

preparing for

PRIVATE SECTOR MANAGEMENT

in KATHMANDU

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New Rules, New Roles: Does PSP benefit the poor?



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WaterAid-Nepal initiated the establishment of the Kathmandu NGO Forum on Urban Water and Sanitation as part of a process of self-education, and of learning about how civil society organisations can engage donors and the government in dealing with the issues around the privatisation of Kathmandu's water utility. This case study presents what the forum has learned, and describes the twists and turns in the process of its engagement with the different stakeholders.

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Abbreviations and Acronyms

ADB	Asian Development Bank
BSBA	Bagmati Sub Basin Authority
BWR	Basic Water Requirement
CBO	community-based organisation
DWSS	Department of Water Supply and Sewerage
ENPHO	Environment and Public Health Organisation
Eoi	Expression of Interest
GDP	Gross Domestic Product
HGMN	His Majesty's Government of Nepal
IDA	International Development Association
INGO	International Non Governmental Organisation
JBIC	Japanese Bank for International Cooperation
JICA	Japanese International Cooperation Agency
KVWA/C	Kathmandu Valley Water Authority/Corporation
MLD	Million Litres per Day
MPPW	Ministry of Physical Planning and Works
MuAN	Municipalities Association of Nepal
NDF	Nordic Development Fund
NEWAH	Nepal Water for Health
NGO	Non Governmental Organisation
NORAD	Norwegian Agency for Development
NWSC	Nepal Water Supply Corporation
OPEC	Organisation of Petroleum Exporting Countries
PO	Private Operator
PSP	Private Sector Participation
PSPC	Private Sector Participation Committee
RFP	Request For Proposals
SIDA	Swedish International Development Agency
UFW	Unaccounted-for Water
WB	World Bank
WSP – SA	Water and Sanitation Programme – South Asia

I. Executive Summary of the Synthesis Report

Governments, both northern and southern, have rightly placed themselves under much pressure to achieve better water and sanitation coverage. The Millennium Development Goals aim to halve the proportion of people without access to water and sanitation services by 2015. Millions die every year from lack of access to safe water and adequate sanitation. On one hand there is an undeniable urgency about these issues that makes prolonged discussion frustrating and a questionable use of resources. But on the other, the risk of the blanket promotion of one debatable method of reform is an unnecessary waste of scarce resources.

Most southern governments have consistently failed to deliver affordable and sustainable water and sanitation to the poor. It is difficult to summarise the causes for this failure as each situation is different and complex. However, some broad problems cut across many public utilities and municipal services: bad financial management, low funding priority, lack of staff experience and qualifications, absent or weak customer service orientation, political interference, little or no independent regulation and an absence of civil society consultation. Many of these problems have been described as attributable to weak government capacity – equally acute in urban and rural contexts.

Our research shows that the policy of private sector participation (PSP) does not comprehensively tackle the underlying causes of water utilities' failure to serve the poor. In four key areas capacity building, community participation, finance and institutional reform, major problems persist, making it unlikely that the multinational private sector is going to play any significant role in achieving the Millennium Development Goals.

Currently the pursuit of a policy of PSP generally undermines local and national government capacity. For one, it limits the ability of the public sector to take services back should PSP fail or when contracts end. Private sector contracting must not result in irreversible dependence on

private companies, and there must be clauses in contracts to prevent this dependence.

Without adequate government capacity, no reform processes can be successful. The private sector cannot be contracted without tackling failing government. The government's role to facilitate, monitor and regulate is as much an essential element in PSP as in public and user-managed utilities. Yet, it seems that this requirement is being practically ignored in the rush to establish PSP. It is essential that donors refocus efforts to building government capacity at local and central levels.

The involvement of local communities is often lacking in PSP reform programmes. Where PSP has failed to deliver the promised gains, the case often is that the poor are seen mainly as recipients, rather than contributors to development. Whether projects involve large or small-scale PSP, the focus is on giving contracts or concessions to the private sector. Social mobilisation and community participation, proven time and again as prerequisites for sustainable development, are seen as burdens and non-essential components of the task. Failure to consult communities means that the interests of the poor are often not being represented. It results in a lack of ownership over projects and an absence of accountability between users and service providers. It seems that the lack of community involvement that led to previous failures is continuing, raising serious doubts over the sustainability of PSP projects.

Cost recovery and capital cost contributions are in most cases necessary for water services to be sustainable. However, there are problems in the application of these principles, which often results in denying the poor access to services. Expensive technology choices and a failure to consider the non-cash contribution of the poor are widespread in PSP contracting. Donors are guilty of promoting an approach that is narrow and mechanistic, allowing for little flexibility and absence of perspectives incorporating

community action and considering the complexities of poverty.

Changing the role of government, by effectively reducing its capacity through reductions at central level, but not increasing personnel at local government levels, erases benefits that could be gained from decentralisation per se (such as responsiveness to people's needs, greater accountability etc.). Weak decentralised agencies cannot be expected to quickly learn about tenders or forms of contracting and keep track, monitor and supervise the activities of contractors fanning beyond provincial capitals.

In the rural areas that were studied, reduced government roles had a detrimental impact as work was often sub-standard leaving the communities with a costly and unreliable service. The rural case studies also show that there are, so far, no improvements in accountability. In some respects, accountability was compromised in the dilution of responsibilities that accompanied the change in roles. Because projects are between governments and contractors (communities are typically not a party in the contract), the supposed beneficiaries are in no position to seek redress for sub-standard work. Accountability is lost in the commercial/ contractual, quick-fix arrangements of private sector involvement.

Political interference has been seen as contributing to the failure of many public utilities to deliver to the poor. In established democracies there is 'interference' in the running of utilities but this is seen as government exercising its duty to keep institutions to account. There is a fine line between 'interference' and the need for accountability, the difference seems to be the depth and strength of democratic institutions in individual countries.

Civil society working to strengthen the hand of government through, for example, commenting on tender documents prepared by external advisors, increases the likelihood that reforms will further the concerns of the poor. It is in the interests of government to involve a broad constituency, especially one that represents the interests of the poor and poor people themselves in the shaping of privatised basic services. Pro-active openness and transparency by

government in reform processes lessens the possibility of civil strife.

With these findings, we are opposed to donors pressuring developing countries to accept PSP in water services as a condition of aid, trade or debt relief. To promote a policy regardless of specific contexts increases the likelihood of failure especially when the likelihood of success of that policy is intensely contested. Furthermore, the enforcement of PSP as the central policy reform limits the options for governments and civil society to improvise and innovate using the best possible arrangements. We believe rather that policies should be used to ensure that in any reform process the poor will be protected, their access to services increased, and the process itself actively seeks the opinion of civil society.

This does not mean that we are rejecting private sector involvement. The private sector has a role that should not be denied. But, where there is corruption and/or political resistance to serve the poor, the private sector can do very little and can, in fact, compound the problem. Where there is lack of information, participation and democratic processes, the situation is thrown wide open to opportunistic behaviour from the private sector. However, given a situation with stable rules, enough political commitment to address the underlying causes, good governance and an informed and active citizenry, the private sector can be a responsible partner in development and an important player in reforming and improving water services.

In order to move forward on this contentious issue, a multi-stakeholder review should be undertaken. We believe that it is only through such a review (similar to the World Commission on Dams) that the final, authoritative word can be made on whether PSP benefits the poor. We also believe in the necessity of building the capacity of civil society actors to influence privatisation processes and to hold governments and the private sector to account. This needs to start with improving their knowledge and understanding of the issues surrounding failing water services, and enabling civil society groups around the world to learn from each other's experiences of intervention in privatisation processes.

II. Case Summary

Over the past 20 years a series of reforms have been introduced to try and improve the efficiency and effectiveness of Kathmandu's water supplies. For the first time, civil society groups are starting to engage with these reforms, and take an active lead in proposing solutions and aiding development. The reforms state that an autonomous private operator, free from government influence, should be appointed to tackle the complex problems hindering the development and reform of Kathmandu's water supply service. The report argues for a model of urban water service which includes: public ownership and overall responsibility for the provision of services, financial sustainability and institutional autonomy of the system, independent and capable regulation and a well-informed and engaged civil society with capacity to scrutinise government policies and actions.

Background

It is estimated that the population of Nepal is growing at an alarming rate of around 2.3 percent per annum, and is likely to have reached 39m by 2007. Some 1.16 million reside in the Kathmandu area, and of this number, it is estimated that over 420,000 live in slums and another 18,000 in squatter communities. Even though the number of NGOs in Nepal has grown from a few hundred in 1990 to 11,000 in 2000, only a few have any real influence on policies to provide meaningful welfare and development. This is not helped by the government's common view that NGOs are at best welfare providers and widely irrelevant to policy and programme development.

Nepal's water networks are in bad need of repair. Many of Kathmandu's 1.1 million urban residents are not connected to the water supply network, and those who are only receive an intermittent service. WaterAid estimates that up to only 53-65 percent of households are connected to the city's water supply network. Total water demand is estimated at 220m litres a day (Mld), and total supply varies between 88 Mld (40 percent of demand) and 132Mld (60 percent of demand).

The Kathmandu valley has 11 water supply systems which have grown randomly to meet the increasing demand. The system has fallen into disrepair and there is inadequate administrative management of the network, which has contributed to some 35 percent of the water being lost through leaks, theft and are currently unaccounted for. The measures that most affect poor household's access to water are service levels, tariff costs and connection charges. The following reform agenda has been developed over the last ten years in an attempt to improve water distribution and supply in the Kathmandu valley:

- Management of water utility assets to be contracted out to a private operator.
- Rehabilitation and/or replacing of the existing water supply network
- Additional water supplies to be brought in from the Melamchi River through a 26km tunnel scheduled for completion in 2008.

Outcomes of the reform agenda

Government. In 1997 the government established the Private Sector Participation

The Nepal Water Supply Corporation (NWSC)

His Majesty's Government of Nepal runs the urban water system through the NWSC. The body was set up in 1989 to manage water supply in 14 urban areas, 5 of which are in the Kathmandu valley.

In 1991 the World Bank's International Development Association approved a loan of US\$71m, of which US\$41m was designated to upgrade the distribution and supply of water in Kathmandu.

However, only a meagre US\$8.5m of this was actually spent on projects. This highlights not only the lack of absorptive capacity for aid but also the need to ensure the NWSC are able to meet targets and remained autonomous and free from political interference. Donors then moved to convince the government to bring in a private operator.

Committee (PSPC), responsible for managing the process of selecting a private operator. But in a recent vote, 86 percent of NWSC trade union members voted against privatisation due to fear of job losses and lack of information about the reforms. In contrast, managers and professional staff within NWSC are more open to a private operator, believing this will guard against political interference, increase salaries and improve the workplace. There is also opposition within local government, as the socialist orientation of a number of municipal mayors clashes with the concept of a foreign private operator managing a public service.

Donors. The World Bank's International Development Agency (IDA), which has traditionally led efforts to improve water supply in Kathmandu, provided a "performance based" loan of \$80m to support reforms. However, in 2002, the IDA withdrew after delays in selecting a private operator and a lack of competitive bids. The Asian Development Bank has now become the lead donor, and has offered a \$77m loan to cover part of the costs of the Melamchi tunnel.

Civil society. Civil society has recently become involved in the reform of the water supply sector. The NGO Forum, a small group of NGOs, was founded in 2001 as a mechanism to connect NGOs with government and donors.

Financing reforms

The total cost of these reforms is currently estimated at \$468m. Currently a private operator will receive 2.3 percent in fees, with 29 percent spent on rehabilitation of the network, and 69 percent spent on the construction of the Melamchi tunnel. To ensure that funding for the reforms does not come out of rural water and sanitation budgets, Kathmandu water tariffs should be set at a level that covers the cost of servicing as well as repaying the loans. A recent survey showed that many urban households would be willing to pay more than current tariffs once improved service levels had been achieved.

Appointment of a private operator

The process of appointing a private operator in Kathmandu revealed some of the problems that can occur when an inexperienced government attempts to engage a private manager for its

public service provider.. The first round of the appointment process failed through lack of competitive bids, and the PSPC reopened the process by requesting new expressions of interest. By the second closing date only one company had submitted and the PSPC again extended the attempt to obtain more bids. The type of contract given to a private operator was also thrown into confusion by the departure of the World Bank from the donor consortium and a switch from an affermage to a management contract. After five years there is still no company selected for the contract. The exercise highlighted fundamental weaknesses within the PSPC, inadequate support from donors, failure to reach all potential bidders, lack of cohesion amongst transaction advisors resulting in conflicting guidance, and a level of disinterest from private operators.

Demands on PSP

The government has developed a range of services (contained in their Request for Proposals) to ensure that the poor are considered in the reforms and by any private operator that will eventually take over. Future bidders will have to develop a strategy for:

- promoting connections to poor households;
- improving management and maintenance of stand posts;
- developing procedures for bulk supply of water alongside community groups;
- billing and revenue collection in informal settlements such as slums; and
- working with existing suppliers.

Issues facing a private operator

Densification and diversification. High priority areas for new tertiary networks and connections need to be identified to get water to poor households not connected to the network. Donor funds could be used to finance additions to the network, with the private operator receiving a performance bonus for connecting each new customer in the first two years of the contract. This could be regulated by short-term quality of service checks at new connections and penalties for not meeting standards.

Tariffs and charges. The total costs of the reforms are estimated at \$468m. The present water tariffs are in urgent need of reform – they currently don't cover the actual cost of delivering water and are heavily subsidised by government, but most of the benefits are not enjoyed by the unconnected poor. Consultants have estimated that tariffs would have to be increased thirteen fold to eliminate the operating subsidy and achieve financial equilibrium by 2009. The major barrier to poor households having a NWS connection is the connection charge, which has to be paid in advance. This system needs to be reformed if poor households are to benefit from the water reforms.

