilant with disconnection for late payment. (Boland & Whittington, 1998).

6.1.2 Water Supply/Allocation Risks

f) *Inadequate supply of water to unauthorised slums in existence at the start of the contract.*

Political problems can often arise when there are proposals for providing services to unauthorised slums. This is because service provision implies legality. In a public utility this problem can be partially overcome by 'informal arrangements' or through special poverty projects. For complex PPP contracts explicit contractual requirements to provide water to these areas can be difficult to agree.

g) *Inadequate supply of water to unauthorised slums that are <u>not</u> in existence at the start of the contract.*

Where new slums emerge during the course of a contract, ensuring adequate service provision by the Operator presents problems for the more complex contracts.

h) *Operator gives preference to wealthier communities in the allocation of limited water supplies.*

In cities where intermittent supplies are common, water is usually allocated on a zoning basis and it is common for the rich and influential to receive better services through the allocation process. This is also common with publicly managed utilities, but a private operator is generally more focused on the profit margin and will, therefore, have an additional incentive to favour the wealthier areas where water charge collection may be less problematic.

6.1.3 Sanitation and Community Collaboration Risks

i) *Operator is reluctant to invest in latrine provision, even when it is the most viable sanitation option for poor communities.*

Operators may find it difficult to develop on-site sanitation programmes and to ensure their financial viability.

j) *Operator is reluctant to collaborate with hygiene promotion activities that are important for developing sustainable and hygienic sanitation.*

It is widely accepted that in order to realise health benefits, it is essential to complement 'hardware' delivery with hygiene promotion and education. The partnership aspects of PPP to link with organisations with the capacity to deliver these components becomes very important.

k) *Operator may not have the skills/inclination to engage in constructive dialogue with community groups in poorer areas.*

We have not found any field-based experience on which to base recommendations; this becomes a complex issue with respect to setting the scope of PPP contracts and their subsequent regulation.

Box 7: Regulation

Regulation to achieve social objectives is a vital component when considering increased PPP. The regulatory body can ensure measures to mitigate risk to safeguard the poor, for example (DFID, 1999):

- stimulate legislative change, e.g. supplying slum areas without legal land tenure;
- ensuring tariff structures provide affordable supply to poor customers;
- efficient and equitable use of subsidies;
- promote forums for consulting all water users and adequate customer care; and
- promote innovative ways of using community participation through user committees; this may allow the utility to sell water to "community contractors".

l) *Operator reluctant to provide appropriate customer services to meet the needs of poor community groups.*

Again, field-based experience is not available in the context of PPP contracts.

6.1.4 Staffing Related Risks

m) *Unregulated declining wages in a competitive market impacts most on unskilled jobs and hence on poor communities.*

This risk has to be offset against the potential benefits to the wider community of improved service delivery.

n) *Large numbers of redundancies can have an adverse effect without appropriate retrenchment packages*

Many trade unions cite this as a major concern of PPP (PSI, 1999); conversely, there is equally widespread concern in many public sector suppliers about the effect of inefficient staffing levels on the performance.

6.2 Potential benefits

PPP has been widely promoted as a potential and actual solution to many problems associated with the provision of infrastructure in developing countries. Investment in PPP has seen exponential increase this decade (see figure 3b) and this trend seems likely to continue (Silva et al, 1998). These benefits are encapsulated in the following objectives; refer to the World Bank (1997a) for further elaboration:

i) provision of private investment capital to reduce funding shortfalls;

ii) improved service provision in terms of coverage, reliability and equity of supply;

iii) catalysing change throughout the public sector;

iv) capturing management and technical skills which currently lie outside of the public sector;

v) increasing economic and operating efficiencies;

vi) reducing political intervention in service provision; and

vii) improving consumer-orientation of service providers.

Provided there is proactive regulation that mitigates against the risks to the poor, then theoretically most of the above PPP benefits have the potential to lead to improved services for poor communities living in urban areas. Benefits to the poor are likely to arise as follows:

- through a 'trickle down' effect resulting from more efficient and effective overall service delivery brought about by PPP; and
- through pro-poor measures which are directly built into PPP agreements and enforced by the regulator.

However, this short study has not been able to identify clearly documented evidence of the relative impact of either of these mechanisms through large scale commercial PPP initiatives.

6.3 Summary of potential risks and benefits for the poor by contract type

Table 2 considers how the risks and benefits identified in sections 6.1 & 6.2 might be incurred in the different contract types listed in Table 1. Note that only 'formal' PPP arrangements are included; community-based initiatives which could be broadly categorised as PPP have not been considered.

Table 2: Potential risks and benefits of different contract types

Type of PPP Contracts	RISKS FOR THE POOR (see sections 6.1)	BENEFITS (see sections 6.2)
Cooperatives		ii), vi) and vii)
Service Contracts	m) and possibly n)	iv) and v) both to a limited extent
Management contracts (without incentives)	m) and n)	ii), iii), iv), v) and vii) all to a limited extent
Management contracts (with incentives)	f), g), h), m) and n)	ii), iii), iv) v), vii) and vi) to a limited extent
Lease contracts	a), b), d), e), f), g), h), k), l), m), n), & possibly i) and j)	ii) to vii)
BOT contracts (and variants)	b) A new BOT contract for bulk supply can substantially affect tariff levels	ii) to v) to a limited extent
Concession contracts	All risks are applicable: a) to n)	All benefits applicable: i) to vii)
Divestiture	All risks are applicable: a) to n)	All benefits applicable: i) to vii)

7. Conclusion

This study has reviewed issues concerning the development of Public Private Partnerships and the poor. We have set up the structure for a literature database to focus primarily on PPP and the poor and hope to develop this as a hub for future investigative work in this field.

