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# **E-Conference Report on Town Water Supply and Sanitation**

**E-conference held from 22<sup>nd</sup> November to 17<sup>th</sup> December 2004**

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**March 2005**

*The electronic conference on 'Town Water Supply and Sanitation' was organized by WEDC on behalf of the World Bank's 'Town Water Supply and Sanitation Initiative' (TWSSI), with funding from the Bank-Netherlands Water Partnership (BNWP).*

## Acknowledgements

I would like to thank the many participants who have made valuable contributions in terms of comments on the draft document on **Town Water Supply and Sanitation**, but also in providing thoughtful comments on related issues. I am sure the World Bank will find these inputs most useful as they refine their document and continue with their programme. I would also like to thank the World Bank staff (Nick Pilgrim, Bob Roche and Mukami Kariuki) who provided ongoing support to the conference. Julie Fisher's work as conference moderator at WEDC was also appreciated as was the contributions of the session facilitators: Cledan Mandri-Perrott, Dennis Mwanza, Sam Kayaga, Sophie Trevolet, Ross Tyler and Tim Yates.

Kevin Sansom, WEDC  
E-conference chairperson

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## 1) Introduction and e-conference purpose

The electronic conference on 'Town Water Supply and Sanitation' was organized by WEDC on behalf of the World Bank's 'Town Water Supply and Sanitation Initiative' (TWSSI), with funding from the Bank-Netherlands Water Partnership (BNWP).

Under Phase One of the TWSSI a draft report has been prepared, *Town Water Supply and Sanitation*. This report is a first attempt to set out a strategy for town water supply and sanitation, and the *objective of this e-conference* is to help review and comment on the findings of selected chapters, identify any remaining gaps in knowledge, discuss the tools needed for implementation, and reach consensus on the basic messages presented in the report. Although Phase One of the TWSSI has considered towns of up to 200,000 population, it has generally been found that it is towns in the 2,000 to 50,000 population range that fall within a "management gap", and are the prime focus of the report.

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Four sessions were conducted over a period of four weeks, with the session topics representing different chapters in the *Town Water Supply and Sanitation* report:

- 1) Towns Challenge and Management – chapters 1&2 (22 – 26<sup>th</sup> November)
- 2) Design and Financing – chapter 3 (29<sup>th</sup> November - 6<sup>th</sup> December)
- 3) Professional Support & Contracting – chapters 4&5 (6<sup>th</sup> – 10<sup>th</sup> December)
- 4) Business Planning – chapter 6 (13<sup>th</sup> – 17<sup>th</sup> December)

Session facilitators assisted the chairperson and moderators for each week of the conference. Session questions related to the above chapters were developed by the World Bank team and issued to participants at the commencement of each week. These questions are listed in section 2 of this report – the conference overview. The detailed responses to the session questions are contained in the separate report - Annex 1 – Responses to Questions (Postings). This material has been re-ordered into sequential order related to each of the questions posed.

The purpose of this report and the separate Annex 1 report is to systematically capture the relevant and insightful e-conference contributions in order to inform the further development of the *Town Water Supply and Sanitation* report and subsequent phases of the World Bank's 'Town Water Supply and Sanitation Initiative' (TWSSI).

A summary of other issues raised during the conference is included in section 3 and the collated summary of the responses to the e-conference questionnaire is provided in section 4 of this report. A list of further reading recommended by some conference contributors is provided in section 5.

## **2) Conference overview**

The four week e-conference generated many thoughtful contributions responding to the questions posed for each session and other related issues. Over 500 people subscribed to this e-conference, a total of 90 contributions were received during the conference and 43 people actively participated from a range of countries, while 25 copies of the questionnaire were completed.

Only limited editing of the conference contributions that are included in the separate Annex 1 report has been undertaken because most contributors provided succinct and interesting comments. Both the conference contributions (Annex 1) and the questionnaire responses (section 4) reveal a broad agreement and satisfaction with the basic strategy and content of the draft *Town Water Supply and Sanitation* report. Many conference contributors have raised a wide variety of issues to be considered for future sector development. It is recommended that those people responsible for the finalization of the draft *Town Water Supply and Sanitation* report review the comments in Annex 1 with a view to considering making additions and/or changes either to the draft document, or to developing other supporting papers or publications that could assist with future phases of the TWSSI project and other programs. Some issues may fall outside the scope of this project.

The questions posed and the broad issues raised that emerged from the conference contributions are summarized below under each of the four session headings.

### **Session 1 Towns Challenge and Management**

This session was held between 22 – 26<sup>th</sup> November and considered chapters 1 and 2 of the report. Three questions were posed for the first week (see box below) and more than 30 contributions were received, mainly in response to the first two questions.

## Session 1 questions

1.1 In Chapter One an attempt has been made to identify issues that are particularly important to towns. Some of these are listed below. *Would you agree that these are key issues? Are there others?*

- Towns are growing rapidly
- For every large town there are 8 to 10 small towns
- Growth in individual towns is unpredictable
- Water supply and wastewater disposal should be planned together to ensure proper sequencing
- Most towns lack professional capacity
- The 'management gap' means that towns are neglected
- Town water supply and sanitation is a marginal business

1.2 Drawing on the outcome of the small towns conference in Addis Ababa (June, 2002), and experience since then, the following key features for a successful outcome in the town sub sector can be identified. *Are these key ingredients correct? Are there others?*

- Autonomy
- Transparency and accountability
- Demand responsiveness
- Cost effective design and operations
- Professional capacity
- Competition
- Ability to expand

1.3 The report proposes the following institutional framework of roles and responsibilities and corresponding terminology, in order to evaluate existing management models. *Does the framework / terminology make sense? Is it clearly presented?*

- Ownership (Owner)
- Regulatory Oversight (Regulatory Oversight Body)
- Corporate Oversight (Corporate Oversight Body)
- Operations or Service Provision (Operator or Service Provider)

Contributors generally agreed with the list in question 1.1 of key issues for towns, although it was pointed out that management gap is also apparent in rural areas and large towns in some countries (Dr. R. Jagadiswara Rao, TWSS1- 05).

### *Key issues raised on question 1.*

- Political issues affecting tariff increases and reform (Quirijn Roell, TWS S1-03)
- Economies of scale and aggregation for small towns water services management (Quirijn Roell, TWS S1-03), Bruno Valfrey (TWSS1-09) and Mike Makuro, TWSS1- 15).
- The need to also consider hygiene, sanitation and solid waste management (Leendert Visjselaar, TWSS1 –06)
- Retaining capable staff in small towns (Dennis Mwanza, TWSS1-04), Farooq Khan (TWSS1-08) and Robert H. Brotherton (TWSS1 – 28).

- Can decentralization work for small town piped water services, or are regional authorities more appropriate? (Dennis Mwanza, TWSS1-04) and Kevin Taylor TWSS1 –07) .
- Land use implications for small towns (Susana Neto, TWSS1-04
- Opposition in government to the use of the private sector (Dr. R. Jagadiswara Rao (TWSS1- 13).
- Low water charges and how to achieve cost reflective tariffs (Stephen Myers, TWSS1 – 17)
- Allowing small towns to choose the best institutional arrangements for themselves (John M Kalbermatten (TWSS1 – 29).