Environmental considerations. There is an ongoing debate about whether economic and environmental functions should be handled by separate regulators, a move which is supported by the NGO forum.

Stretching existing water supplies. The Melamchi tunnel is not due for completion until 2008, and efforts are being made to increase water supply from sources other than Melamchi to cope with the ongoing water problems until the pipeline is completed. Some NGOs are helping to construct shallow tubewells and rehabilitating other traditional forms of water access. However the main emphasis has to be on ensuring that existing water supplies stretch further. There are ways in which this can be handled; regulating ground water extraction through licensing and regulating tubewells used by large companies such as hotels, optimising the use of the lower aquifer, and reducing unaccounted for water by forcing private operators to make leak detection and repair a priority.

The Role of the NGO Forum

WaterAid has supported the development of the NGO Forum to improve communication between the NGO community and interaction with government and donors. Over 60 different organisations, including central government, local government and donors have participated in NGO Forum meetings. The agenda of the NGO forum currently includes:

- Poverty mapping to identify neighbourhoods with high level of unconnected households.

Mobilising civil society

There are a number of obstacles to the wider involvement of civil society in Kathmandu, which are currently being worked on by the NGO Forum:

- No mandate for civil society to become involved in reform proposals.
- Traditionally, NGOs in Nepal have been service providers and have limited experience in translating this into service development.
- Nepal is a young democracy with a distrust of open information and little scope for incorporating outside opinion.
- There is no way for local communities to get their views heard.
- Most official documents are lengthy and in English.
- An absence of information about the present water supply system.

- Further development of a pre-Melamchi plan of action including raising the issue of any alternative proposals which may achieve similar results.
- Community consultations on proposed reforms.
- Working to ensure the private operator's contract is pro-poor.
- Support the work of a private operator and monitor its behaviour.

Conclusion

The present situation with the Kathmandu water supply system is inequitable and inefficient. PSP was seen as a solution, but has been thrown into turmoil because inadequate capacity to manage the process and complicated relationships with the donors. If properly used PSP holds the

promise of reducing water stress and improving overall utility performance. However if it is subject to the same level of political interference witnessed in past reforms, its success will depend on its ability to ensure autonomy. Civil society must play a role in ensuring that government investments are transparent and sound. As a result of the establishment of the NGO Forum, NGOs in Nepal have a clearer understanding of PSP and have participated in sector reform. What remains to be clarified and ensured is whether PSP will have a positive impact on improving water services to the poor.

Recommendations

- The introduction of a two level tariff – with the first level charging the basic water requirement of 33 litres per person per day at its operation and maintenance cost, while the second level charges additional consumption at full cost. This system should be supplemented by public tap stands subsidised by government, and monitored to ensure that it benefits the poor.
- Connection charges to be reformed to improve access to water supplies by basing the charge on actual costs, allowing charges to be paid in instalments, allowing competition in providing connections, allowing a choice between licensed contractors and the NWSC. Or alternatively, connection charges could be treated as an operating expense, included in the overall tariff.
- Regulator to be given a mandate to monitor the performance of the Private Operator.
- Implementation of poverty mapping to identify areas for new tertiary networks and connections.
- Network rehabilitation and densification to occur in parallel.
- Reforms to also address the current sewage situation in Kathmandu valley.

III. Introduction

During the past two decades, a series of reforms have been introduced to improve the efficiency and effectiveness of Kathmandu's water supplies. Also, for the past two years, a process has been underway to reform the equity of the service. Civil society groups have begun to take an interest in the package of expensive reforms and to scrutinise these to ensure both that the water stress of poor people is reduced and that attention is paid to the larger environmental conditions of the Kathmandu valley.

This paper argues that, while it is too early to know if these efforts will be successful, such engagement is a necessary requirement for poor people to be informed, to have an opportunity to comment on proposals while still in draft form, and for government and donors to pay some attention to these issues.

PSP is a complex process and the costs of civil society involvement are high in terms of the time and energy required to understand the existing situation, the proposed reforms, their likely implication for poor communities, and to develop alternative proposals or adjustments. For most NGOs, this does not cleanly fit within their mandates. Many of the subject areas are new and complicated, and much data is non-existent, ambiguous or incomplete. What was clear from the start was that we needed to understand both the existing situation and the requirements for the other objectives to be met, before we would be able to comment on or propose ways of improving equity.

Since early 2001, WaterAid–Nepal has embarked on a process of self-education using different reports, studies and opinions. By helping to establish an informal NGO forum on Urban Water & Sanitation, we have tried to reconstruct the recent history of water supply in the city, to make an inventory of research and studies, to analyse, summarise and simplify the information and to popularise it by selecting the main points and presenting these in a

succinct manner. And, perhaps most importantly, we have recently begun to translate these summaries into Nepali, a major breakthrough for a debate that has been almost totally in English, and an absolute requirement for any wider discussion among users and local governments.

In Kathmandu, the response to this civil society engagement by government and donors appears to have been favourable, and while it may have complicated this discussion, it has been generally welcomed as an important perspective that can help fill a significant vacuum.

In this process of learning and engagement, many of us in the Forum have concluded that the root cause of Kathmandu's water problems is a lack of institutional autonomy to operate the system in an efficient, equitable and environmentally sound manner. As a result, perverse subsidies help to



reduce costs for the affluent, a substantial number of families are unconnected to the distribution network, tariffs are too low to encourage responsible use, the network leaks and one third of all water is wasted, and the Nepal Water Supply Corporation (NWSC) has too many underpaid staff.

There should be no mystery in running a good urban water supply system. The model we support has four components. First, that the assets should remain under public ownership to emphasise that it is still the government that has ultimate responsibility for the provision of water and sanitation services. Secondly, the water supply system itself has to be managed in a financially-sustainable manner, whether under public or private operation, which will only happen if the utility has significant autonomy. Thirdly, independent and capable regulation is required. And finally, a well-informed and engaged civil society, able to scrutinise the policies and actions of the other parties independently and critically, is necessary to ensure that the system benefits the poor and its operation is environmentally sound.

There are a number of straightforward measures that can be considered in achieving efficiency and financial sustainability for Kathmandu's many problems: cost recovery tariffs; universal metering; network repair and enhancement; bringing staff salaries to more competitive levels; retrenching surplus staff and offering service contracts to some; recruitment on merit; more investment in equipment, maintenance and repairs; computerised billing; service monitoring; a customer complaints system; an independent regulator; reduction of connection charges; and contracting out selected activities to the local private sector.

The problem is that these measures could not even be considered unless undue political interference is removed. Autonomy is necessary to allow the utility staff to put into practice what they know and to hold

the responsible officials clearly accountable for performance targets, especially those that directly benefit the poor. It appears to us as remarkably strange that autonomy can only be achieved when a private, typically foreign, utility operator – funded by donor loans – takes over, protected by a contract. Why does Nepal need to take out loans to pay the cost of reforms and get the water system in order, when, with sufficient political will and institutional commitment, a made-in-Nepal solution could be possible?

Through this case study we hope to raise and focus attention on these points, as well as present what could be useful tools in considering the solutions. We found no manual or set of guidelines for this exercise and this paper is our attempt to share our ideas and lessons from this experience in the hope that other cities elsewhere will be able to adapt our process to their needs.

This is not an impact study but rather a report of a process of preparing for the arrival of the private sector to manage water supplies. It is a participant observation report, based upon our involvement in helping to set up the NGO Forum to discuss a set of proposed reforms for the Kathmandu water supply, and drawing on various exercises and studies we have done to support the process. We cannot therefore claim to be dispassionate researchers, because we have had a larger purpose of building civil society engagement as one way of helping to ensure that these reforms serve the poor.

The research is based on the activities of the NGO Forum, donor and government presentations and reports, interviews with mayors of the five municipalities in the Kathmandu valley and staff at the Nepal Water Supply Corporation, and consultations with residents in slum and squatter communities.

IV. Background

Population and Poverty

By 2001, the total population of Nepal was estimated to be approximately 23.2 million and growing at 2.3 per cent per annum. Urban population had reached 3.3 million in 2000 and, at 14.2 per cent, is the lowest urban ratio in the region (except for Bhutan). A recent estimate is that by 2027 total population will be 39 million, of which 31 per cent (12 million) will be urban, reflecting both an increasing migration to towns as an escape from rural poverty and the Maoist rebellion, and as more centres are classified as urban (from 58 to 203). The urban population of the Kathmandu valley is estimated at 1.16 million, accounting for 35 per cent of all urban residents. Rural population growth is estimated at about 2 per cent per annum and urban growth at 5 per cent per annum. Almost all observers agree that Nepal's population growth is far greater than it can afford and is a major obstacle to reducing poverty.

Table 1 – Rural and urban poverty estimates – 2001

	Rural	Urban	Total
Population	19,940,000	3,280,000	23,220,000
% poor (1)	44%	23%	42%
% poor (2)	50%	33%	47.6%
Number of poor	9,970,000	1,082,000	11,052,000
% of total poor	90.2%	9.8%	100%

Source: (1) Official statistics Nepal Living Standards Survey, 1995-96; (2) WaterAid and partner estimates

Nepal is one of the poorest countries in the world. It ranks 144 out of 147 in the United Nations Development Programme Human Development Index that measures overall well-being of people as reflected by incomes, education and life expectancy.

Most government studies use a "calorific estimate" to establish the proportion of people living in poverty – it looks at the income required for a survival diet of 2,250 calories a day. By this count, government estimates indicate that 42 per cent of the population are poor with annual per capita incomes of around Rs 9,000 or less (in 1995, equivalent to US\$150). They literally do not have enough food to live on.

Nepal uses the same poverty threshold measurement for both rural and urban areas, although urban residents live with higher costs and fewer subsistence opportunities. In 1999, Lumanti – an urban poor community-based organisation that is a WaterAid partner – commissioned a poverty study in Lalitpur, the neighbouring town to the south of Kathmandu. It estimated that 70 per cent of the population lived on US\$0.80 per day (Rs 20,000 / year) or less. In the current Five Year Plan, Nepal announced a goal to reduce the proportion living below the poverty line to 10 per cent by 2017.

Politics

Nepal has existed as a unified country for over 330 years, coming together under the Shah dynasty in 1768. It was never officially colonised, although its size was halved under the Sugauli treaty in 1816 at which it lost Sikkim (now a state in India populated by many Nepalis) and most of the Terai, or the flat plains lowlands, after a series of disputes with the British Raj. In 1846 a bloody coup installed the Ranas as a second royal family while allowing the Shahs to be figureheads. For a century development stagnated but Nepal maintained its independence and resisted colonisation.

In 1950 the Shah King Tribhuvan escaped to India, and the charismatic BP Koirala and his Nepali Congress (NC) Party seized the Terai to establish a provisional government. India intervened to calm the turmoil, and negotiated a government comprising the Nepali Congress Party and the Ranas. Nepal began to open its doors to the world. A new constitution was drafted which

provided for a parliamentary system of government. General elections were held in 1959, which brought the Nepali Congress Party to power. This government lasted for about one year before the king had the cabinet arrested and political parties banned. A *panchayat* system of partyless democracy was introduced that elected councils to manage village, district and national affairs. King Mahendra retained real power by directly selecting 16 of the 35 members of the National Panchayat and directly appointing the Prime Minister and cabinet. Although the *panchayat* system allowed a secret vote and universal suffrage, and the constitution included freedom of speech and peaceful assembly, in reality there was strict censorship and minimal public accountability of the military and police. The leaders of the main opposition, the Nepali Congress, were imprisoned during the years between 1960 and 1990 and there were widespread human rights violations against activists.

King Birendra, who had been schooled in Nepal, the United Kingdom (Eton) and the USA (Harvard), was crowned in 1972 and continued his father's policies, despite popular discontent at slow development, corrupt officials and rising costs. Riots occurred in 1979 and the king announced a referendum to choose between the existing *panchayat* system and multi-party democracy, where the electorate voted 55 per cent in favour of maintaining the *panchayat* system.

Despite this result, the king proceeded with limited reforms that included direct elections of the national legislature and its election of the Prime Minister. The king appointed one fifth of the legislature and candidates had to stand in their own name, not representing any party. The first elections under this system were held in 1981 and until 1990 the king wielded considerable power. It is alleged that the authorities appropriated a huge proportion of development assistance funds.

Popular protest, motivated by corruption and an economic blockade by India, erupted in 1990. This had been instigated by the Jana Andolan, a coalition of opposition parties fighting for multi-party democracy within a constitutional monarchy. After a violent response from the government, resulting in 300 or more deaths and months of curfews, riots and strikes, the authorities capitulated in April

1990. The ban on political parties was lifted and the opposition was asked to lead an interim government. King Birendra announced his acceptance of a role as constitutional monarch.

Key dates

1768	Unification of Nepal under the Shah dynasty
1846-1951	Rana family / isolation
1951	King Tribhuvan escapes, Nepali Congress and Rana Government
1955	King Mahendra crowned
1959	First general elections, Nepali Congress wins clear majority
1960	King Mahendra resumes control
1962	Local / district / national <i>panchayat</i> system established
1972	King Birendra crowned
1979	Riots
1980	Referendum: 55% pro <i>panchayat</i>
1981	Elections controlled by king; censorship / political oppression follows through the 80s
1989	Jana Andolan / people's movement for democracy
1991	Election for 205 seats – NC 38%, 110 seats; CPN-UML 28%, 69 seats. Through the 90s, there were frequent elections, leadership changes, coalitions
1996	Maoist "Peoples War" declared; 6000 deaths in next six years
1999	NC government, UML opposition
2001	Nine members of the royal family assassinated, King Gyanendra crowned; state of emergency imposed throughout the nation

A year later, 20 parties contested a general election for a 205-seat parliament. The Nepali Congress (NC) with 38 per cent of the votes became the main party in power. The Communist Party of Nepal – Unified Marxist-Leninist (CPN-UML), with 28 per cent, led the opposition. With no clear majority held by any party in parliament, the 1990s was marked by political volatility. This democracy came to be associated with continuing corruption, infighting and frequent changes in government – one a year on average. Rural neglect fuelled a Maoist insurgency, which since its start in February 1996 has resulted in 6,000 deaths. To date, Maoists have driven out the army, police and all government agencies completely in seven districts and they control wide swathes of the rest of the country. Their presence is increasingly felt in urban areas, being especially active in challenging private schools.

