Getting it together: A multi-disciplinary approach to service delivery

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SINCE THE BEGINNING of the international drinking water and sanitation decade, now over twenty years ago, a great deal has been achieved. Yet even today, 1.1 billion people lack access to safe drinking water, and 2.4 billion, or two out of every five persons lack access to sanitation (JMP, 2000). Whilst there is little hard data to say who these people actually are, there is growing anecdotal evidence that many of the poorest members of society have been left out.

Meanwhile, much has been learnt about service delivery. Several major evaluations have reached similar conclusions: projects that did not take into account user demand suffer from poor use, poor sustainability and poor cost recovery (for example, see Cairncross, 1992 and White, 1997). These and other findings have resulted in the emergence of demand focused methodologies, the best known of which is known by its acronym, DRA.

The limitations of using demand

What is actually understood by demand has been the subject of a largely ideological debate, much of which concerns the ability of the poor and other marginalised groups to express their demands in the ways required. Fundamentally, if demands cannot be measured, they cannot be addressed. It is therefore very important to recognize the fundamental weakness of only using expressions of demand to guide project design and implementation.

Keeping this point in mind, demand can be met or 'captured' by ensuring that potential users receive the service they most want, and are willing and able to sustain. This can only be achieved by taking into account people's priorities and perceptions, and building these into the facilities offered. By providing a range of compatible service options and enabling households to choose which one best fits their particular situation, the variety of demands found in most communities can be catered for. Not only can this lead to improved sustainability; it may also reveal opportunities for local cross subsidies.

Research has shown that demand is not just linked to perceptions of level of service being offered, but also how that service is managed and how it is to be paid for or otherwise sustained (World Bank, 1993). This must be taken into account when identifying and developing service options.

These points together reinforce the fact that the project design should not be considered as an exclusively technical matter. Instead, a variety of skills are required, concerning social, financial, technical, environmental and institutional issues. The need to be able to communicate effectively with households in order to understand and respond to their demands is paramount, and this requires particular expertise.

Practical implications

This paper discusses three practical areas where are a combination of disciplines is needed in order to establish, measure and respond to user demands. These concern:

- The identification and development of appropriate service options;
- Demand assessment to test developed options; and
- Demand stimulation, through social marketing.

Identification and development of appropriate service options

Appropriate service options should be identified which are likely to meet the user's priorities. If these priorities are not met sustainability of the service could be in danger. A practical example of what can happen when user priorities are not met is given in Box 1.

Box 1: The Importance of user priorities

Gravity systems were built in rural areas of Rwanda to provide water of good microbiological quality. Two years after construction, water fee payment had dropped from over 90 per cent to under 20 per cent and many people went back to their traditional sources. On carrying out a participatory analysis with the community, it was discovered that a major reason for this was that the tapstands were often no nearer than the old polluted sources. To the community, distance was more important than quality. They saw little improvement in the new system and therefore were unwilling to pay for it.

Bailey, 1996, quoted in WELL, 1998

User priorities need to be met in the different disciplinary aspects of options. Box 2 highlights the fact that options are often developed by technical standards in isolation from social or financial aspects. This can have dramatic results.

Box 2: The risks of putting technology first

In South Africa, research reveals that options given to communities in many cases only relate to technical nature of projects. Users are limited to choices of design and position of tapstands, reservoirs and sometimes sources. Engineers said that options do not include issues such as different levels of service as they build what their client (funder) wants them to build. It was also identified that although social skills were represented at project level these and institutional and financial aspects were still secondary to technical aspects. Evaluations carried out reveal twofold outcomes; cases of unaffordable and unmanageable schemes, and cases that users are unwilling to pay for the service as the service levels provided were too low to satisfy their demands.

Bos, 2001

Therefore service options should be developed to provide a range of service levels that are likely to meet present and future demand, supported with their matching (life cycle) costs, operation, maintenance and management systems, implementation strategies, and appropriate choices of contribution. At this stage the options should also be costed and priced (in monetary or equivalent term).

In order to identify and develop options an integration of disciplinary aspects should take place. Social skills are needed to facilitate expression of user priorities and needs, especially from women and vulnerability groups. In this process effective participation and understanding needs to be safeguarded. This social information should be integrated and translated into a range of available appropriate and environmentally sustainable technical options. Life cycle costs for each option needs to be established. Financial skills are needed to determine an appropriate pricing policy and associated financial options related to cost recovery. Institutional expertise is needed to develop management options. A pre-requisite for identification and development of appropriate options is discussion, interaction and using each others information within the local social, technical, financial and environmental context.

Demand assessment to test developed options

Demand assessment provides information on demand for specific options and informs a local pricing strategy. This information can be used to inform project staff of people's willingness to contribute associated with the menu of developed technical, financial and management options. Other important information gained from demand assessment include issues as: the design of the tariff structure and possibilities for cross-subsidies, risk of exclusion of vulnerability groups, and details of the communication strategy used to present options and enable people to exercise an informed choice. Box 3 provides an example of demand assessment and users willingness to contribute using a participatory methodology. It emphasises the need for group understanding participation, discussion and devolved decision making throughout this process.