#### *Key ingredients of success*

There was general agreement with the success ingredients referred to in the draft document, but how to achieve them is the key issue (Kevin Taylor - TWSS1- 22).

Particular issues raised include:

- The "ingredients of success" are not unique to small towns - they relate to any water scheme (Brian Reed, TWSS1 – 19)
- Are we looking for a magic bullet - when just doing a good job is all that is needed (Brian Reed (TWSS1 – 19)
- Dealing with corruption ( Cor Dietvorst TWSS1 – 26)

Other ‘ingredients’ that need to be borne in mind include:

- Water source sustainability (Arumugam Kalimuthu, TWSS1 – 21)
- Sector co-ordination and co-operation (Kevin Taylor - TWSS1- 22).
- The need to inform demand for sanitation (Kevin Taylor - TWSS1- 22).

Little comment was made on question 1.3, but Osmo Seppala (TWSS1 – 30) considered that the term/definition is OK, as long as we remember that regulation and regulatory framework includes a lot more than mere "oversight" ,for instance establishment of the legislative framework to govern the WSS services and WRM, etc. He also expressed concern about the overuse of the term management models.

## **Session 2- Design and finance**

More than 30 contributions were received in response to the three questions listed below. There was good discussion on all three questions plus some contributions on design and finance issues in general.

## Session 2 questions

- 2.1 Chapter Three identifies a stepped approach to the upgrade of town water systems (Figure 3.2). This is considered important because it links financing to institutional change and related capacity building, as well as rehabilitation / expansion of facilities. The premise is that an initial grant (if required) can lead to improved services, credit-worthiness and full cost recovery. *Is this argument fair, and is it clearly presented?*
- 2.2 The report advocates a modular approach to design as well as sequential development. Such a phased or 'modular' approach means that engineering design is based on actual demand from current consumers. It minimizes the gap between system costs and revenues, and so improves cash flows and financial sustainability. *Is this argument clear and convincing? What experiences can you share of past successes and failures?*
- 2.3 The question of social equity is important. The report argues that town utilities need to increase their revenue base by providing as many house/commercial connections as possible. This is the basis for financial viability. At the same time the connection policy must ensure that all consumers are given options that make connecting affordable. *Does this seem like a viable strategy? Please share your thoughts on the issues of social equity and affordability?*

*The stepped approach* (question 2.1) to upgrading existing town water systems and related reforms is outlined in Figure 3.2, and was generally considered useful. This approach and chapter 3 in general could also address the following:

- Improving billing and revenue collection at an early stage (Tim Yates - TWSS2-03)
- How to limit the tendency for over capacity in the water supply system? Sam Kayaga (TWSS2-02)
- Viewing the stepped approach and reforms from the utility and the government's perspective and working in towns that already have some water services (WEDC focus group (Sam Kayaga, Cyrus Njiru, Brian Reed and Kevin Sansom, TWSS2-09) and (Paul van Beers TWSS2-19)
- Considering timeframes as part of the stepped approach and capturing the diversity of small town situations in a demand responsive way (WEDC focus group, TWSS2-09) and Nick Pilgrim (TWSS2-17)
- Working with local ways of managing change. (Paul van Beers (TWSS2-19)
- Consider inter-governmental fund transfers particularly where decentralization is being implemented (Meera Metha, TWSS -26).
- Initial grants being used to focus on institutional development (Keith Burwell, TWSS2-32)
- More documentation of reasons for successes and failures such as case studies would be useful (Meera Metha, TWSS2-32).

*The modular approach* (question 2.2) with some excess capacity for certain critical elements of the water system and phased development of other elements was generally supported (Robert H. Brotherton (TWSS2 – 11), (WEDC focus group, TWSS2-09) and Andew Makhokha (TWSS4–14), although some flexibility should be encouraged to ensure equity in the distribution of limited funds.



Dr. R. Jagadiswara Rao (TWSS2-33) and the WEDC focus group, (TWSS2-09) considered that where boreholes are feasible, a more incremental approach can be adopted, with new boreholes being provided as demand increases.

Some contributors, eg Robert H. Brotherton (TWSS2-34) and Gilbert Kimanzi (TWSS2-29) pointed out that there are often pressures both from government and from the difficult project approval process that work against phased development and lead to over-design. The high discount rates demanded by donors, for example, often lead to the selection of large expensive scheme options, (Keith Burwell, TWSS2-32). Others advocated the use of smaller water supply systems as opposed to expensive regional schemes.

Kevin Tayler (TWSS2-16) considered that the lack of key information hampered rational investment priorities. Ross Tyler (TWSS2-15) pointed out that the report could address the issue of the practicality of grant application and award for each of the modal steps. Donald T. Lauria (TWSS2-18) felt there was often uncertainty about future water sales and future revenues, it therefore seems wise not to overbuild in towns. Overbuilding in cities is probably less risky.

*Issues of social equity and affordability* (question 2.3) were considered and there appeared to be general agreement with the concept of subsidizing new house piped water connections as a means of subsidizing 'access' rather than 'consumption' eg Tim Yates, (TWSS2-05), WEDC focus group (TWSS2-23), Gilbert Kimanzi (TWSS2-29) and Keith Burwell (TWSS2-32). There was some discussion on whether water is a public or social good, but most contributors considered both these aspects to be important. Related issues for further consideration included:

- Is there more information on affordability other than the 3-5% affordability yardstick? (Tim Yates, TWSS2-05)
- How best to target subsidies while achieving long term sustainability? (Paul van Beers (TWSS2-19). He suggested that the basic rules for subsidies are that they must be:
  - 1) Targeted to a specific group, 2) Scalable, so all of that group would profit, 3) Neutral, so the subsidy will not influence the lives or behaviour of other groups and 4) transparent, showing who is accountable (responsible) and how funds are used and for what period this is agreed.
- How best to find out about user coping strategies and demand for different service options in the wide variety of different small town situations? (WEDC focus group, TWSS2-23)
- The best way to address equity and affordability is to create a rate structure that does not mandate a high minimum bill (Robert H. Brotherton, TWSS2 – 11)

More generally on chapter 3:

- Are the ideas of disjointed incrementalism appropriate for town water and sanitation? Brian Reed (TWSS2-24). Kevin Tayler (TWSS2-27) agreed but said

- that ‘muddling through’ is not always the answer, some understanding of the total system and what needs to be done is required.
- How the proposed strategies can be applied in the wide variety of different small town situations, which often include rural characteristics? (WEDC focus group (TWSS2-14)
  - Meera Metha (TWSS2-26) asked whether these aspects can be explored through macro planning models such as SWIFT - (the Sector Wide Financing Investment and Tool).
  - Donald T. Lauria (TWSS2-06) proposed an interesting means of estimating demand and revenues.
  - Quentin Rea (TWSS2-30) produced two interesting illustrative diagrams relating WTP with levels of service.
  - Tim Yates (TWSS2-25) concluded that there will always be too much or too little in the way of fixed assets. The trick is to avoid large excesses or shortfalls and make it reasonably cheap to add capacity and be able to provide a reasonable service (if necessary by vendors) in the meantime.

### **Session 3 - Professional Support & Contracting**

Four questions were considered as part of the review of chapters 4 and 5 on professional support and contracting, see box below . Only 14 contributions were made in response to these questions, with more responses being made to question 3.2 plus some general comments on the session topic in general.