With primacy given to the party, there is no role for NGOs in the Maoist approach to development and a number of NGO and INGO activities have been closed down in the base areas and in areas in transition from government to Maoist control. Many development projects in all parts of the country are visited and interrogated by Maoist cadres, resulting in some disruptions and coercion as well as a higher general level of transparency.

Economy

Agriculture dominates the economy, producing 40 per cent of GNP. Eighty per cent of the population relies wholly or significantly on subsistence agriculture. Only 20 per cent of the land is arable, of which 70 per cent is in the Terai. Low levels of technology, high soil erosion and increasing fragmentation of plot sizes undermine agricultural productivity.

The modern cash economy is based on five major goods and services – textiles, tourism, hydropower, manufacturing and remittances – all of which face considerable challenges.

In addition, all businesses must deal with a context of many insolvent banks, significant regulation and inevitable corruption. Nepal is negotiating entry into the World Trade Organisation. This will result in a reduction of tariffs and an increase of foreign investments. Currently, foreign investors can

compete only in the health, tourism and telecommunications sectors.

Nepal ranks among the very poorest countries of the world with a GNP per capita of US\$220. Adjusted for purchasing power, per capita income is US\$1,219 per year. The economic prospects for the majority are not promising, and continued and widespread poverty seems likely. Most rural poor people will continue to live in a predominantly subsistence economy, and the urban poor will be daily wage earners in casual employment or the informal sector. Many educated young adults will be unemployed or under-employed.

Civil Society

The growth of NGOs in Nepal is astonishing, starting with a few hundred in 1990 to about 11,000 registered NGOs in 2000. The NGO system's greatest strength is the entrepreneurship it displays in continually reinventing itself to fit the funding priorities of donors. Their growth in number though had not been matched with a corresponding increase in service delivery or influence. Many NGOs are only a group of friends or family members, or essentially a private business, masquerading as a non-profit NGO to meet a donor's vision of how a service should be provided.

In reality, there are no more than a few dozen NGOs of which any would meet basic criteria of a values-based mission, a programme of welfare or developmental services, an independent governing body, a capacity to mobilise resources, and minimal staff, equipment and premises. Until recently, decision-makers within the government and donors have considered NGOs as at best welfare providers, and irrelevant to policy and programme development.

In a number of areas, however, some NGOs have been able to identify important issues neglected by the state (eg sex trafficking, urban squatter communities, environment, bonded labourers) or provide alternative modes of service delivery (eg rural water supply, water quality testing, education) or bring about policy and legislative reform (eg women's property and reproductive rights).

Water supply coverage

The water supply situation for almost all of the 1.1 million residents of the Kathmandu valley is desperate for most of the year. Many households are not connected to the official water supply network. Most those with such a connection receive an intermittent service of an hour or so a day of very low pressure. Those without a connection use a variety of sources, including shallow tubewells of uncertain quality. Our estimates of the population and the number of unconnected poor households are given in Table 2 below. Estimates range from 30,000 to 64,000

unconnected poor households, depending on the assumptions used.

Status of water supply network

The water supply network has been installed over the past five decades and is a mixture of pipes of various sizes and ages. Total water demand is estimated at 220 million litres a day (MLD) and total utility supply varies between 132 MLD (60 per cent of demand) in the four-month wet season, to 88 MLD (40 per cent of demand) in the remainder of the year.

Table 2: Kathmandu population, connection gap and related data

	Variable	Estimate	Comment
1	total urban population in Kathmandu valley – 2002	1,155,000	1991 census (661,800) plus annual growth of 5.2%
2	average household size - low estimate	5.4	1991 Census
3	average household size - high estimate	6.7	NWSC estimate
4	total number of households	172,000 - 214,000	1 divided by 2 and 3
5	number of NWSC household connections	112,500	NWSC data
6	connection “gap” - HHs without a NWSC connection	59,500 - 101,500	4 minus 5
7	% poor households	34%	WTP survey, 2001
8	number of poor households	58,000 - 73,000	4 multiplied by 7
9	% of poor households that are unconnected to NWSC network	51%	WTP survey, 2001
10	number of poor households without a NWSC connection - estimate 1	30,000 - 37,000	8 multiplied by 9
11	% of unconnected that are poor	63%	WTP survey, 2001
12	number of poor households without a NWSC connection - estimate 2	37,500 - 64,000	6 multiplied by 11
13	Kathmandu urban population estimate for 2008 - scheduled completion of Melamchi tunnel	1,548,000	assumes annual growth of 5%
14	Current annual number of new NWSC installations	4,000	NWSC data

Source: WaterAid – Nepal, 2003

The Kathmandu valley has 11 water supply systems and an unplanned network that has grown over the years (some pipes are 100 years old) to meet the increasing demand. There are approximately 113,000 NWSC network connections, which means that only 53 per cent - 65 per cent of urban households in the valley have a connection. There are substantial and widespread leakages, due to corroding pipes, an unknown number of illegal connections poorly constructed, and the absence of an effective repair system. Households that can afford it use electric pumps to 'suck' water from the pipes. This causes neighbourhood competition during the few hours that the water supply does run that penalises poor households. Some one-third of connections are unmetered and billings are not computerised. Total unaccounted-for water (UFW) is estimated at 35 per cent and is a result of both technical (leaks) and administrative (unpaid bills, incorrect amounts charged) losses. Illegal connections would most likely be considered a technical as well as an administrative problem.

Drinking water quality

Only two of the valley's 11 water supply systems are equipped with modern treatment facilities. The other systems use only reservoirs and simple chlorination. There is no monitoring of water quality and His Majesty's Government of Nepal (HMGN) has not set water quality standards. Poor quality of drinking water supply results in an epidemic of water-borne diseases in the summer.

The causes of these problems are a matter of some debate. There is widespread acknowledgement that the performance of the NWSC is not adequate but it is unclear if this is due to excessive political interference, poor management, inadequate investment or a combination of all three. Similarly, some feel that there is insufficient water available from existing sources while others argue that there is enough water but that it is poorly managed.

History of reforms in water supply in the Kathmandu valley

The NWSC was established in 1989 to manage water supply in 14 urban areas (five in the Kathmandu valley and nine outside). Previously, all water systems had been managed by the Department of Water Supply and Sewerage (DWSS) which was to focus on the remaining small

towns and rural communities. In 1991, a World Bank (WB)/International Development Association (IDA) loan was approved for US\$71 million of which US\$52 million was to upgrade the distribution network and increase supply in Kathmandu. This was then adjusted to US\$41 million. At the end of the project only US\$8.5 million had been spent (ie 21 per cent of the adjusted loan amount of US\$41 million) in Kathmandu. On almost all counts the performance of the credit is judged by the WB to have been "unsatisfactory"; the single greatest failure by both Bank and borrower was the neglect of ensuring autonomy to reduce political interference in the day-to-day management and to meet development objectives. This judgement galvanised donor opinion on the need to introduce a private operator (PO) to ensure autonomy in NWSC, and this has been made a precondition to the loans for the Melamchi tunnel.

The poor in the Kathmandu valley

In early 2000 when we started our small research project on the water and sanitation situation of the urban poor, we focused on those living in slums (housing built without cement, in poor repair, with straw roofs etc) or squatter communities (living on marginal lands, without legal title). Using other research, we estimated that 40 per cent of all dwellings were slums and that there were 65 squatter communities. Of the total population of 1.05 million in 2000, we estimated that there were 420,000 living in slums and another 18,000 in squatter communities.

After the rapid assessment, we realised that another significant group was renters. They are the day labourers or hawkers. Many are migrants from the hills, the Terai or the North Indian state of Bihar. Their water and sanitation situation is usually negotiated within their rental agreement with the landlord, but when the water and sanitation situation is stressed, then it is they who have to find alternative arrangements. Other estimates are that 29 per cent of the population of Kathmandu are renters – ie some 305,000.

One of the unusual features of this water sector reform has been the explicit focus on ensuring that the poor benefit. To this end, the IDA requested the services of a consultant to address this issue specifically. Her work is discussed below in section 11.

More recently, a *Willingness to Pay* study has estimated the proportion of poor people at 34 per cent (Tribhuvan University, et al., August 2001). This was based on any two or more of the following: a monthly household income less than Rs 3,500 (US\$47); living in a house with mud floors or walls or with a roof not made of concrete; cooking with wood or dung; and self-description as poor or destitute. By this estimate, there are 390,000 poor people living in 58,000 to 73,000 households. Of these, 30,000 to 64,000 households are estimated to be unconnected to the NWSC network.

An environment in decline

Almost all aspects of the environment of the Kathmandu valley are under pressure. The air and water are polluted, much of the forest canopy has been lost, and some of the rich cultural heritage has been neglected. Within the past 30 years residents have had to abandon their practice of using rivers for bathing or religious purposes. Much household and retail solid waste is dumped on street sidewalks and in rain gutters to be washed into sewers and rivers – on occasion municipalities dump waste directly into the rivers. These become clogged and monsoon rains flood low-lying areas of the city.

The dire environmental conditions disproportionately impact on the poor – slum and squatter communities are often located on river banks next to effluent discharge pipes and solid waste

dumping sites; the poor often rely on traditionally free water sources, ie stone spouts, which are becoming increasingly contaminated.

Surface water

The Bagmati river and its tributaries form the main river system in the valley. The river is used productively (hydro electricity and small-scale irrigation) and is also being increasingly polluted – dumping of solid waste, mining of sand and discharge of untreated domestic and industrial waste.

Ground water

Ground water is extracted in an unregulated manner by the use of deep tubewells by big hotels, large-scale industrial and commercial establishments and small diameter shallow tubewells by thousands of households. There is no monitoring of usage to ensure adequate recharge. There is considerable stress on the finite ground water potential of the valley and signs of over extraction are becoming evident – falling water levels, reduced supply and caving. Sustainable withdrawal from the aquifer is estimated at 26.3 MLD compared to the current ground water abstraction rate of 58.6 MLD (Stanley, 1994 and Metcalf and Eddy, 2000). The shallow aquifer, from which drinking water is drawn via shallow tubewells and dug wells is becoming increasingly polluted due to disposal of untreated domestic sewage and industrial effluent, leaking septic tanks and highly polluted rivers.



Photo by WaterAid/Josh Hobbins

V. The Proposed Reforms

Over the past decade, His Majesty's Government of Nepal (HMGN) and donors have negotiated a reform agenda constructed around three main points:

- Management of the water utility assets should be contracted out to a private operator
- The existing water supply network and associated equipment should be rehabilitated and/or replaced
- Additional water supplies would be brought from the adjoining Melamchi river basin

through a 26-kilometre tunnel, scheduled to be in operation in 2008

Donors have made their support of the Melamchi tunnel conditional on the PO being in place before construction of the tunnel commences as a means of ensuring good management of the new water supplies. The first phase of the Melamchi tunnel development will provide an additional 170 MLD, which will increase the current average production by about 160 per cent.

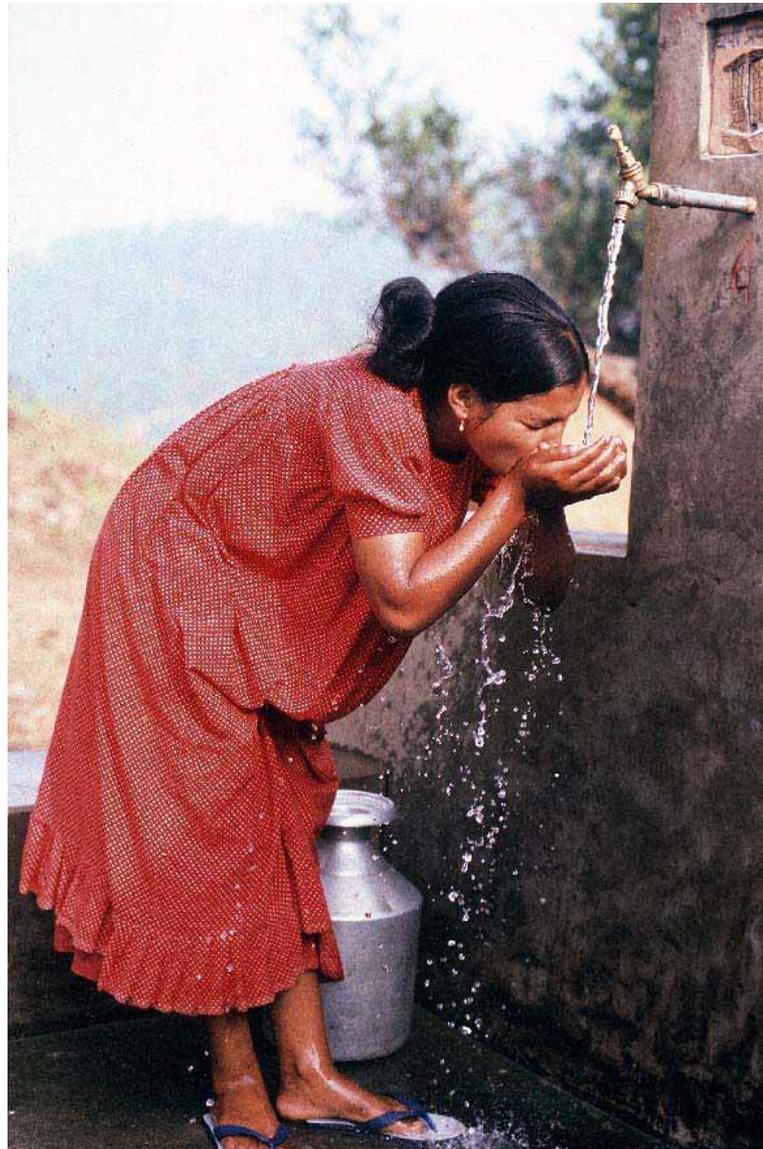


Photo by WaterAid/Josh Hobbins

VI. The Parties within the debate

His Majesty's Government of Nepal

HMGN manages the urban water supply system through the NWSC, located within the Ministry of Physical Planning and Works (MPPW). NWSC has 2,000 staff (1998) of which 1,100 work in Kathmandu valley – suggesting a high staff ratio of 10 staff per 1,000 connections.