Our review of literature has revealed that there is little documented evidence concerning the impact on the poor, although there are a number of sources which allude to the possible problems without offering firm guidance. Complex PPP arrangements have rarely been tried in low income countries with the exception of parts of Francophone West Africa.

The outcome of the review is presented in terms of an analysis of the potential benefits and risks of PPP arrangements (Table 2). A particularly successful approach is reported from Haiti, and involves the use of water supply cooperatives as a mechanism for service delivery to the poor. In general, the more complex PPP arrangements require greater risk mitigation; to date, these risks are largely unassessed. Some key potential risks in relation to serving the poor are:

- finance and affordability;
- inadequate supply of water;
- inequitable allocation of scare water resources;
- the neglect of sanitation;
- lack of collaboration with community groups; and
- down-sizing of staff.

It is perhaps relevant to note that some of the above risks are also apparent with the widespread supply-driven approaches of the public sector. The evidence from this review suggests that if the poor are to benefit fully from new approaches, there needs to be a clear focus on the Partnership element of “PPP” through developing links between the commercial private sector operators and local organisations which are either representative or acting as intermediaries.

The Study has identified some important knowledge gaps which merit further investigation if the impact of increased PPP on the poor is to be evaluated. We believe the three key areas to be the following.

1. There is a total lack of literature and experience relevant to sanitation, and it is unclear whether different strategies are required for water supply and sanitation.
2. The risks and mitigating measures required to ensure benefits for the poor in the context of low income countries as reflected by proposed and actual experiences in regulating service provision are as yet unknown.
3. It is unclear what incentives private operators need in order to increase service provision to the poor, and what practical mechanisms they might adopt to increase access to both water supply and sanitation services.

Given the potential scale-up for PPP activities globally, it is timely that the international donor community address these issues.

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Appendix 1: PPP database

The PPP database has been developed to facilitate knowledge management and information dissemination. Maximum value can be achieved from the database if it is continually updated and maintained. Data currently loaded onto the database is sourced from the following:

Literature

Literature searches yielded extensive literature on PPP. Many of the references reside with WELL and others are listed in other resource centres. The literature can be separated into:

- **hard copy**: books, journals, papers, research reports, sector reviews, technical papers, conference proceedings, news articles
- **electronic sources**: World-wide Web (website literature, web searches, published on web, newsgroups, web bulletins), e-mail discussion groups, electronic conferences

Specific WWW searches include:

- The World Bank
  - A general search of '"Public-Private Partnership" + water' in the WB site lists 300 papers however many are not directly relevant
  - Departments specifically involved in PPP include: Privatisation Opportunities (PrivatisationLink) ; Microfinance - Sustainable Banking with the Poor; Private Sector Development; and Resource Mobilisation and Co-financing. All of these have many papers discussing PPP
  - Private Sector Development (including 'Private Participation in Infrastructure') http://www.worldbank.org/html/fpd/privatesector/index.html
  - The 'Public-Private Infrastructure Advisory Facility' is a recent initiative offering advice on PPP issues
  - The Public Policy for the Private Sector publication *Viewpoint* lists 12 papers related to water. Many of these and others are published in the quarterly journal *Private Sector*.
- BIDS Academic services (journal listings) (9 relevant papers)
- UK research sites e.g. Edinburgh Engineering Virtual Library
- PSI (Public Services International) and Public Services International Research Unit (http://www.psiru.org/)
- The 'African Water Page' hosts a 'for' and 'against' debate on the merits of PSP (http://www.sn.apc.org/afwater/Graphics/ppp_debate.htm)
- General searches e.g. AltaVista searching '"Public-Private Partnership" + water + poor' produced 146,000 hits - some of them relevant!. Other search engines revealed similar results

The literature collected for this study is recorded in three sources (all available from WELL):

- *PPP database*: 48 records entered under 28 fields (including a brief annotations)
- *Providing for the poor in WATSAN PSP:* (Bibliography): a selection of 93 references from the WEDC Resource Centre, WELL staff and other relevant research (including IIED, 1998)

- *PSP Library* (Julian Jones, 1997) - Annotated bibliography of 104 Books, papers, journals & conference proceedings on PSP between 1987 - 96, WEDC

Organisations

The database lists organisations that are known to be involved in PPP work. It is linked to address books of key personnel. Data for this table includes:

- organisations contacted during phase 1 of the DFID funded KAR (ref. R6574) (WEDC) 'Contracting-out of Water and Sanitation Services' (384 contact details);
- the DFD funded KAR (WEDC) 'Procurement of infrastructure' (205 contact details); and
- other organisations entered on the WEDC Mailing list and other information sources

A number of institutions were located from the WWW e.g. UNDP: Public-Private Partnerships for the Urban Environment (http://sdnhq.undp.org/ppp/), the Canadian Council for Public-Private Partnerships (http://www.inforamp.net/~partners/index.html) and the Institute for PPP in Washington (http://www.ip3.org/). A good selection of PPP links are at http://www.undp.org/ppp/links/index.html.

Projects

It would be difficult to gather information on all PPP contracts currently in existence due to the magnitude of PPP and the commercial sensitivity of some information. Most of the major concession and lease contracts are recorded in the literature, but the smaller management and service contracts are not. Informal PPP has not traditionally been included within PPP literature if recorded at all. This database contains information from:

- Sansom et al (1998) lists 58 declared PPP contracts;

  A database has been developed as part of the above 'contracting out' KAR. This has project information from 122 investigating the extent to which utilities contract out services. This database can add to the PPP database and can be developed concurrently.
- Johnstone & Hearne (1998) list 44 PPP contracts;
- World Bank PPI database project listings; and
- Database lists another 25 projects from the literature.