The report identifies the need for towns to secure professional support. Professional support is defined as routine tasks / operations plus specialist services.

### Session 3 questions

- 3.1 If a town wants to contract a local operator, and secure specialist services separately, the report identifies various kinds of specialist support provider (NGOs, regional associations, Apex Project Management, Outreach Training / Help Desk, and Franchising). *What is your experience with these approaches, or with others?*
- 3.2 If a town wants to contract a full service operator (one capable of providing routine operations and specialist services), the report suggests two different approaches: Market Consolidation (independent towns each with separate operator contract), and Aggregation (towns grouped into a single administrative unit). Market Consolidation and Aggregation share certain advantages, but are very different in terms of drivers and constraints. *Is the analysis presented clear and fair? Which of the following factors do you consider to be the most significant when considering aggregated versus independent towns approaches to service provision?*
- (i) Professional capacity
  - (ii) Administrative and purchasing costs
  - (iii) Accessing financing for new investments
  - (iv) Cross subsidies
  - (v) Quality of regulatory and corporate oversight, and contract management
  - (vi) Regional water resources issues
  - (vii) Transaction costs in getting agreement between participating towns
  - (viii) Competition and resulting capacity building
  - (ix) Local control over investment and management decisions
- 3.3 One of the key findings of the report is the need to provide support for both the operator/corporate oversight board and the owner/regulatory oversight board. *What is your experience of specialist support for regulatory functions?*
- 3.4 The report presents Business Planning as a dynamic process, with both the capacity of owners and operators, and the needs of the community changing over time. This means that operator contracts must also be updated in terms of responsibilities and terms of payment. In general, as the operator gains experience more service delivery functions can be delegated to it. The report also argues that Business Plans are best prepared by a partnership of the owner, corporate oversight body and the operator. *Is this argument clear and convincing? Please share your thoughts on updating contracts, and owner/corporate oversight board/operator partnerships.*

#### *Issues on specialist support providers to local operators (question 3.1)*

- Limited capacities in small towns (operator or local water board) to recruit and use consultants effectively. Sophie Trémolet, (TWSS3-02) and Tim Yates (TWSS3-05)
- The franchise model was suggested as an alternative to engaging consultants (Ross Tyler, TWSS3 – 09), although Sophie Trémolet (TWSS3- 11) pointed out that there are few examples of franchising in the water sector as yet. *Perhaps centrally negotiated call-down contracts for local use are a good option?*
- Twinning and mentoring support can also be considered (Olusanjo A. Bamgboye. - TWSS4-07).

*Issues concerning aggregation and market consolidation (question 3.2)*

- Cultural and social constraints to aggregating the management of water services for a number of small towns (Sophie Trémolet - TWSS3-02)
- Can market consolidation be imposed as a policy, or is something that just happens through local operators winning a number of town contracts? (Tim Yates, TWSS3-05)
- Aggregation has a lot of potential for achieving economies of scale, but the highest barrier to it is the transaction costs involved in getting agreement amongst participating towns (Tim Yates, TWSS3-05)
- In countries where they have both regional utilities and towns with decentralised management of services, using local operators, the town authorities could potentially choose which approach is appropriate for them. Kevin Sansom, (TWSS3-04)
- The availability and distribution of water sources should have some bearing on decisions about aggregation (Sophie Trémolet, TWSS3- 11) and Jagadiswara Rao.
- Is temporary aggregation feasible for obtaining finance or engaging an operator? Ross Tyler (TWSS3-09).
- The process of national utilities gradually taking on the responsibility for water services in more towns has happened in many countries, does this approach still hold promise? (Sophie Trémolet, TWSS3- 11)

*Issues concerning specialist support for regulation (question 3.3)*

- Support for regulation is less of an issue than making regulation effective, which is often difficult (Tim Yates – TWSS3-05).
- Problems occur where regulators have no effective financial sanctions against the regulated (Tim Yates – TWSS3-05). *Perhaps the regulators should control the flow of subsidies?*
- Regulators often do not have the resources to effectively evaluate utilities (Tim Yates – TWSS3-05). *Perhaps an audit approach is required?*

*Issues concerning the evolving business planning process and changing operator contracts (question 3.4)*

- Regulation of small town contracts and the incentives therein is problematic because of a lack of good data about the town and the system. The operator is likely to try and renegotiate the contract in such situations (JJ Raoul, TWSS03-06). *Perhaps management contract with a number of flexible payment clauses can address this issue.*
- An effective partnership between the owner and the operator is crucial and can be a means of generating resources for infrastructure, eg Marinella in Colombia (Mariella Garcia, TWSS3-08).

*General issues on chapters 4 and 5*

- There is a lack of a well-developed body of literature on the issues raised in these chapters, although there is some good empirical evidence. Further dissemination of examples of successes and failures would be beneficial (Kevin Sansom, TWSS3-07) and (Sophie Trémolet, TWSS3- 11).

- Studies on water resource management are required early in the project development process (R.Jagadiswara Rao, TWSS3-10).
- How best to gain consensus amongst stakeholders for a reform or contracting out process? A detailed case study professional support and contracting in small towns in Ghana was presented by Kwabena Sarpong Manu (TWSS3-13) Patricia Bakir (TWSS3- 13) requested more of such case studies.
- Social equity and affordability issues could be embedded into the text of these chapters (Andrew Makokha, TWSS4-14).

#### **Session 4: Business planning**

One question was posed in this session for the final week of the conference and 14 contributions were made.

##### **Session 4 question**

Business planning has been presented as a participatory process and a capacity building tool, through which institutional roles and responsibilities are defined, as well as making informed choices about the scope of facilities with a reality check on financial viability. It is also a check on affordability – are customers getting services that they want and are willing and able to pay for. *Does this message come across? Is the Business Planning toolkit likely to be important and useful in improving town WSS service provision?*

There was broad agreement about the importance of effective business planning as part of the development process eg Ross Tyler (TWSS4-03), WEDC focus group (TWSS4-9), Kevin Talyer (TWSS4-04) and Olusanjo A. Bamgboye (TWSS4-07). Issues raised for further consideration are as follows:

- How to have genuine participation from the local community in developing business plans? (Robert Brotherton, TWSS4-05) & WEDC focus group (TWSS4-9)
- How to do business planning where there is a lack of a planning culture? Preparation of business plans by consultants without local ownership of the plan does not work (Kevin Talyer, TWSS4-04). Tim Yates, (TWSS4-07) asked for more examples of sustained business planning processes with ownership by local institutions.
- Business planning can proceed more effectively once the necessary strategic planning concerning institutional roles etc, has been completed. (Robert Brotherton, TWSS4-05) and WEDC focus group (TWSS4-9)
- The proposed business planning toolkit could be used in a role play format (Olusanjo A. Bamgboye, TWSS4-07).
- There is a need to link business planning for town water and sanitation with national or regional government strategies and policies (WEDC focus group, TWSS4-9).
- How can the design of the contract for the operator be integrated into the business planning process? (Tim Yates, TWSS4-07).
- Cledon Mandri Perrot (TWSS4-10) considered that continuity of incentivised

- business planning could be done by service providers operating against some form of operational / service agreement that would include:
- basic obligations in terms of quality and quantity of service
  - customer interface obligations
  - management reporting
  - mechanisms for monitoring performance (even if at the beginning this is just done by the utility itself).
  - The business plan should be a ‘living document’ that needs to be regularly updated (Robert Brotherton, TWSS4-12)
  - We need to ensure that the business planning language is clear to the different key stakeholders and professional groups (Brian Reed, TWSS4-11)
  - Engineers and financial analysts need to work together effectively, but this should not be a problem as financial models are usually not complex (Tim Yates, TWSS4-13).