In 1997, the government established the high level Private Sector Participation Committee (PSPC) which is responsible for managing the process of selecting a private operator to manage NWSC's corporate assets in the Kathmandu valley.

The NWSC trade union, which represents non-management staff, is suspicious of introducing a private operator – in a recent vote on the issue 86 per cent of its members voted against privatisation. The union, perhaps, has not understood the nature of the proposed private sector participation and may have confused the process with the sale of assets to the private sector, which is especially common for state-owned enterprises. Almost certainly, there is some fear of job losses, no matter how NWSC is reformed. Management and professional staff are reported to be more open to a private operator, feeling that this will reduce or remove political interference, increase salaries, improve the workplace and allow them to demonstrate their capabilities.

Local government in the valley consists of five municipalities, which are subdivided into 110 wards. Under the Local Self Governance Act, 1998, municipalities were given responsibility for water and sanitation, however currently they do not have the capacity to manage the water and sanitation systems and it is unclear at what stage they will assume this responsibility. Local government is highly politicised and the concept of a foreign private operator managing a public service is not easily compatible with the socialist orientation of a number of the mayors.

Donors

Donors have long been involved in projects that have attempted to improve water supply in the valley. Until recently these efforts were led by the WB which had placed much of their effort on the contract and selection process for the private operator. The WB's IDA provided a loan of US\$80 million, 56 per cent of which was for rehabilitation and upgrading. The Bank's vision was that their loan would be "performance based" ie that the release of additional funds is dependent on how the first tranche had been effectively utilised. All this changed in mid-2002 with the departure of IDA from the reforms. This decision, spurred by delays in selecting a private operator and a lack of competitive bids, has left a funding gap and removed the donor with the most experience of PSP. The ADB, after IDA's withdrawal, has become the lead donor for the whole package. Their loan of US\$77 million will cover one quarter of the total cost of Melamchi. Japan, Norway, Sweden, OPEC and others will provide additional funds.

Civil society

Until recently, reform of the water supply sector has been largely a donor-government negotiation. Loans have been made available to government bodies, particularly the NWSC, in exchange for meeting agreed-upon targets and certain conditions. This has continued to a large extent although, perhaps belatedly, civil society has begun to become involved in a marginal way. Early in 2001 a small group of NGOs began to meet informally to discuss the proposed water supply reforms and other relevant issues. This informal forum, whose meetings are open to government, donors, municipalities and indeed any individual interested in urban water and sanitation, has continued to meet approximately once a month to hear updates on the proposed reforms and to discuss new developments. The NGO Forum has served as a mechanism by which NGOs can interact with both government and donors.

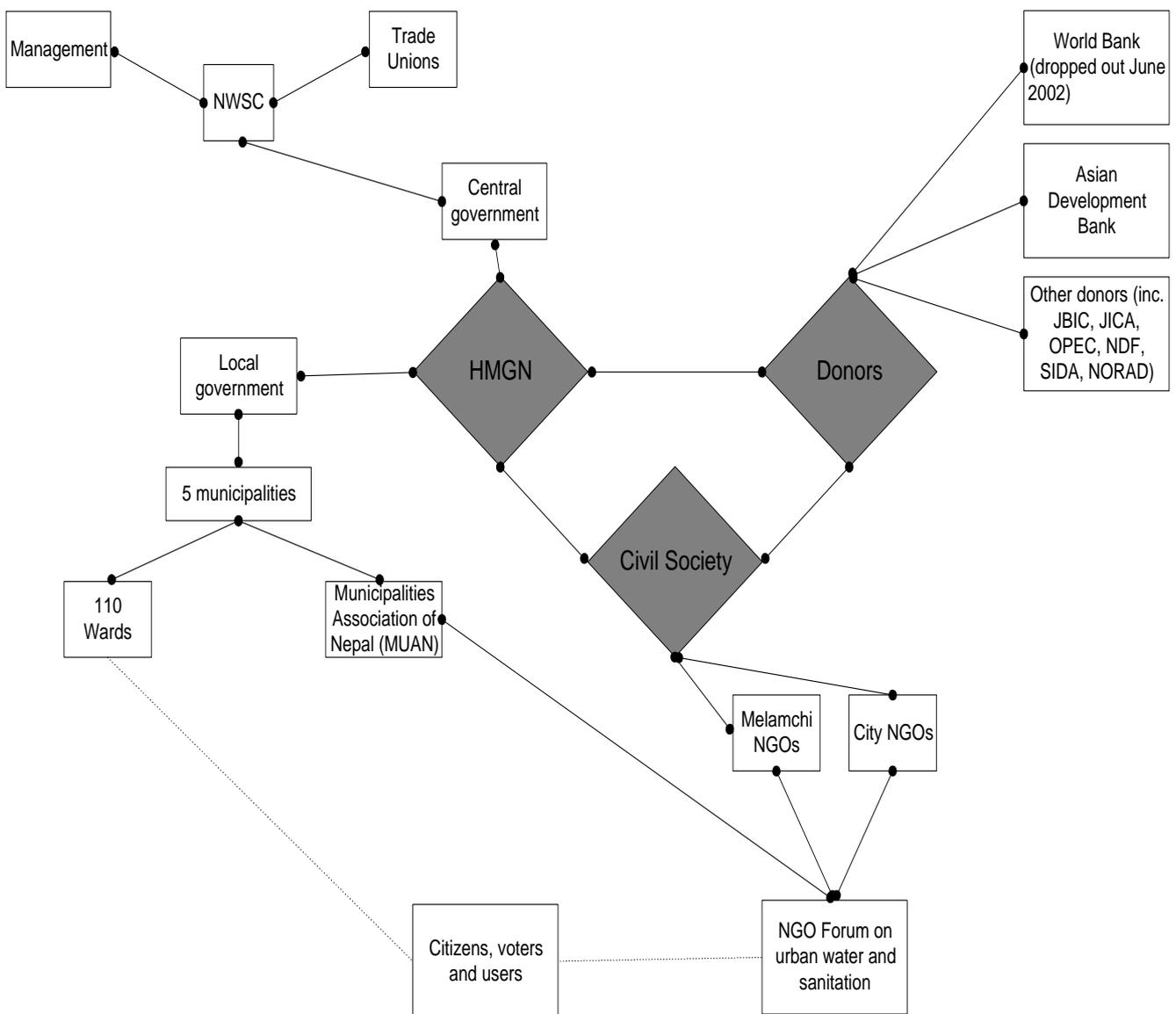
Users

User participation in the debate surrounding the reforms has been minimal (although the *Willingness to Pay* study indicated that 36 per cent of users were aware of the proposed reforms). The complexity of the issues and the fact that all documents and the majority of debate has been in English have been barriers to user participation.

Media

The Nepali and English news media have also begun to give increased coverage to these proposed reforms, particularly the Melamchi tunnel, mostly in reporting upon various workshops and meetings combined with the occasional analysis or opinion article.

Figure 1 – Map of parties in the debate



VII. Financial Aspects

Financing the Reforms

The total cost of all these reforms is estimated at US\$468 million, divided as follows:

- The private operator – 2.3 per cent
- Rehabilitation of the network – 29 per cent
- Construction of the Melamchi tunnel – 69 per cent

A project of such a large financial size has required many lenders and donors, assembled with considerable effort by the government. See Figure 3 for the sources of loans and grants for Kathmandu's water reforms.

From these figures and the more detailed information presented in Table 3 below, it can be seen that:

- The government is the single largest source, contributing 29.7 per cent (not including tariff revenue)
- 59 per cent of the total consists of loans
- Only 11.2 per cent is grant financing

Recently, we have found out that the WB's IDA had not made any loan to Melamchi, reflecting either its doubts about the need for the project or their hesitations about its capacity to pass their social and environmental screening process.

A large project with many lenders/donors makes the project vulnerable to one or more changing their minds in the light of events or new circumstances. For example, IDA had more stringent requirements for competitive bidding for the private operator contract than the Asian Development Bank (ADB), which has been feeling more pressure to begin to disburse the Melamchi loan. When the private operator contracting process recently produced only one bidder, a major difference of opinion between the two largest lenders resulted in IDA's exit from the project.

By Nepali standards this is a very lucrative set of reforms (US\$468 million is approximately 10 per cent of annual GDP). In a country where corruption is perceived to be rife, the political, bureaucratic and commercial elites are keen to see these investments materialise.

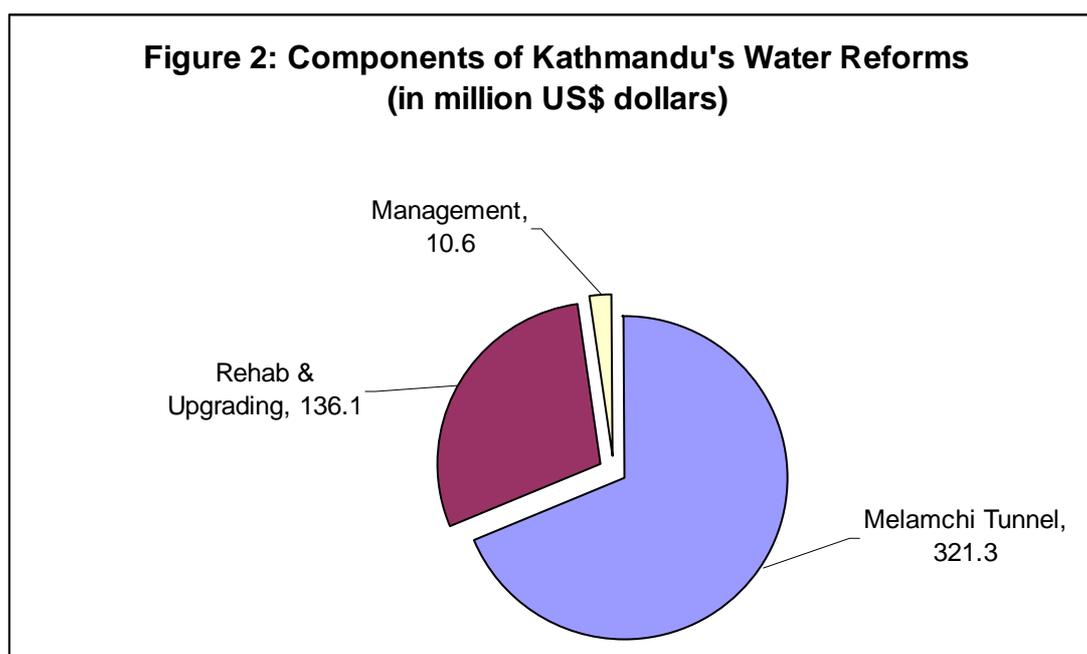
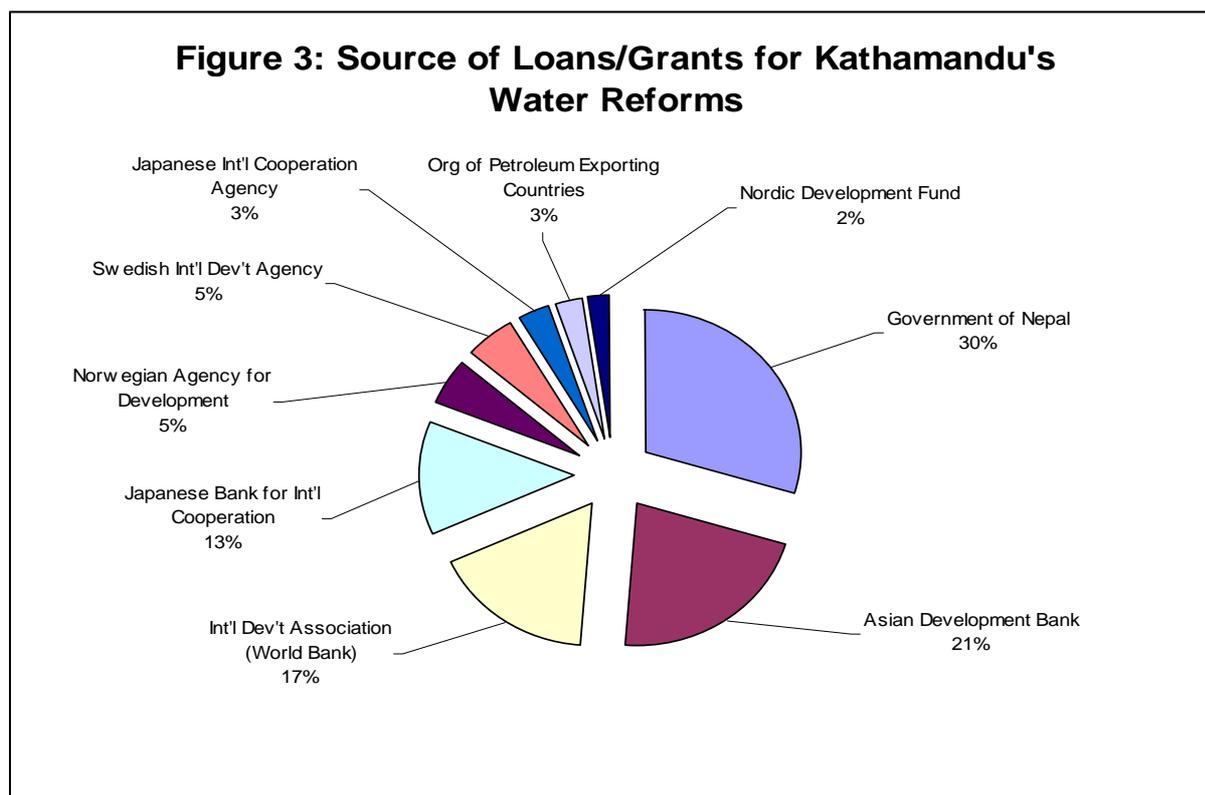