While all the issues raised during the e-conference cannot be fully addressed in one strategy document, they provide useful food for thought in the development of future town water and sanitation programmes.

### **3) Summary of other issues raised**

#### **Definitions of small towns**

Several contributors commented on the issue of defining a town during the first week:

- The TWSS report suggests a population of between 2,000 to 20,000 (distinguishing between medium 20,000 to 50,000, and large-towns 50,000 to 200,000). Makuro [TWSS1-15] suggests that for this reason the report should include the word ‘small towns’ in the title. There has already been lengthy debate on this issue in other forums, and Valfrey-Visser [09] points out that the lower limit is more meaningful than the upper one, as firstly, upper limits may be difficult to quantify and secondly, that the boundary between rural and town water supply can be blurred, resulting in service provision to small settlements. Myers [17] thinks that the upper limit has a potentially huge range, between 50,000 and 100,000.
- Both Patra [14] and Kalimuthu [16] assert that the norm for towns in India is upwards of 5,000. Rautella [23] contends that mountain townships are smaller, at from 1500. For Da Cruz [24], the prerequisite of a town is the post of chief administrator. Although some villages may be larger than some towns, it is the level of urbanisation and service provision which should be taken into consideration.
- Reed [19] points out that a small town demands a hybrid (between village and large town) response, somewhere between the community management and standard institutional models.
- Olusanjo A. Bamgboye [33] mentioned that the definitions that emerged in Nigeria are:

1. Rural Areas of 29% national population is defined as having less than 5,000 persons community size. Water supply minimum standard is 30 lcpd.
2. Small Towns of about 33% national population is for 5,000 to 20,000 persons community size. Water supply standard is 60 lcpd minimum.
3. Urban Areas of 38% national population is with over 20,000 persons community size and planned supply of 120lcpd minimum.

### **Decentralisation and capacity**

The following points were raised during the first week of the e-conference:

- Mandri-Perriot [01] raised the issue of whether small towns are less able to attract the necessary professional expertise in water and sanitation than larger towns, which Kahn [08] in Pakistan confirms.
- Mwanza [04] took up Mandri-Perriot's point about the professional capacity of small towns, questioning in this case, whether devolved service provision and decentralisation is a viable option. He gives the example of Zambia where established regional water utilities, with locals authorities as joint owners are successful. Kalbermatten [29] offers additional models of multi sector organisations, asserting that flexible institutional arrangements are key to achieving success, whether private or public enterprise is involved. Brotherton [28] suggests that larger utilities are more financially capable, and therefore more likely than small towns to retain professional engineers. Aggregation of professional services between small towns also allows them to retain their independent status.
- The response by Roell [03] suggested that success was dependent on economies of scale, requiring the commercial aggregation of water supply, but this demands setting realistic water tariffs. Valfrey-Visser [09] suggests the issue is the willingness to pay of potential users and cross subsidizing mechanisms to maximise access to services. A sliding scale of costs according to income is a means of increasing water charges without disadvantaging the poor (Myers [17]).
- Aggregation of commercial small scale private operators within a regulatory framework has provided effective economies of scale (Makuro [15])
- Indian experience by Rao asserts that where the problems of water supply and sanitation are severe, there is no distinction between demographic locations, whether small towns or not. A major result of centralised piped water systems following independence, has been the creation of many white-collar posts rather than assured quality water. Rao also [13] offers the case study of a centralised water supply project whose success is due to government and charitable funding. The maintenance of the scheme has been transferred over time to decentralised water supply schemes. Greater efficiency can be gained by private sector schemes, although this is opposed by government personnel.
- Given the development of large, privatized UK water authorities, rather than decentralised local government units, Tayler [07] suggests we do not accept decentralisation wholesale but consider carefully what particular aspects should be decentralised. DFID's governance approach is criticised on these grounds (Rao [25]). Khan [08] highlights some of the disadvantages of decentralisation in

Pakistan with the water and sanitation sub-districts' limited human and financial resources.

#### 4) Summary of responses to the questionnaire

All conference participants were sent a short questionnaire, based on multiple-choice answers with the option of providing more detailed comments if they wished to. The questions related to all aspects of the TWSS Report (2004). 25 responses were received. This section briefly summarises responses to statements requiring respondents to *fully agree*; *tend to agree*; *tend to disagree*; and *fully disagree*, in the form of the. It also lists qualifying or explanatory comments relating to these statements.

##### Question 1

**1a)** Grants should be conditioned on the establishment of an autonomous corporate oversight body and a separate operator, plus a plan to expand the system over time.

(FA = Fully Agree, TA = Tend to Agree, TD = Tend to Disagree, FD = Fully Disagree)

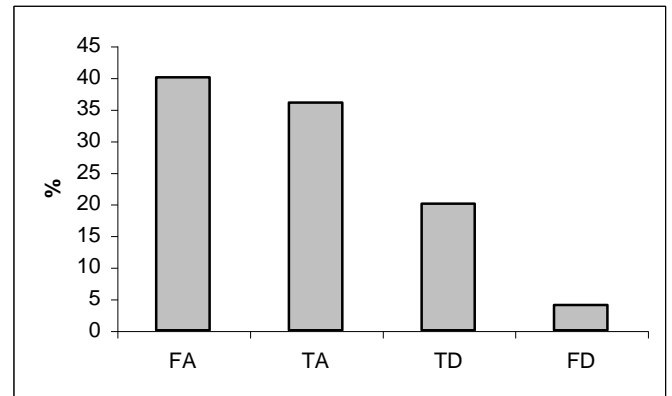


Figure 1 – Responses to Question 1 a

**1b)** Tariffs should be set so that sufficient revenues are generated to cover operating and maintenance expenses plus renewal and replacement of existing assets in the short run.