Table 3 – Financing the reforms – source, component and loan/grant status, 2001

Source	Melamchi			Rehab & Upgrading			Management			Total	
	Loans	Grants	HMGN	Loans	Grants	HMGN	Loans	Grants	HMGN	US\$ million	%
HMGN			115.8			23.1				138.9	29.7%
ADB	76.9			16.5			6.6			100.0	21.4%
IDA				76.1			4.0			80.1	17.1%
JBIC	60.0									60.0	12.8%
NORAD		25.0								25.0	5.3%
SIDA	12.5	12.5								25.0	5.3%
JICA					15.0					15.0	3.2%
OPEC	8.6			5.4						14.0	3.0%
NDF	10.0									10.0	2.1%
Total	168	37.5	115.8	98.0	15.0	23.1	10.6			468.0	100.0%
%	35.9%	8.0%	24.7%	20.9%	3.2%	4.9%	2.3%			100.0%	

Source: WaterAid – Nepal 2001



Investment inequities - Kathmandu compared with the rest of the country

The reform process has begun to consider equity issues. Reflecting both historical prosperity and continuing rural-urban disparities, per capita incomes are significantly higher in Kathmandu than in rural areas although living costs are also higher. The Kathmandu

valley urban population is water-stressed, but so are many rural areas of Nepal. The new Kathmandu valley investments will dominate all water and sanitation sector investments for this decade. Kathmandu, currently with 5 per cent of the population (expected to grow to perhaps 7 per cent over the next decade), will benefit from about two-thirds of all water and sanitation sector investments during this period. This is largely due to high

costs per head of the Melamchi project, which are between 10 and 80 times the costs required to provide water in rural areas, where lower cost technologies can be used (see comparison in Table 4 below).

For reasons of equity, we believe that Kathmandu tariffs should be set at a level that covers the total cost of servicing these loans as well as their repayment. It would be highly inequitable if the high

costs of these loans were to be met by rural citizens who themselves have low levels of water services. A related concern is the source of government funding support to Melamchi, estimated at US\$17 million per year for eight years. If this is taken from rural water and sanitation budgets it would delay expansion of services to many millions of poor rural residents.

Table 4 – Cost of new or improved water supply, per person

Location	Nepal Rupees	US Dollars
Rural – Terai – shallow tubewell	400	5
Rural –Terai – boulder zone – deep tubewell	2,700	36
Rural – hills & mountains – gravity flow	2,800	37
Small towns – piped water supply	3,000	40
Kathmandu – Melamchi tunnel and other reforms	22,500 - 31,900	300 - 425

Source: WaterAid – Nepal, Sector Financing Study Draft 1, 2001

Tariff structure and tariff levels

The present tariffs are in urgent need of reform. They cover only a small fraction of the actual cost and penalise the unconnected poor, who have no connection and receive none of the subsidy taken by connected households.

Most domestic consumers pay an increasing block tariff that begins by charging Rs 40 (US\$0.57) per month for the first 10,000 litres (US\$0.06 per cubic metre) litres and then Rs 9.7 (US\$0.14) per cubic metre for additional supplies. Both levels are

significantly below actual costs. These rates were revised upwards by 20 per cent in March 2002. It should be kept in mind, however, that a large share of the connections are unmetered.

The inequitable situation of poor unconnected households is clearly demonstrated by comparing three different households receiving respectively 20 cubic metres, 10 cubic metres and zero water a month. The unconnected household has high water stress and no subsidy.

Table 5 – Costs, tariffs and subsidies

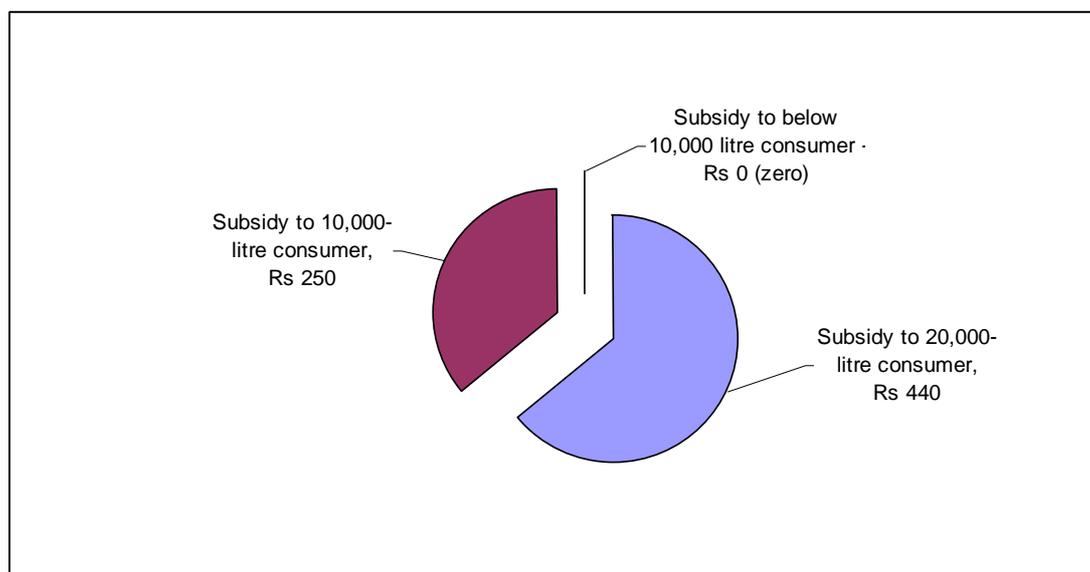
Consumption of NWSC water (litres per month)	Cost @ Rs 29 / m ³	Payment by household to NWSC	Monthly subsidy from government	Water stress
Above 20,000	Rs 580	Rs 140	Rs 440	Low
Above 10,000	Rs 290	Rs 40	Rs 250	Medium
Below 10,000	Rs 290	0 to NWSC, but large coping cost and cost of finding water from other sources		High

Source: WaterAid – Nepal, 2001

Note: Payment excludes sewerage charge of 50 per cent if within 30 metres of sewer line.

Figure 4 reconstructs the information from the table above and shows graphically that larger consumers, ie those with more capacity to pay, actually benefit more from the subsidies that government provides to the NWSC.

Figure 4: How subsidies benefit larger consumers



Future tariff levels will depend on:

- Costs of operations and maintenance, estimated at around Rs 30 (US\$0.40) per cubic metre
- Capital cost of the reform project, currently estimated at around US\$300 per person served (ie US\$468 million for 1.55 million users, if all households are connected) or US\$425 per person (at the current connection rate of 71 per cent)
- The level of service received – stand post, yard tap or fully plumbed
- Users' ability and willingness to pay for improved services

The magnitude of the gap between tariff and actual cost as well as the huge capital requirement for the reforms is indicated by the estimate made by consultants that tariffs had to increase thirteenfold in real terms between 1999 – 2009 to eliminate the operating subsidy and achieve financial equilibrium (Jeffrey, 2000).

The *Willingness to Pay* survey (conducted in April 2001, at the height of the dry season and the time when people are most water-stressed) estimated that:

- 71 per cent of households had a private connection

- 75 per cent of households with a private connection had a meter
- Mean current payment was Rs 158 (US\$2.26) per month (for an imputed monthly consumption of 1) 17,000 litres for those within 30 metres of a sewerage line and 2) 22,000 litres for those without access to sewerage disposal, at an average cost per cubic metre of Rs 7.20 (US\$0.10) to Rs 9.30 (US\$0.13))

The study asked about the household's willingness to pay for a safe, reliable, round the clock water supply system. It found out that:

- The typical household with a connection, on average, is willing to pay Rs 69 (US\$1) per cubic metre. Poor households with a connection are willing to pay Rs 53 (US\$0.76) per cubic metre.
- Typical households without a connection, on average, are willing to pay Rs 56 (US\$0.80) per cubic metre for a private connection. If they get a shared connection, they are willing to pay Rs 31 (US\$0.44).
- Poor households without a connection, on average, are willing to pay Rs 42 (US\$0.60) per cubic metre for a private connection. If they share the connection, they are willing to pay Rs 32 (US\$0.46)

Table 6 – Comparisons of willingness to pay

Current Status /option	All respondents / poor	Mean WTP Rs / US\$ per month	Equivalent per m ³ Rs / US\$
Currently with private connection	All	Rs 1030 / US\$14.71	Rs 69 / US\$1.00
	Poor	Rs 800 / US\$11.43	Rs 53 / US\$0.76
Currently unconnected			
Private connection	All	Rs 840 / US\$12.00	Rs 56 / US\$0.80
Shared connection	All	Rs 230 / US\$3.29	Rs 31 / US\$0.44
Private connection	Poor	Rs 630 / US\$9.00	Rs 42 / US\$0.60
Shared connection	Poor	Rs 240 / US\$3.43	Rs 32 / US\$0.46

Note: US\$1 = Rs 70 (mid-2001); a private connection provides 500 litres per household per day; a shared connection provides 250 litres per household per day.

While maximum willingness to pay is related but not equivalent to demand, this data suggest[s] that households are willing to pay substantially more than the current tariffs, once improved service levels have been achieved.

A related tariff decision is whether to continue with block tariffs or introduce volumetric pricing, where payment is directly related to volume consumed. Increasing block tariffs penalise shared connections by raising the average cost per cubic metre, unless a separate tariff is put in place for shared connections.

A final major tariff decision is whether to distinguish between different classes of users: the destitute (estimated in the willingness to pay study at 2 per cent), poor households (34 per cent), non poor households, and commercial users.

The setting of the tariff levels is a balance of financial need and political judgement. There are pressures for both a low tariff and a high tariff that must be considered. In Kathmandu we identify the following pressures:

Table 7 – Reasons for raising or keeping tariffs low

Tariffs are kept low:	Tariffs are raised:
<ul style="list-style-type: none"> To allow poor people to meet their basic water requirements at a non-exorbitant cost – say at a maximum of 3 per cent of their income For increasing block tariffs) Not to penalise poor families that share a connection with neighbours 	<ul style="list-style-type: none"> To allow the utility to function without government subsidy and thus have autonomy in its operations To raise revenues to pay for maintenance, rehabilitation and expansion of the network To discourage waste of water, especially in a situation of water shortage for many households

One model discussed by the NGO Forum has been to combine principles from both the “water as a human right” argument as well as the Dublin philosophy – “water as a social and economic good” and consider two tariff levels:

- Water priced as a basic water requirement – This would mean that for a consumption of 33 litres per person per day, or six cubic metres per household per month, only operating and maintenance costs will be charged. At current costs of approximately Rs 30 per cubic metre, this would suggest a bill of Rs 180 per household per month (US\$2.40) – equivalent to 3 per cent of the mean income of poor households (ie Rs 6,000 per month).
- Water priced as an economic good – Water is charged at its full cost (ie operation and maintenance costs plus loan financing plus capital repayment plus cross subsidy for the basic water requirement tariff plus levy to Melamchi valley residents plus the cost of regulatory body) for all consumption in excess of six cubic metres metered per supply per month. For example, a household of six people each consuming 100 litres per day at a price of Rs 80 per cubic metres total monthly cost would be Rs 1,140 (US\$15.20).

Such a tariff amount and structure would attempt to meet the objectives of social equity – some water for all and utility effectiveness – ensuring adequate revenues to run an efficient and effective service. By providing the basic water requirement for 3 per cent of average incomes it should be reasonably pro-poor, especially if the system were supplemented by public tapstands as discussed below.

One objection to multiple tariffs is that they make billing more complex and increase the potential for corruption. However, at present there are as many as 60 different tariffs (depending on class of consumer, size of pipe, total volume consumed) so a two-level tariff for domestic users would be a considerable simplification.

A further objection is that by charging only operation and maintenance costs, any operator that is trying to make a profit, whether private or public, is going to be loath to supply to those households where the connection charges cannot be reclaimed through the

higher tariff. Unless this subsidy is provided by the government, those who cannot afford to pay for more than the initial six cubic metres are going to receive connections only at the end of the contract.