(FA = Fully Agree, TA = Tend to Agree, TD = Tend to Disagree, FD = Fully Disagree)

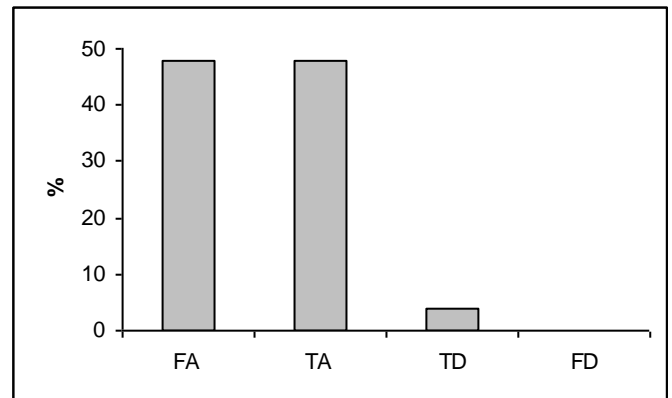
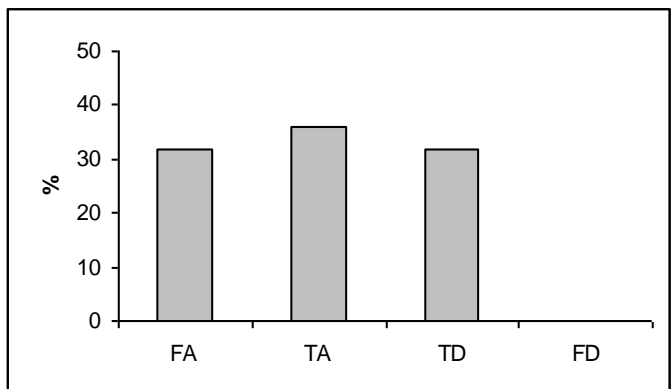


Figure 2 – Responses to Question 1 b

**1c)** Longer term expansion should be financed through internally generated cash and lending on commercial terms.

(FA = Fully Agree, TA = Tend to Agree, TD = Tend to Disagree, FD = Fully Disagree)

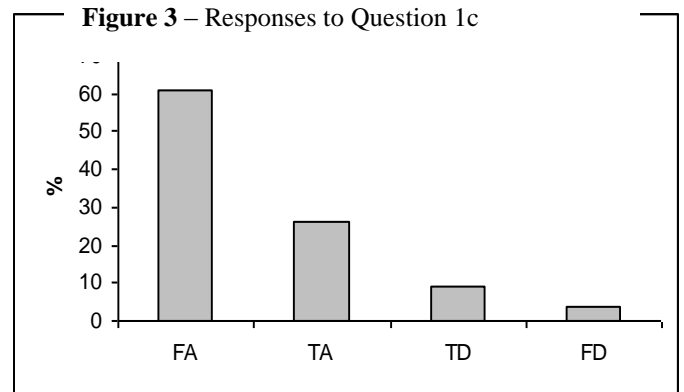




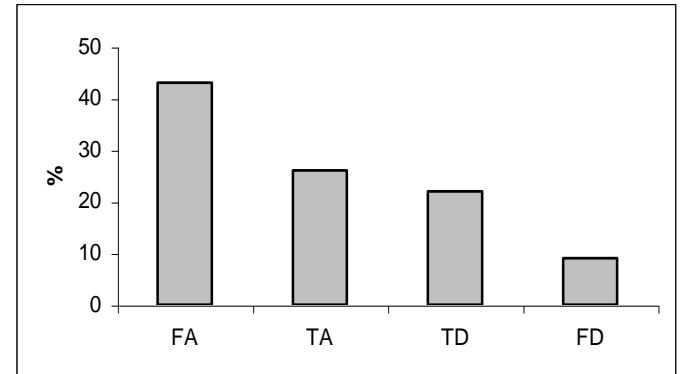
### Question 2

Most participants seemed to agree that in principle towns should plan for the current population, but should also plan to gradually expand the system based on actual demand.

(FA = Fully Agree, TA = Tend to Agree, TD = Tend to Disagree, FD = Fully Disagree)



**Figure 4 – Responses to Question 2**

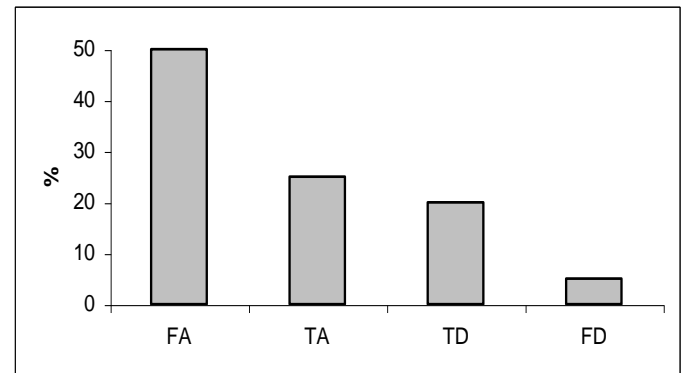


**Figure 5 – Responses to Question 3 a**

### Question 3

**3a)** In the above situation (combination of individual connections, shared connections, and public or private kiosks) the more affluent households in a community would get individual connections that they pay for over time, while poorer households would get a more reliable supply, but still have to carry water home. Is this fair?

(FA = Fully Agree, TA = Tend to Agree, TD = Tend to Disagree, FD = Fully Disagree)



**Figure 6 – Responses to Question 3 b**

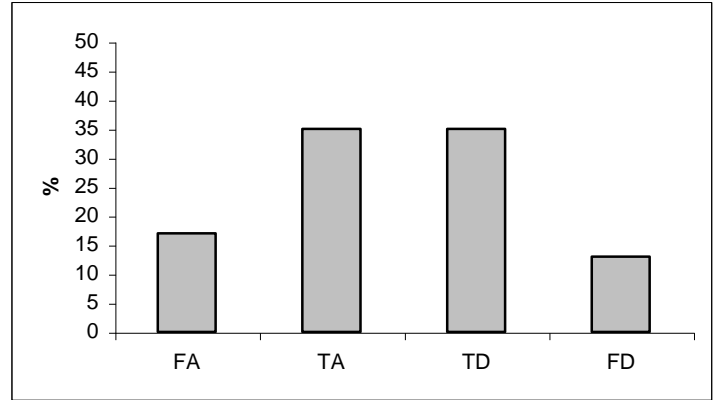
**3b)** Do you agree that there should be a nominal connection fee, and/or a minimum water bill per month?

(FA = Fully Agree, TA = Tend to Agree, TD = Tend to Disagree, FD = Fully Disagree)

**Question 4**

**4a)** Full service operators (market consolidation or aggregation) are advantageous because routine operations, efficiency and expansion are combined in a single contract, which rests responsibility solely with the operator and simplifies administration. Should this be an approach that government mandates, or at least promotes through financial incentives.

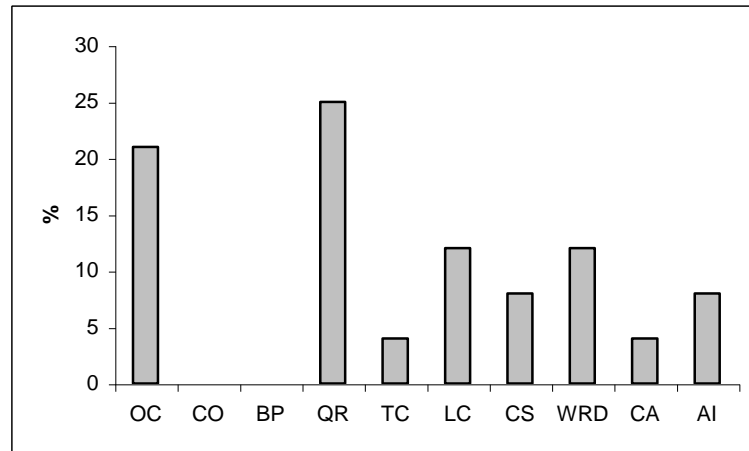
(FA = Fully Agree, TA = Tend to Agree, TD = Tend to Disagree, FD = Fully Disagree)



**Figure 7** – Responses to Question 4 a

**4b)** What's the most important factor(s) in choosing market consolidation or aggregation? e.g. operator capability, competition between and development of better operating companies, better prices through collective purchasing, quality of regulatory and corporate oversight, transaction costs in getting towns to work together, local control over investments, cross subsidies, water resources development. What's the most important consideration? Are there other factors?

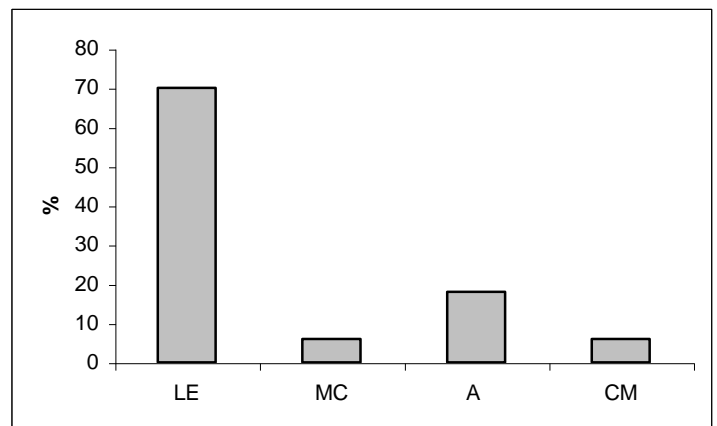
(OC = operator capability, CO = competition between and development of better operating companies, BP = better prices through collective purchasing, QR = quality of regulatory and corporate oversight, TC = transaction costs in getting towns to work together, LC = local control over investments, CS = cross subsidies, WRD = water resources development, CA = can't answer this question in the abstract, AI = all equally important)



**Figure 8** – Responses to Question 4 b

**4c)** Which approach makes the most sense for small, disbursed towns with small revenue bases?

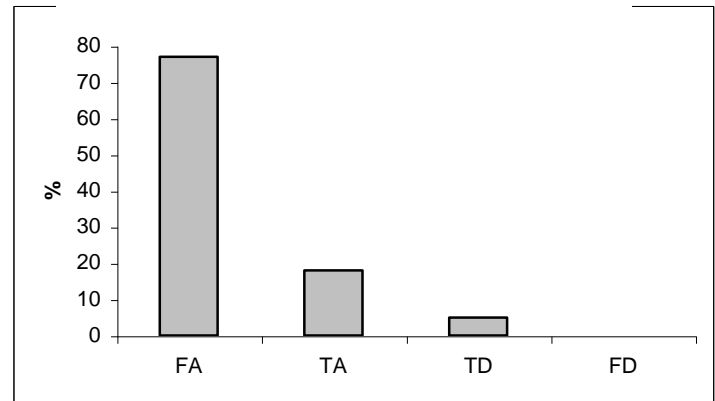
(LE = Local Enterprise, MC = Market consolidation, A = Aggregation, CM = Community Management)



5) Do you agree that business planning has been neglected in small towns, and is a critical area for reform?

(FA = Fully Agree, TA = Tend to Agree, TD = Tend to Disagree, FD = Fully Disagree)

Figure 9 – Responses to Question 4 c



Comments on each of the survey questions

Figure 10 – Responses to Question 5

Question 1

1 a) Grants should be conditioned on the establishment of an autonomous corporate oversight body and a separate operator, plus a plan to expand the system over time.

Comments

The operator could be a division of the corporate oversight body or a contracted corporation. All grants should have provision to ensure proper operations including design by a licensed professional engineer and operations by trained and certified operators.

While I agree with the first statement, I would argue that if possible, the operator should come from within the community... even if s/he has been on the oversight board. We have examples in the US of water systems not functioning well because the outside of community operator is off site and is unavailable in the evenings when the local water board meets. I presume this could be a problem with private operators in developing countries as well.

Tariffs should be set so that sufficient revenues are generated to cover operating and maintenance expenses plus renewal and replacement of existing assets in the short run.

I disagree very strongly with the first statement which imposes one view of how urban services should be managed and regulated. If we had this requirement in Britain, we would never have had any urban services.

Autonomous corporate oversight bodies with a separate operator may not be appropriate in every case, particularly for dispersed small towns where decentralisation is being implemented and the local private sector has limited capacity.

**1 b) Tariffs should be set so that sufficient revenues are generated to cover operating and maintenance expenses plus renewal and replacement of existing assets in the short run.**

*Comments*

I don't like blueprint solutions.

It is correct to say that sufficient revenues are generated to cover operating and maintenance expenses plus renewal and replacement of existing assets in the short run.

I agree that tariffs should cover O&M and short term upkeep of existing assets. However, rates should also be at a rate that customers can afford. In small communities where we have worked, in some cases we have been able to do this through commercial rates- which businesses are willing to pay because of the promise of more reliable service. Variable rates - increasing block rates, lifeline rates, etc. - are also used in some cases, but these are problematic in smaller low-income communities. In many cases, it is helpful to have an intermediary to develop a rate fee that will cover at least the ongoing costs, while also ensuring that citizens are not being cut off because water and sewers have exceeded ability to pay.

Tariff increases should be done with service standard improvements in a phased manner.

Time is required for the project to be stable and able to run and replace the existing assets for operation and maintenance- fully agree can be from revenue collection.

**1c) Longer term expansion should be financed through internally generated cash and lending on commercial terms.**

*Comments*

It is almost always required that the initial start of establishing any utility service will grant funding to keep the annual cost of operations low as customers are connected. Connection fees should be kept to a minimum or not used at all to encourage more connections to make the system financially stable as soon as possible. Lending institutions should have guarantees of quality design and operations by the requirements of licensed design engineers and certified and trained utility operator staff being in responsible charge. All construction should be certified as being complete per design by the design professional in charge of the design.

But a good lot of political and administrative reforms have to come before all this to work properly under Indian conditions.

Longer term expansion should be generated through internal cash and lending, the 'commercial terms' aspects need to be quantified, who is doing the lending and what are the interest rates? In some countries e.g. Kenya, commercial interest rates are sometimes so exorbitant that expansions of any sort of investment cannot be financed without crippling the organisation with repayments.

Can be no hard and fast rules..... I'm not sure that long-term expansion can always be financed by lending at commercial terms. There is a case for some internal municipal subsidy and/or government interventions as water supply and particularly sanitation are public as well as private goods. Again, would we have any systems in Britain if we had followed this route?

I think that longer term expansion should be financed on the basis of sound business decisions- to make sure that expansion is based on realistic expectations - so that a community doesn't end up with an expensive system that exceeds capacity of miscalculated needs. I don't agree that funding should

necessarily be internal or that the loan should necessarily be commercial in nature. Subsidized capital for small community infrastructure as an economic development endeavour makes a great deal of sense for low income communities where water could provide the basis for wealth creation.

This is not plausible for a lot of systems or communities.

We need to take into account specific situations.

These decisions should differ from country to country and as per the economic capacity of the local population. Even in the same town we may have take up different approaches to cover different section of population mainly for the sanitation programs.