Levels of service

The reforms currently envisage three levels of domestic service:

- A private connection used by one household or dwelling, with a meter and a monthly bill
- A shared connection with a single meter, used by two to 15 households sharing a monthly bill
- A metered standpost used by up to 50 households who each pay a flat fee of Rs 25 – Rs 75 a month (US\$0.36 - US\$1.00)

The *Willingness to Pay* study found the following support for the third option:

Flat monthly fee (Rs)	Percentage of households who would share
25	88
50	83
75	67

Using the middle price and assuming each standpost were used by an average of 40 households, monthly revenue would be Rs 2,000. If each household used the basic water requirement of 200 litres per day then total consumption would be 240 cubic metres per month and the price per cubic metre would be Rs 8.33 (US\$0.11). In our opinion, this option provides a good deal for poor households – reasonable access for less than one per cent of their average income for households who cannot afford a connection.

Reforming connection charges

The major barrier to poor households having a NWSC connection is the connection charge, which is currently in the range of Rs 10,000 – Rs 18,000 (US\$143 - US\$257), depending on the distance from the main. Moreover, the charge, which is equivalent to two or three months’ income for a poor household has to be paid in advance.

This could be reformed in a number of ways:

- The basis for the charge should be transparent and based on actual costs. Currently there is a suspicion that connection charges are set high to suppress demand and subsidise consumption tariffs
- It could be paid in instalments over, say, five years
- There could be competition in providing connections, allowing consumers a choice between licensed contractors and NWSC
- It could be treated as an operating expense, and paid for by all consumers in their tariffs

Any of these changes would improve access by poor households to the NWSC supply.

VIII. The Private Operator

Selecting a private operator

Although the assets of some State Owned Enterprises have been sold to private sector businesses, replacing a service provider with a private manager is new territory for the government.

“Expressions of interest” were first invited in July 1999 and three companies were short-listed. In June 2001 after two of the short listed companies (Azurix and Lyonnaise des Eaux) withdrew (leaving only Vivendi) PSPC re-opened the process by requesting expressions of interest.

During the summer of 2001, 18 companies from 11 countries submitted expressions of interest for the management lease contract. At a bidders’ meeting in September 2001, two issues emerged in discussions between some of these companies and the government.

- The duration of the contract – ten years was felt to be too short by some companies to be commercially viable
- The criteria for the selection – should bidders demonstrate comparable experience in two countries or in one? The former means that a bidder has experience in a country other than his own while the latter would allow more companies to bid

Of the 18 companies which submitted expressions of interest, only four of the companies were private operators. There was also three manufacturers, three consulting firms, five engineering/construction firms, one water/waste water treatment firm, one association, one other. These 14 companies were probably not seriously interested in becoming the

private operator and were merely fishing for information on the transaction and the water market in Kathmandu.

In December 2001 the government issued an invitation for companies to pre-qualify against the criteria outlined above. By the closing date, February 2002, only one company (Vivendi) had submitted and PSPC extended the period in an unsuccessful attempt to obtain more bids.

As we prepared this paper, we understand that the government and ADB are considering:

- Another round of bidding, against a lower set of criteria
- Moving the PSPC to the Melamchi Development Board, which, as the private operator is a precondition for its financing, has a significant incentive to bring the private operator in as soon as possible. The private operator is now scheduled to be in place by September 2003 (ie six years since PSPC was established)

Considering that this is such a new exercise for the government, donors’ support to PSPC appears to have been inadequate with the result that some of PSPC’s efforts to attract bidders seem to have been flawed. For example the invitation to pre-qualify in December 2001 was published in Kathmandu daily newspapers and faxed to embassies – a tactic unlikely to reach all potential bidders. Thus, there was no direct transmission to those 18 companies that had earlier submitted expressions of interest.

One of the reasons for the weak performance of the PSPC may lie in the lack of a cohesive team of transaction advisers. Donors have provided the

PSPC with the services of a number of advisers (World Bank – Procurement, Technical, Institutional, Pro-poor; ADB – Institutional) however the advisers have worked in isolation and at times even made contradictory and conflicting proposals resulting in significant differences amongst donors and an absence of clear guidance to the PSPC.

The current result is that after five years, there is no company selected for the contract, and the process is still not completed.

In our opinion, the reasons for this delay can be found in the following:

- Government inexperience
- An action imposed on government by non-Nepalese agencies, not a “made in Nepal” solution
- Conflicting advice from different consultants working for different agencies on many of the most important issues – the contract, tariff levels, regulation, metering
- Long periods when no consultant was locally available for quick and frequent advice
- Too many lengthy reports written in English language, some of which have no summary

Contract Type

An apparent consensus that the contract would be an *affermage* type with a ten year contract was disrupted in June 2002 by the departure of the World Bank from the donor consortium. Under this arrangement the operator is paid an *affermage* fee by the contracting authority, based on the volume of water produced or sold. The operator collects the tariffs into his own or the water authority account and remits the difference between revenues and the *affermage* fee he is owed. The *affermage* fee may be modified to include performance bonuses related to efficiency (reduction of UFW and increased billing efficiency in Kathmandu). Because the Kathmandu tariff is significantly less than operating costs, the private operator would have retained tariff revenues and be paid a fee, the size of which was the major factor in private operator selection.

As we write this paper, the current proposal, supported by the government and ADB, is for a gradual process of increasing private sector involvement, first hiring a private operator for a six years management contract, to be followed by a lease management contract.

Request for Proposals (RFP)

The government will issue a Request for Proposals (RFP) to pre-qualified companies which lays out the nature of the contract, the requirements of the operator and the way the proposals are to be written. The current RFP includes several references to services to the poor and bidders must provide a proposed strategy for:

- Promoting connections to poor households
- Improving management and maintenance of stand posts
- Working with community groups to develop procedures for bulk supply
- Billing and revenue collection in informal settlements
- Working with existing water suppliers

These are useful requirements to help ensure access to water services by the poor. It will be important to ensure that the revised RFP for the management contract continues to contain these pro-poor requirements.

One issue of contention in the previous RFP had been a series of demanding selection criteria (eg management of two water utilities, at least one of which should be in a developing country) for which no more than six or eight companies worldwide could qualify. It is not clear that the PSPC clearly understood this. They were quite passive in the bidding process, expecting potential bidders to come to Kathmandu, rather than visiting these companies directly. And they were surprised when only one company (Vivendi) successfully pre-qualified in early 2002.

IX. Ensuring utility autonomy by a new institutional arrangement

- All revenue-generating or employment-creating organisations are a temptation for political interference. There is a widespread sentiment that NWSC could have performed considerably better with more discretion to hire and fire on meritocratic and performance criteria, to pay market salaries, and with more control over tariffs, revenues and investments.
- Bringing in a private operator, establishing a new institutional framework and using a contract to ensure autonomy are probably requirements for the institutional autonomy that an effective utility requires, but it should be recognised that this comes at a cost of fees for the private operator, an acceptable price so long as efficiency gains exceed these fees.
- To separate the functions of policy formulation, planning, operations and regulation it is envisaged that there will be up to five responsible agencies:
 1. The government, through the MPPW will be responsible for the overall policy of urban water supply and, at least initially, owning the assets of the utility.
 2. A new body, the Kathmandu Valley Water Authority/Corporation (KVWA/C) will own the physical assets and be responsible for planning the development of the urban water supply system. Five Municipalities of Kathmandu valley will be represented in KVWA/C and will, along with HMGN/MPPW own the asset during the contract period. Municipalities will also be responsible for sanitation and waste water/storm water disposal.
 3. The responsibility of Water Resource Management in Kathmandu valley will be assigned to the Bagmati Sub Basin Authority (BSBA).
 4. The private operator will be responsible for providing services to manage the staff and physical assets of the water supply system for six years and for operating the system to meet contractually defined standards.
 5. The Nepal Water Supply Regulatory Board will undertake:
 - economic regulation - approve tariffs proposed by KVWA/C, enforce service levels, supervise the Private Operator contract and regulate the water market for maintaining competition by allowing small scale independent providers
 - health regulation - enforce water quality standards
 - environment regulation - regulate ground water abstraction and regulate water allocation for competing uses.

To ensure the arrangement is pro-poor, the regulator should also have a mandate to scrutinise the performance of the private operator in meeting social equity measures, such as those proposed in section 11.

X. Network densification and rehabilitation

Densification not extension

In many cities networks need to be extended to serve new communities established on the edges of existing settlements. In Kathmandu the situation is different due to the fact that the unserved parts of the city where the poor live are scattered throughout areas where a network exists. In this situation densification of the network to 'fill in' currently unserved areas is required rather than extension to a different location.

Ensuring network densification benefits the poor

The unconnected poor fall into three categories: a) those who live within close proximity of the network but have not been able to connect due to the high connection fees; b) those who live near the secondary network but cannot afford to lay the missing tertiary network; and c) those who are not within reach of the network at all (squatters on the riverbanks, for instance).

Due to the mix of housing patterns, geographically defined coverage targets (which require the operator to fully serve all people in a certain area by a defined date) may be of limited use. However, it may be possible to identify areas in the city with high numbers of poor unconnected consumers using such sources as the 1995 *NWSC Consumer Survey* carried out by SILT Engineering, the 1998 map prepared by the Kathmandu Valley Mapping Project and local knowledge from NGOs, local government officials and community groups¹. The NGO Forum is currently managing a consultant to identify areas with large numbers of unconnected poor households.

¹ This survey enumerated 127,938 households, and identified 42,343 (33 per cent) unconnected households. The enumerated areas were mapped and the unconnected households marked. By studying these maps it should be possible to identify areas where the unconnected are concentrated. Unfortunately, the Consumer Survey did not explore the reasons that these households were unconnected, and if it was due to poverty.

This information could then be used as basis for identifying some high priority areas for new tertiary networks and connections. Donor funds could be used to finance the additions to the network, and the operator could be provided with a performance bonus for connecting each new customer within these areas. The bonus would have to be carefully calculated to offset the costs to the operator of administering the new connections, especially if the operator perceives them to be risky. To prevent the operator from simply installing new connections for which little or no water is available, it would be necessary to specify short-term quality of service at new connections and to design penalties if the standards were not met. This could be done simply by specifying a minimum amount of water to be supplied in a month, and comparing this with meter readings.

Financing rehabilitation and densification

The responsibility for major rehabilitation and densification (ie as the urban population increases, so would water and sewerage connections) lies with the government. It had been proposed that major rehabilitation would be funded by a performance-based IDA loan, with the initial tranche of US\$10 million. With the exit of IDA this is an important vacuum.

Balancing rehabilitation and densification

It must be borne in mind that while extensions of the network are desirable in order to connect new customers, most of whom will be the poor, any investment in expansion means less investment in repairing leaks. Given the limited number of new sources of bulk water in Kathmandu, the leaks must be repaired in order to reduce losses and make available water for distribution. There has to be a balance, therefore, between densification and rehabilitation.

The NGO Forum's opinion has been to see both rehabilitation and densification as important and to argue that both should occur in parallel, within a holistic approach that would also encourage demand management and a more equitable distribution.

XI. While waiting for Melamchi

The latest plans are for the Melamchi tunnel to be completed by 2008, and therefore inhabitants of the Kathmandu valley are facing a period of at least six years of continuing water stress. Government, NGOs and citizens are undertaking a number of initiatives to increase water supply from sources other than Melamchi. In addition more attention must be given to the health of water in the Kathmandu valley – through increased awareness of the need to reduce wastage of water, to recycle and to re-use. Given the performance of the Melamchi project to date there is a possibility that the tunnel will be delayed, in which case alternative sources and improved water management will be even more important.

Improving water supply over the next six years

Nepal Water Supply Corporation projects

There are seven ongoing projects in the Kathmandu valley that are due to be completed by 2002/3. Between them they aim to extend the distribution main by 10km, extend the sewerage main by 10km, rehabilitate nine production systems, reduce leakage by one per cent and supply an additional 42 MLD (an additional 48 per cent and 31 per cent in the distribution network for the dry and wet seasons respectively).

An additional four potential projects have been identified by NWSC in the Kathmandu valley which would provide an additional 44 MLD at a cost of US\$48.5m.

NGOs and community initiated low cost water supply options

Some NGOs and projects with municipal, ward and community involvement are supporting in-fill projects to improve the water supply in unserved areas by constructing community shallow tubewells and rehabilitating hand dug wells and traditional stone spouts. WaterAid has supported its partners to construct 24 of these projects during the past two years.

Private initiatives

Many households and businesses continue to invest sometimes substantial amounts to build their own water supply system of shallow tubewell, underground storage tank, electric pump and roof top tank. There is a small but growing interest in rainwater harvesting. There are no data available for shallow tubewells (estimated at 15,000) nor for the estimated 500 deep tubewells. The investment in these alternative water sources and systems is substantial. While the pressure for such small initiatives to continue and expand is intense, their existence undermines the demand for the bulk water supply when Melamchi is operational.

Tankers

It is estimated that there are approximately 80 tanker companies in the Kathmandu valley with an average of two tankers per company. Demand for their services is highly seasonal with each truck making as many as four trips a day in the dry season and as few as four a month in the wet. Trucks vary in size from 3,000 litres to 10,000 litres. In the peak time, they might provide a total of as much as three or four MLD (ie 160 trucks making an average of four trips a day hauling an average of 5,000 litres a trip). Their charge of approximately Rs 100 or more per 1,000 litres is high and thus tanker services are used by businesses, embassies and affluent households.

Private tankers are unregulated and draw water from springs around the periphery of the valley. A Tanker Association was established in 2000 as a means of negotiating with the authorities over permits to drive in the city and to provide some minimal set of standards on water quality.

NWSC has a few tankers that are used for delivery to highly water-stressed communities, at no charge.

Improving the health of the water supply over the next six years

Making the existing water supply go further

Low tariff charges combined with a low level of awareness about the need for, and methods of, water recycling and re-use means that some users waste significant amounts of water while other consumers struggle to obtain their basic water requirements. This will become of increasing significance in the pre-Melamchi period, as tariff increases motivate user interest in efficient use of water.