Smaller towns have the opportunity for community contribution in-kind as well as internally generated cash. Commercial terms for lending can be a barrier to small private operators taking out loans in poor countries where the interest rates can be very high - consideration needed for SME banks to promote affordable credit.

## **General comments relating to Question 1**

I find these questions too broad based to have a clear opinion on- also it's out of my area of expertise / understanding to comment further.

In my view not possible to be prescriptive about the sources of investment. This highlights general problems for me in that we can often neglect to understand that certain things are national sovereign issues and that is what governs how things will be in reality.

Fully agree, but roles and responsibilities have to be clearly spelt out with MOU/agreement specifying input for each party and conditions under which the grants are to be provided. With proper management of the revenue generated, long term benefits can be achieved, This can be also be achieved through long term savings from fixed deposits.

If there are social goods that can be costed e.g. reduction in publicly funded health care) then these other economic factors should be considered alongside the limited commercial model being discussed.

## **Question 2**

*Most participants seemed to agree that in principle towns should plan for the current population, but should also plan to gradually expand the system based on actual demand.*

### *Comments*

The source and the main transmission line should cater for a growth of at least 15 years but the distribution lines can be done for the actual population and driven by actual demand to be undertaken by the operator and be paid back from connection fees.

I would also argue that politically allocated grants providing 'free moony' for infrastructure development is sometimes very problematic. Usually this money is insufficient for providing a long-term fix to the problem at hand- but can provide just enough resources to discourage efforts by the community to invest the social capital in raising the resources to fix the problem themselves. On the other hand, while I would agree that central government grants should be allocated with care, I think

that they have an important role in providing critical up front capital in persistently poor regions/communities. Again, the role of the intermediary between community and grantor can be helpful in mitigating 'build it and hopefully they'll come' water infrastructure initiatives.

It depends on local circumstances (decentralization process within the water sector and across other municipal services, each local government is responsible for defining its own plan, in coordination with organized beneficiaries).

Short-term planning is likely to be more realistic (and therefore achieved) but needs a more flexible, responsive approach.

There will always be an element of initial over provision in the design of higher-level facilities although this is often rapidly overtaken by events. The way in which international agencies give grants and loans tends to encourage one-off expenditure rather than incremental expansion.

All projects should include an increased capacity of at least a 5-year horizon. Some increased or decreased flows can be accommodated in the initial design for existing populations in the duplicity of process train elements.

Forecasting is so uncertain that the risks of over design outweigh the potential savings in economies of scale and may burden communities with too large a scheme for many years.

I tend to agree because places are growing at such rapid rates.

The unpredictability of the small towns population and demand growth can only be taken care by longer period design horizon. In addition, there is lack of institutional and human capacity to do continuous upgrading in a town. Moreover, the political will and economic opportunities would not be there all the time.

Many resources have been wasted as a result of overestimation of future population.

### Question 3

**3 a)** *In the above situation (combination of individual connections, shared connections, and public or private kiosks) the more affluent households in a community would get individual connections that they pay for over time, while poorer households would get a more reliable supply, but still have to carry water home. Is this fair?*

#### *Comments*

Most present systems work against any sense of fairness where the poor have no access and depend on individual water vendors. So this will not be difficult to accept.

Though essential, water is a commodity that can be priced. Those that can afford it may pipe it to their homes while the less affluent ones will get it, but with less care.

Give people what they want and are willing to pay for.

Although I tend to agree, we should bear in mind that in some countries (South Asia particularly ) there is likely to be considerable resistance to charging for water provided through public connections. Full cost recovered from shared connections will only be possible if there is functioning metering. So there are issues to be resolved.

This is better than nothing, but not ideal. This is defacto the system in many towns, ranging from the refugee camps of Khan Younis, to the town of Mopti in Mali. The caveat, again, would be that the kiosks need to be operated in such a way that all can afford water. What would be untenable would be kiosk meter fees that cut off the very poor from being able to pay for water.

It's realistic perhaps, more than fair. System should allow (in the design etc) for households to readily upgrade to an improved system, as and when they can afford to.

There could also be cross subsidies to improve equity.

Depends on the financing for connections in relation to tariff structure- compare cell phone - get the phone free BUT then the operator recoups through the monthly tariff and you are locked into the service.

It is better to provide the same level of service to all working classes of people. The way to charge based on ability to pay is through an inverted rate schedule that everyone pays but those who use the service less, pay less per unit based on units of service delivered.

The poor may be prepared to pay for house connections - but just need favourable rates of payment - perhaps over several years. This aspect has a very important gender component and perhaps money for 'gender' aspects should subsidize house connections.

It's a demand driven approach, if contractor, government and beneficiaries, all together must meet an agreement on the type of service, otherwise, it assumes there are unlimited resources to serve all independently from local technical and financial conditions.

The problem is figuring out how to get water to people; what good does this do if it doesn't change the current situation?

It is definitely not fair.

Designer should consider social equity.

**3 b) Do you agree that there should be a nominal connection fee, and/or a minimum water bill per month?**

*Comments*

Provide a means for people to pay for connection fees spread over a period of time (e.g. increased monthly bill for the first 6, 12,... months). Also, ensure financial support and mechanisms for specific individuals/ households are available and known about.

A minimum water bill will ensure regular payment.

The cost of debt and operation continues even if the individual customer does not use the service. A minimum water bill addresses this issue. In theory, this minimum bill should cover all of the fixed cost of the system. If the operations cost is subsidised by state government, then this subsidy should be applied to the fixed cost of the system allowing for a lower minimum bill.

Without any connection fee but with a water bill on the basis of metered water supply.

Yes, again provided that the concerns of affordability are taken into account. The system loses credibility if people are getting cut from service because of inability to pay. There could be a

mechanism to ensure that the very poor receive water for a minimal cost or free.

It makes more sense to pay over time or share the cost.

We need more flexibility

A connection fee is a lump sum: a monthly bill is recurrent. They are different; they come out of different budgets and pockets. Payment of one does not necessarily infer the other.

Connection fees depend on the type of service agreed with the beneficiary prior to the project design (extension, rehabilitation, construction of new project, etc) assuring that the most poor have equal opportunity to access the service. What should be disclosed is what does the connection fee or the minimum fee cover and entitles to the user.

Don't fully understand question. I agree that the initial connection fee should be kept reasonably low and costs over time through either the tariff or a surcharge on the bill. I don't understand the minimum charge per month bit,. In any case, they appear to be two different questions.

Connection fee should be according to family income and water bill should cover water consumption.

#### **Question 4**

**4 a)** *Full service operators (market consolidation or aggregation) are advantageous because routine operations, efficiency and expansion are combined in a single contract, which rests responsibility solely with the operator and simplifies administration. Should this be an approach that government mandates, or at least promotes through financial incentives?*

#### *Comments*

It depends on the level of government decentralization, PSP environment and separation of regulation, planning and service provision in each country circumstances.

But is there a way to promote work for the people and ownership of the project?

Unless the oversight body (municipality etc) has sufficient capacity, backed up with effective regulation, this can risk providing equitable services (especially to the poor), if the operator is a stronger player and driven by profit motives.

Local enterprise is more sustainable.

Government should give the opportunity to different options.

My beef here is with aggregation, the resultant outfit being in potential turmoil due to competition between and development of better operating companies, better prices through collective purchasing, quality of regulatory and corporate oversight, transaction costs in getting towns to work together, local control over investments, cross subsidies, water resources development.