Regulating ground water extraction

Many factories, hotels, embassies and others have invested in deep tubewells that allow them to have sufficient water without depending upon NWSC supplies. There is no licensing or regulation of these 500 systems. There is an emerging consensus that these sources should not only be licensed but that this water should be paid for. Eventually the price of this water should exceed that of the new Melamchi supplies, encouraging a switch in source.

Optimising the use of the lower aquifer

A recent study of the size of lower aquifer of the Kathmandu valley estimates that it is approximately 15 billion cubic metres, of which two or three billion cubic metres could be responsibly drawn. As this is equivalent to 10 or 15 years of total current water demand this is a resource that could play a significant part in mitigating current water shortages, particularly if this was complemented with ground water recharge, for example, through a series of infiltration dams.

The 1988 study that selected the Melamchi tunnel as the best water supply option is reported to have rejected ground water extraction on the ground of managerial complexity. When the PO is in place, with state-of-the-art management capacity, this argument is no longer valid.

Commencing to reduce unaccounted for water

Unaccounted-for water is estimated at 35 per cent and is a result of both technical (leaks) and administrative (unpaid bills, incorrect amounts charged) losses. If water supply pressure were to be increased, then UFW could double.

Until recently it was thought that repairs to the water supply network would have to wait for the private operator to be in place and to have gained a good understanding of the complete system – a process that might require two years. Now, the concept of a “grace period” has been dropped and replaced with a new proposal that the private operator make reducing UFW a priority. It would move quickly to reduce technical losses by installing meters and computerisation of billing. It would begin a major programme of leak detection and repair major leaks urgently. It is calculated that the private operator could reduce UFW from 35 per cent to 23 per cent in four years at a relatively modest cost of US\$15 million.

This is not sophisticated exercise and will mostly be achieved by repairs close to the consumers. It will create a significant amount of employment for unskilled and semi-skilled labour. The expected added value from the private operator is a perspective that will make this rather humdrum activity an urgent priority, driven by the contract and payment structure.

XII. Environment

Financing for environmental protection

The environmental balance of the valley has been seriously damaged (refer to section 2) and continued population growth suggests that pressure on the environment is likely to continue at an unsustainable rate. The Kathmandu valley water

reforms are an opportunity to begin to redress the balance in favour of the environment. However the Melamchi project allocates a modest amount of US\$10 million (ie 2.1 per cent of the total) for waste water system improvements, which are envisaged to include some low technology options (septic tanks, oxidation tanks, reed beds) and rehabilitation of

existing sewage treatment plants (only one out of four operates at present). In addition funds are provisionally allocated to setting up an advocacy group, policy development and water quality monitoring.

The lack of funding for sewerage in the proposed reforms is a reflection of the overall lack of importance given to this issue. Nowhere has this issue been fully debated, largely due to drinking water being seen as the most pressing need. However with the increase in waste water that will result from the increased Melamchi supply, rapid urbanisation and the risk of river levels rising from bursting Himalayan lakes due to global warming, sewerage should be given a greater priority.

Environmental regulation and water resources management

There has been a debate around whether economic and environmental functions should be handled by separate regulators. Given the difficult water resource

situation and the potential for conflicts of interest to arise the NGO Forum has supported the idea of separating these functions. It has been proposed that an environmental regulator, the Bagmati Sub Basin Authority, be established along the lines of the French river basin agencies in order to strengthen environmental regulation. It is envisaged that the agency would:

- Be in charge of controlling abstraction and discharges, through the granting of licences in order to limit over-abstraction and the imposition of charges on such abstractions and discharges
- Be made up of representatives from all municipalities involved in managing the resources of the valley (with some central government supervision) and key stakeholders in the water sector.

XIII. Current proposals to serve the poor

In 2000 the IDA requested Water and Sanitation Programme – South Asia to provide a consultant to address the issues of ensuring the needs of the poor were included in the project. The consultant brought experience of addressing this issue elsewhere in South Asia, along with WSP's beliefs:

- The poor can be responsible and commercially valuable consumers of water
- That tariffs should be cost-based
- That competition is healthy in the water market
- That water is an economic and social good

WSP now appear to have severed all contact with the project but the consultant continues to work on this assignment. After some half-dozen or more visits to Kathmandu during the past two years, and extensive discussions with the NGO Forum, the PSPC, and others her current set of proposals are as follows:

1. Use poverty mapping to identify high-priority geographical areas in which there are large numbers of unconnected poor, and use this as the basis for targeting assistance for the poor

such as improvements in tertiary networks, new connections, and new or rehabilitated stand posts

2. Make general provisions, such as improving the tertiary network and re-structuring connection charges, to make private and shared water connections more affordable and accessible to the poor
3. Set as a long term goal full connectivity of all households through private connections
4. Provide a system of metered, managed stand posts until funds are available to connect all the poor through subsidised private connections
5. Require the operator to prepare an annual plan for improving service to the poor and disbursing the funds earmarked for this purpose
6. Require the operator to carry out community level, participatory planning in priority neighbourhoods to determine the type and mix of services

7. Ensure the entry to the market for small scale independent providers
8. When evaluating proposals, ensure that the operator's proposed services to the poor includes administrative arrangements such as frequent billing, decentralised service centres, easy fault reporting, and payment for connection charges in instalments
9. Avoid consumption subsidies in the tariff, and introduce a flat volumetric tariff for private connections
10. Establish a bulk, discounted tariff for stand posts and water vendors
11. Make the regulatory process more transparent by requiring the regulator to hold public hearings and publishing the management/lease contract
12. Build the capacity of the regulator to interpret the contract and legislation in a way that benefits the poor, including the way small scale independent providers and shallow tubewells are regulated
13. Ensure the concerns of the poor are brought to the attention of the regulator by establishing a forum of advocates for the poor which provides regular advice to the regulator, appointing dedicated staff within the regulatory body to deal with issues relating to the poor, and having the regulator to commission an independent audit every three years of the operator's performance with respect to service to the poor
14. Develop a programme of on-site sanitation and hygiene promotion, funded from government and donor sources, separate from the lease contract
15. Develop a programme for on-site sanitation options for the poor in Kathmandu
16. Design a programme of NGO and local government capacity-building as part of urban water sector reform, and provide funding

We agree that these are a useful set of proposals that would produce substantial benefits to poor households. But, we believe that proposal number three sets an expensive and difficult precedent for other urban areas and we have a counter proposal for proposal number nine – a two level tariff providing a basic water requirement of 33 litres per person/day provided at 100 per cent of the operation and maintenance cost and additional consumption charged at full cost, supplemented by public tapstands – which we believe would be more acceptable to the public.



Photo by WaterAid/Josh Hobbins

XIV. Preparing for the PSP by mobilising civil society

Donors and governments engage civil society in designing or implementing development. NGOs, professional associations, CBOs and others are seen as important means of including the perspectives of those who are intended to benefit from the development interventions. In the case of Kathmandu urban water supply, civil society inputs have until recently played only a very minor role, and were mainly from professional associations, such as engineers.

There are a number of obstacles to a wider involvement. To begin to overcome these obstacles, civil society has forged its own way ahead and WaterAid–Nepal has supported the process. The table below shows the obstacles to wider civil society involvement in the debate, the actions civil society has taken, the support WaterAid–Nepal has provided and the results.

Table 8: Obstacles and attempts to improve civil society involvement in the debate

Obstacle 1: A mandate vacuum – no civil society group had a mandate to become involved in the reform proposals

Civil society action	WaterAid – Nepal support	Results from the Forum's first 17 months
Coming together in an NGO Forum on Kathmandu Valley Urban Water and Sanitation	<ul style="list-style-type: none"> - Drawing NGO attention to the significance of the reforms - Developing the agenda for the first meeting(s) - Encouraging different NGOs to share the leadership by hosting and chairing meetings - Accepting (and agreeing to pay most of the costs of) the proposal from Lumanti that the Forum recruit a consultant to help us deal with the large volumes of information (all costs shared among ENPHO, Lumanti, NEWAH and WaterAid) - Paying for other NGO Forum support costs ie photocopying; lunches - Raising the profile of the Forum amongst the water and sanitation community 	<ul style="list-style-type: none"> - 19 meetings attended by a mix of civil society, local/ central government and donors engaging in lively debate

Obstacle 2: A policy analysis gap – NGOs in Nepal have to date mostly been service providers and have limited experience in analysis and translating this into policy development or ideas on resource allocation

Civil society action	WaterAid – Nepal support	Results - the Forum's first 17 months
<ul style="list-style-type: none"> - Becoming informed about the various studies and discussing within their own forums - Actively networking with additional NGOs and with others such as visiting researchers 	<ul style="list-style-type: none"> - Hosting smaller meetings that focused on detailed comments on different studies and documents - Drafting position papers on tariffs, community consultations - Preparing minutes of meetings and other documents to help NGOs be well informed - Inviting government and NGOs to attend WaterAid/ Tearfund training on water contracts and PSP 	<ul style="list-style-type: none"> - Wider knowledge on the proposals - especially among the 3 NGOs at the core of the Forum, and among another 15 NGOs - Provision of the opportunity for visiting consultants and others to share the intent and results of different studies, and more importantly, to receive some feedback on their ideas and how they would be received by communities

Obstacle 3: As a young democracy Nepal has a very limited tradition of opening up its information and discussions to those outside the civil service and; its mechanisms for incorporating outside opinions are still developing

Civil society action	WaterAid – Nepal support	Results from the Forum's first 17 months
<ul style="list-style-type: none"> - Taking initiatives to invite government/ donors to meet and present their ideas for discussion - Opening up its meetings to all – government, donors, INGOs and NGOs - Submitting Forum comments on documents and proposals for the government to use as it sees fit 		Review and feedback to government on 1) The draft RFP 2) The draft WTP study 3) The institutional framework proposals

Obstacle 4: No mechanism for communities to make their voices heard

Civil society action	WaterAid – Nepal support	Results from the Forum's first 17 months
Implementation of community consultation process (initially in slum and squatter communities) to raise awareness of the proposed reforms and to enable communities to engage in the process	Drafting a summary of the reforms, suitable for use by community groups, municipalities and others and translating into Nepali	<ul style="list-style-type: none"> - Preparation of a summary of proposals in English and Nepali, with questions for discussion, suitable for community consultations - Training of 30 community leaders in how to use these notes and lead discussion groups

Obstacle 5: Most documents are lengthy and all have been produced in English

Civil society action	WaterAid – Nepal support	Results from the Forum's first 17 months
	<ul style="list-style-type: none"> - Identifying key sections of reports and making them available to NGOs through photocopies and/or e mail - Drafting a summary of the reforms and translating into Nepali - Encouraging consultants to prepare all materials in English and (at least a summary) in Nepali 	<ul style="list-style-type: none"> - Preparation of a summary of proposals in English and Nepali

Obstacle 6: The absence of reliable information about the present water supply situation and the complexity of some aspects of the proposals

Civil society action	WaterAid – Nepal support	Results from the Forum’s first 17 months
	<ul style="list-style-type: none"> - Development of an inventory of all research studies in the water and sanitation sector - A continual process of analysis of data found in existing and emerging reports to refine and consolidate knowledge on the water supply and sanitation situation in the Kathmandu valley 	<ul style="list-style-type: none"> - Greater knowledge on the water and sanitation situation in the Kathmandu valley - Improved estimates on the number of poor unconnected households

While the table above may give the impression of the Forum having a structured plan and set of objectives at the outset, this was not the case. The Forum began with a loose set of principles – to be open to all, to seek to learn and understand diverse perspectives and to intervene to ensure the process and contract were pro-poor. Its activities and the subsequent results have evolved as opportunities arose.

For WaterAid, supporting this process has been a delicate challenge. On the one hand, our organisational objective of promoting universal access to safe, affordable drinking water and sanitation provided us with a unique and unequivocal corporate mandate to scrutinise this set of proposals from the perspective of urban poor people. On the other hand, we realised that our ability to comment and, if necessary, to argue for any changes would be limited by our INGO status. Moreover, WaterAid’s strategy in Nepal is to build the capacity of Nepali civil society to engage in policy dialogue with the government and donors.

In total 68 different organisations (NGOs (30), INGOs (10), central government (5) and local government (6), donors (4), media (4), academic institutions (4) and consultants (5)) have participated in NGO Forum meetings. On average 13 organisations attended each meeting of which seven were NGOs and one was a representative from central government. A core of three NGOs have supported the process throughout, attending 11-15 meetings. These three

NGOs are all WaterAid partners (Lumanti, NEWAH, ENPHO) and have received specific encouragement from WaterAid to participate in the Forum.

It is important to acknowledge that, despite our intentions, WaterAid has largely driven the process – attending every meeting, taking a lead in scheduling meetings, preparing agendas, covering most expenses, encouraging partners to attend, preparing a record of each meeting and networking the Forum. Recently, six members have decided to begin to formalise the Forum by hiring one full time General Secretary and assigning office space.

In summary, we have tried to support the process without leading it, to keep some momentum without driving it, to encourage the Forum to draw conclusions and make judgements without deciding its positions. We have tried to keep the process open and inclusive, encouraging others to join in when they can, but not at the price of delay and missing important opportunities. The spirit of the process has been one of learning together. Although WaterAid has a sectoral focus, we do not have an immediate analysis or set of answers to the many issues and questions that arise with these reform proposals. We have genuinely had to work with many others to assemble and analyse the information that will guide decision making to improve access by the urban poor.