I think the discussion on this has paid insufficient attention to existing institutional realities, particularly attitudes and the extent to which true competition is genuinely possible. I would want to examine the possibilities in the light of the existing situation.



A full service operator can (should?) sub contract to local enterprise.

There is a fear that some economically disadvantaged section may be thrown out through this system.

Local enterprise is preferred to larger organizations whose administration and decision making is more remote from the public that they serve. It is important that standards are set and accounts audited to insure quality decision making by local utility officials.

Full service operations may be more efficient but can have problems in terms of cost, rate structure, accountability to the community and capacity development, Cost and rate structure: the cost of full service professionals may well exceed the local community resources. Additionally, since the operator is from outside the community, enforcement of rates may lack the ability to assess if a negligent rate payer is simply delinquent or truly indigent and to react accordingly. Accountability,: full service operators often can undermine the ability of water boards to provide management direction to the system.. While they professionalize and simplify operations and administration, we have cases where they have undermined local decision making through failing to meet with the water board or have dictated, rather than worked with the community water board. Capacity: by bringing in professionals, the community loses an opportunity to build local capacity - training and installing a local operator, which builds on local expertise, contributes to local flows of capital, and has the system run by someone who understands the local environmental and social context. NGOs and private sector consultants can assist the operator in improving efficiency. I am not saying that full service operators are never appropriate, but that government of other funders should not mandate or bias communities in this direction.

**4b) What the most important factor(s) in choosing market consolidation or aggregation?**

Other factors suggested by participants:

- informed consent by users
- balance of power (capacity and ability to manage) between the operator and the overseer/regulator
- simplicity of contracts, understood by all
- a motivated and disciplined workforce is essential
- transparency
- local institutional realities- what do people think and how do they interact with other organisations and the private sector at present?
- local decision making control and contribution of water systems management to building local economies
- subsidiarity- a mixture of methods may be a possibility
- community involvement in choice of operating system suited to local situation
- the quality of the service to be delivered.

**4c) Which approach makes the most sense for small, disbursed towns with small revenue bases?**

*Reasons for local enterprise*

To have more direct contact with the client and the local conditions and to have local accountability.

Build on what exists.

Resources, unit costs, and cultural methods are widely variable and require local implementation and operations strategies. Need to ensure proper training of operators should not be ignored.

Again it depends. In some cases the cost of providing a professional provider especially with transport costs, may make either market consolidation or aggregation impractical. A part time local provider may make more sense. On the other hand, market consolidation may be a way to bring in a professional to facilitate efficiencies through a basin approach - especially when local operators are hard to find or not working.

Agreement on service level according to local capacity has greater potential than in the other two options.

The local enterprise have the capacity to adopt and raise up to the local demands and problems.

IT DEPENDS! - need more info - e.g. human resources, financial resources. For a scheme I visited in Ethiopia, the first option was working well. In Malawi, even the latter option was not working well.

Risk - Local entrepreneurs in poorest countries unwilling to take opportunity for aggregation until legal framework and guarantees for contract enforcement in place because they don't want to risk high investments.

### **Question 5**

*Do you agree that business planning has been neglected in small towns, and is a critical area for reform?*

#### *Comments*

Elected councils must be made bound to go through a Strategic Planning Exercise too.

It is taken for granted that it is happening through conventional planning administration.

One should primarily act from the market point of view and not otherwise (technicians deciding what are the best solutions).

Participatory planning and capacity building have been lacking in small towns. Top-down approach is mostly applied as against the bottom-up approach which is more favourable for a good small towns water supply program.

Very often small towns have water systems installed during the development era when there were heavy investments in infrastructure, without investments in human capacity and social capital for management and decision making. Business planning is an important part of building these capacities as the water system moves forward. It could also be a good way to tie the water system to local wealth creation - something that will assist in ensuring that the town has the resources necessary to pay the present and future cost of delivering safe drinking water and sanitation to its citizens.

It is clearly important but I am not sure that there is one best way to go about it.

This brings a slice of reality into the management process, but may detract from the public service component - e.g. this would mean sanitation would never be included as commodification of sanitation services is difficult.

Some towns are too underdeveloped to even handle a business boom because they are not stable.

Not only is BUSINESS PLANNING needed but STRATEGIC PLANNING is also needed. Strategic planning with government is also required.

## 5) Recommended further reading

Contributors to the e-conference recommended the following additional reading:

1. Cor Dietvorst (TWSS1 – 26) - In his message, Prof Tayler asked for examples of ways to increase transparency and improve accountability (or in other words: tackle corruption). In her paper [1] Davis, J. (2004). Corruption in public service delivery: experience from South Asia's water and sanitation sector. World development, vol. 32, no. 1 ; p. 53-71. <http://dx.doi.org/10.1016/j.worlddev.2003.07.003>
2. Gilbert Kimanzi recommended the paper on 'Paying to enter the water shop' at the WEDC Conference in LAO PDR (Oct 2004), [Dr. Sam Kayaga of WEDC, and Dr. Richard Franceys of IWE, Cranfield University], which examines the reduction of connection costs. Forthcoming research outputs should be available online later this year.
3. WEDC has produced a series of guidance notes and case studies on the application of marketing approaches to the urban water sector, particularly in large towns, but the ideas are also valid for small towns. The publications are entitled: 'Serving all urban consumers - a marketing approach to water services in low and middle income countries', by Sansom, Franceys, Kayaga, Njiru, Coates and Chary. Books 1 to 3 are guidance notes for different target audiences and Books 4 to 6 are case studies using the strategic marketing approach. They are available on the WEDC: web-site: <http://wedc.lboro.ac.uk/publications/>
4. Meera Metha recommended the "The Sector Wide Investment and Financing Tool (SWIFT) aims to assist national or regional sector planning bodies in developing financing strategies for the water sector by analysing financial gaps arising from different policy scenarios."
5. Brian Reed recommends a publication on disjointed incrementalism (yes a mouthful I know - Ref: "Still Muddling, not yet through" Lindblom C.E. (1979) Public Administration Review No 39 pp 517-526
6. Brian Reed also recommends an example of an over-designed system see the WELL study- Provision of water and sanitation services to small towns (Task 323) Jeremy Colin, Joy Morgan <http://www.lboro.ac.uk/well/resources/well-studies/summaries-htm/task0323.htm>
7. Quentin Rea produced two interesting illustrative diagrams relating WTP with levels of service. The diagrams can be downloaded from <http://www.jiscmail.ac.uk/files/WATER-AND-SAN-APPLIED-RESEARCH/> (click on'cost\_service\_diagram')
8. Sophie Tremolet recommended two case studies on the gradual growth of national utilities: SODECI in Cote d'Ivoire, SDE in Senegal, SEEG in Gabon, etc, etc (see case studies on Gabon in: <http://www.ppiaf.org/FinalReportActivityPages/Reports/A022001-L-MS-BP-IW-GABON.pdf> and on Senegal and Cote d'Ivoire on : <http://www.ppiaf.org/FinalReportActivityPages/Reports/A022001-L-MS-BP-IW-Cote%20d'Ivoire%20Senegal.pdf>).