The future agenda of NGO Forum

As we look forward at this time we identify the following agenda:

- Poverty mapping, to produce a list of priority wards and neighbourhoods with a high number of unconnected poor households, for inclusion in the contract
- An exploratory study on renters: who they are, where they live, how they manage their water and sanitation needs, estimates of their numbers
- Further development of a pre-Melamchi plan of action – how to relieve water stress now, by reducing unaccounted for water, by demand management from user education and higher tariffs, from new sources – and perhaps eventually posing the question of is Melamchi required and, if so when? Is it possible to achieve reasonable results, earlier, at a fraction of the Melamchi costs with a package of small activities rather than waiting six years (or more) for the high risk, mega project of Melamchi?
- Community consultations on the proposed reforms (completed in five slum and five squatter communities to date). Issues discussed include the current water situation in the communities, future tariff structures, the private operator, complaint mechanisms and how to cope in the pre Melamchi period. The Forum will continue to coordinate this activity and support communities in feeding their ideas and opinions into the decision-making process
- Further refinement of the profile of Kathmandu – bringing together the different data on the population size, NWSC connections, revenues, and, most importantly, the number of unconnected poor
- Working to ensure that the private operator's contract is pro-poor. Ensuring, for example, that the work of the pro-poor consultant (section 11) is not sacrificed to inter agency competition
- If and when the contract is signed it is envisaged that the focus of the Forum's activities will shift from influencing the design of the contract to supporting the private operator and to influencing the behaviour of the regulatory body – in this sense the Forum has a moving target. This change of target will be a new challenge for the Forum and will involve building a strong relationship with the new institution
- Clarifying the role of the NGO Forum, is it only or predominantly for NGO education, or should it attempt to develop positions? The Forum is asked for its opinion about issues, to which we respond that no-one speaks for the Forum, merely our own organisation. But perhaps we should move from information to debate and collectively argue the cases for and against such contentious issues as subsidies, the private operator and Melamchi
- Further development of the status of the Forum. Should we formally register, have a governance structure, expand the staff and seek new funding?

XV. Conclusion

Our investigation of the water supply situation in poor communities in the Kathmandu valley shows that their current situation is highly stressed, inequitable and unnecessary. To reduce the water stress in these communities, and to address other problems such as unaccounted for water and operating losses, the water utility and its political context must be reformed.

Reforms have been attempted in the past but have been unsuccessful and a Private Sector Participation-based reform is the latest model being proposed. The process was recently thrown into turmoil with the IDA's exit from the project. ADB has stepped up to cover the funding shortfall but is proposing a different form of private sector involvement – a management contract (the World Bank had previously been proposing an *affermage* contract). The Private Sector Participation Committee formed to bring in a private operator appears to have a low capacity to manage the process and the support provided to the committee by various donors has been inadequate and inconsistent, resulting in an absence of clear guidance. Six years after PSP was officially agreed on as the solution for Kathmandu valley water supply it is not yet a reality.

Given the past performance of fickle donors, the government's inclination to accommodate any model so long as it sufficiently financed, and the political disarray, PSP in Kathmandu valley water supply may never materialise. PSP is merely a tool and is only as good as those who use it - if used judiciously the tool could lead to a reduction in water stress throughout the valley, including poor communities and an improvement in overall utility performance. If PSP is subjected to the same political interference that undermined past reform attempts, then its success will depend on the strength of its contract with the government and its ability to ensure autonomy.

The proposed reforms are expensive by Nepali standards – US\$468m is approximately 10 per cent of annual GDP. Of this government support is estimated at US\$17 million per year for eight years. If this is taken from rural water and sanitation budgets it will delay the expansion of services to many millions of poor rural residents. In a country where corruption is

perceived to be rife, civil society must play a role in ensuring that investments are transparent and sound.

For the first time civil society has entered the debate and raised the issue of the urban poor and their inequitable access to water, an issue that did not form part of past reform discussions. Donors and the government have sought to consult with civil society and a consultant was hired specifically to make proposals for serving the poor. After 18 months, has the involvement of civil society had any impact on the debate? We cannot yet point to any specific result however there is a possibility that a poverty mapping exercise currently in process will influence the design of the contract by assigning priority for network densification to areas with a high number of unconnected poor people. A clearer result is that NGOs have increased their understanding of PSP, have experienced participating in sector reform, and have a greater knowledge of what it takes to try to influence the design of a contract – all of which may be useful in the future. The inequity of investing such huge sums for a small urban elite has been aired but not resolved. On a possibly less positive side, however, the formation of a forum of NGOs may have made it easier for donors and the government to insincerely consult with the poor and thus remove one more hurdle in a process that will ultimately serve the commercial, bureaucratic and political elites and middle class water users.

At the time of writing, the jury is still out on PSP in the Kathmandu valley and its impact on the poor. Civil society will continue to engage in and document the process to try to ensure that the reform process, whatever form it may take, meets the needs of poor people.

Recommendations

Based on the research findings we make the following recommendations:

- Future tariffs should reflect the principles of both “water as a human right” as well as the Dublin philosophy “water as a social and economic good” in order to attempt to meet the objectives

of social equity – some water for all, and utility effectiveness – ensuring adequate revenues to run an efficient and effective service. This could be achieved, for example by introducing a two level tariff providing a Basic Water Requirement of 33 litres per person per day provided at 100 per cent of the O&M cost and additional consumption charged at full cost, supplemented by public tapstands.

- Connection charges should be reformed to improve access by poor households to the NWSC supply by making the basis of the charge transparent and basing it on actual costs; allowing charges to be paid in instalments; allowing competition in providing connections, allowing consumers a choice between licensed contractors and NWSC; or by treating connection charges as an operating expense, and paid for by all consumers in their tariffs.
- The regulator should be given a mandate to scrutinise the performance of the PO in meeting social equity measures, to ensure the arrangement is pro-poor.
- Poverty Mapping should be carried out to identify high priority areas for new tertiary networks and connections. Donor funds be used to finance the additions to the network, and the operator be provided with a performance bonus for connecting each new customer within these areas within the first two years of contract signing. Service standards should be defined in the contract for these new connections and a

system of penalties introduced if standards are not met.

- Network rehabilitation and densification should occur in parallel, within a holistic approach that also encourages demand management and a more equitable distribution.
- Proposed reforms should also address the current sewerage situation in the Kathmandu valley and plan for the increased waste water that will result from the increased Melamchi supply.

Lessons learnt from being involved in the process of reform

Our involvement in this process leads us to conclude that the following basic model is appropriate:

- Public ownership of the assets
- A business like management of the water supply system which may be done by either the public or private sector, so long as the utility has significant autonomy
- Independent regulation
- A well informed and engaged civil society, able to independently and critically scrutinise the policies and actions of the other parties, to ensure the system is pro-poor and environmentally sound

References

- Brocklehurst, Clarissa (May 2002) Study to Design the Institutional Interface for servicing the Poor
- His Majesty's Government of Nepal, Ministry of Population and Environment, IUCN, (November 1999) Environmental Planning and Management of the Kathmandu Valley
- LUMANTI, WaterAid–Nepal, NEWAH and Water and Sanitation Program South Asia Region (July 2000) The Water Supply and Sanitation Situation of the Urban Poor in the Kathmandu Valley: Results of a Research Study Volume 1: Main Report
- Federation of Canadian Municipalities, AMEC Earth & Environmental Limited and Nepal Consult (P) Ltd (October 2002) Position Paper: Achieving Environmental and Community Sustainability through Integrated Water Resource Management and Strengthening of Municipal Government in Nepal. Water Optimising Pilot Project, Kathmandu Valley, Nepal
- Jeffrey, M (October 2000) Draft Report – Preparation of a Management Contract for the Urban Water Supply and Sanitation Services in the Kathmandu Valley – Financial Analysis and Financial Model Results (Binnie Thames Water)
- Tribhuvan University, Central Department of Population Studies; University of North Carolina, School of Public Health; Research Triangle Institute, Health, Social and Economics Research (August 2001) Final Report: Willingness to Pay for Improved Water Supply in Kathmandu Valley, Nepal
- Water and Sanitation Program – South Asia (January 2001) Overview Paper: Serving Poor Consumers in South Asian Cities. Private Sector Participation in Water and Sanitation
- WaterAid - Nepal (November 2001) Country Strategy
- WaterAid - Nepal (2001) Sector Financing Study - Draft 1
- Saubhagya, S (2002) "From Evil State to Civil Society" in Kanak Mani Dixit and Shastri Ramachandaran (editors) State of Nepal. Nepal: Himal Books

Appendix A: Chronology of events and decisions

- 1988** Consultant review of 22 options to improve the water supply volume for Kathmandu's growing urban population. An inter-basin tunnel from the Melamchi valley, about 26 kms north, is identified as the best option.
- 1989** Nepal Water Supply Corporation established to manage water supply in 14 urban areas.
- July 1991** WB / IDA 8 years project loan for US\$71 million approved of which US\$52 million is to upgrade distribution network and increase supply in Kathmandu.
- November 1996** Mid-term appraisal of IDA loan indicates significant shortfall in achieving objectives, fuelling a growing belief by donors that NWSC will never be able to provide a reasonable service level without more autonomy from HMGN.
- 1997** Donors express the opinion that HMGN should bring in a Private Operator to manage the water system assets and make this a condition for loans and grants to support the Melamchi investment. HMGN establishes a High level Private Sector Participation Committee (PSPC) to lead the process of selection of a PO by March 1999.
- 1998** Using WB/IDA funds, a consultant (Binnie Thames Water - BTW) is selected to advise HMGN on PO selection process and assist in the preparing the bidding documents and PO contract.
- March 1999** At the end of the WB/IDA project only US\$8.5 million has been spent (ie 21 per cent of the adjusted loan amount of US\$41 million) in Kathmandu. Project Completion report criticises HMGN for "extensive and tight controls" over NWSC, including appointment of senior staff, inadequate tariff increases and weak NWSC management and operational capabilities. The WB criticised itself for an inadequate project design and an unreasonable reliance on twinning with a UK water utility as a process of capacity development. It had failed to take "the tough decision of sequencing institutional strengthening and autonomy before major investments".
- Average daily hours of service had declined from 6 hours at project inception to 4.5 hours at completion. In the dry season month of March, water was provided only on alternative days.
- The average tenure for the NWSC Chairman and General Manager was 12 months and 8 months respectively, making consistent policy and operations impossible.
- July 1999** PSPC invites expressions of interest in the PO contract and shortlists three companies – Lyonnaise des Eaux, Vivendi and ENRON / Azurix.
- June 2000** A member of Water & Sanitation Program –South Asia is appointed to WB team supervising BTW in the contract preparation to ensure the interests of the poor are protected.
- July 2000** Three NGOs (Lumanti, NEWAH and WaterAid — Nepal) and WSP-SA complete a study on the water and sanitation situation of residents in 12 slum and squatter communities – showing that few (6 per cent) have a NWSC connection due to a barrier of high connection charges (estimated at about Rs 14,000 = US\$200) and that the consumption subsidy is captured by non-poor; it also challenged the increasing block tariff for punishing poor households that can only afford a shared connection.
- December 2000** ADB announces a likely tariff of Rs 24 per cubic metre after Melamchi water is available – about three times current tariff. ADB approves a loan of US\$120 million for Melamchi. Almost all the loan/grant/HMGN financing package of US\$470 million is now reported to be assembled.

- 2000 /early 2001** Creation of an Informal NGO Forum on Kathmandu Valley Urban Water and Sanitation to become informed of proposals and consider how to ensure the interests of the poor are protected.
- March 2001** WSP-SA commissions research into a) the willingness-to-pay of urban consumers for improved water supply services and b) institutional options for the urban poor.
- April 2001** HMGN announces that Melamchi tunnel construction is scheduled to be completed in 2007, a one year delay.
- Dry season 2001** Widespread hardship and complaints about shortages of water within Kathmandu; Kathmandu urban population now estimated at 1.1 – 1.3 million.
- May 2001** The construction of access roads for the Melamchi tunnel delayed by security ban on the use of dynamite for fear that it may be stolen by Maoist insurgents.
- Winter session of Parliament ends with no legislation passed due to all business being blocked by opposition parties calling for the resignation of PM Koirala over corruption allegations; among the bills blocked are those amending the NWSC Act to allow a PO to manage the assets and another establishing a Kathmandu Valley Water Authority to regulate the PO and set tariffs.
- June 2001** PSPC re-issues invitation to prospective POs after two short listed companies withdraw leaving only Vivendi and privately announces that PO scheduled to be in place by late 2002/mid 2003.
- IDA Project Preparation Facility is released to allow BTW to be paid and the draft contract to be given to HMGN/PSPC.
- WSP-SA WTP study available in draft form and presented to HMGN and NGO Forum for comment at NGO coalition meeting on 29th.
- NGO Forum recruits part time issues co-ordinator to support its work.
- April 2002** Only one of the 18 companies which submitted EoIs actually propose (Vivendi). Analysis of the 18 companies indicates that only four are POs.
- Baseline survey estimates UFW to be 35 per cent.
- NGO Forum initiates community consultation process by training community leaders from five squatter communities. Leaders will facilitate discussion in their communities using the notes summarising the proposed reforms and a list of 20 questions prepared by the NGO Forum.
- May 2002** PSPC multi-stakeholder workshop on the institutional framework. Discussion focuses on whether or not economic and environmental regulation should be managed by separate institutions – NGOs favour separation, MPPW backs a single institution.
- NGO Forum initiates poverty mapping to identify poor unconnected households using the SILT Engineering maps and GIS technology.
- June 2002** WB/IDA announces its withdrawal from financing the private operator costs citing uncertainty about time of disbursement due to the security situation. ADB agrees to cover these costs. There is also speculation that IDA's decision is fuelled by a lack of competition in the PO selection as only one bidder remains.
- PO scheduled to be in position by December 2003 and Melamchi now scheduled for 2008.