Box 3: Participatory demand assessment in Matoto, Mozambique

New government policy in Mozambique states that communities must contribute 2% of the total cost of a water scheme before construction. In the village of Matoto, a workshop was used to test whether this was acceptable. Men and women were separated and discussed a variety of service level options, facilitated by the use of PHAST techniques. Participants were encouraged to talk about these options and the problems associated with each of them. The groups were then brought back together to discuss differences of opinion. This was followed by a planning session, the result of which was a plan to build a demonstration protected well. People agreed to contribute labour to excavate the well, locally available materials including fired bricks, and to participate in future planning and evaluation. Whether they knew about government policy is not clear, but the value of the contributions offered exceeded 50% of the cost of the well.

Breslin, 2000

Again an integration of different skills is required to implement this. The engineer should provide full technical and cost information, associated with each design option and associated level of service. Demand assessment can be conducted through participatory survey techniques and techniques such as the contingent valuation method (CVM). Special economic knowledge is required for undertaking this latter survey. Social skills are needed for conducting participatory surveys and to assist with the CVM survey.

Demand stimulation, through social marketing

Demand stimulation, both for a service and for specific service options, is achieved through social marketing. Social marketing is an approach concerned with achieving social objectives. It is based on promoting benefits of the service being offered, through marketing techniques and positive perceptions of potential users. Social marketing addresses three aspects associated with demand: the price, the product and how the product is available to the user (WELL, 1998). Promotion strategies using social marketing could for example be focussed on: the need to contribute towards the cost of a supply, options which are feasible but do not satisfy initial, unrealistic, expectations, and the need to conserve water and manage demand.

Technical tasks in the process could include the construction of demonstration facilities. Strong social skills are needed to ensure that social, technical, managerial and financial information is being communicated in a way in which it can be assimilated. Through this process potential users should be enabled to make an informed choice, rather than manipulated to select someone else's preference.

Constraints to adoption of a multi-disciplinary approach

The failure of a great number of water and sanitation projects as the hardware that was provided was not sustained beyond construction made donors, policy makers and other practitioners realise that additional skills were needed to increase sustainability of services. However, in practice adoption of a multi- disciplinary approach proves to be a quite long and difficult process.

In some projects multi-disciplinary skills are represented, but this does not automatically result in exchange of information and/or building on this information. An example can be found in Box 4. From this and other examples it can be learned that a common constraint relates to limited knowing and understanding of each others discipline and each others roles and responsibilities within a project. Different disciplinary actors also struggle with the role of the user as a client and to see them as part of the team. Often the funder is defined as the client and to view the user as a client requires a transition in thinking. Difficulties in relinquishing control as described in the example, can be found in almost every profession. This often leads to inability to devolve decision making as well on different disciplinary as user levels.

Another constraint that hinders the adoption of a multi-disciplinary approach contains the lack of knowledge of appropriate systems. Project staff often relies on offering 'standard' options with fixed prices. This may be a reflection of limited resources, capacity and information. If no clear guidance, capacity and resources are provided it will be very difficult to change practices and gain understanding. Standard options may also be fixed by policy.

Box 4: Too many cooks and not enough cooperation

In South Africa technical and social consultants are both involved in water and sanitation projects. However there is no or very limited interaction between these disciplines. Reasons for this lack of interaction include; limited trust in the professional ability of the social consultants by engineers, inadequate understanding of each other's roles and responsibilities, closed attitude towards social consultants as it is very difficult for the engineers to relinquish control, and contractual arrangements are formulated in a way that the social consultants are secondary to the technical consultants.

(Bos, 2001)

Predominance of engineering standards can also prevent the adoption of a multi-disciplinary approach as they often overrule any other aspect of projects. This does not only relate to technical standards but also to non-technical matters such as affordability. A rule of the thumb still used in many projects to measure affordability is that 5% of the income could be spent on water and the system will be designed on this figure.

The participation, communication and interaction between the multi-disciplinary team and clients, and to overcome previous constraints makes this approach cost and time intensive.

Conclusions

Responding to demand can not be grounded on ideological reasons, therefore it should be pragmatic and take into account capacity and context of project staff and environment. Responding to demand could be used as a tool within existing approaches and could be incrementally developed. However, it should be recognised that responding to demand has wider implications than **what** should be done; **how** it is done matters as well.

Although constraints are recognised, the need for multi-disciplinary skills is vital for responding to demand which in turn could increase chances of sustainability. As it is unlikely to find these skills in one individual multi-disciplinary teams are needed in the service delivery. Each member must be able to communicate ideas and concepts effectively, not only with the team members, but also with all stakeholders and with the potential user in particular. This has major implications for the make up of most project staff teams but could also provide great opportunities for partnerships.

References

BAILEY, R.A. (ed.) (1996) *Water and Environmental Management in Developing Countries*, CIWEM, London.

BOS, J.J. (ed.) (2001) *The role of Engineers in the Demand Responsive Approach; A study from South Africa*, WEDC, Loughborough University, UK.

BRESLIN, E.D (2000) 'Lessons from the Field' Number 6: Update Series: Maúa and Nipepe, WaterAid, September 2000.

CAIRNCROSS, S. (1992) *Sanitation and Water Supply: Practical Lessons from the Decade: Water and Sanitation* Discussion Paper Series, No 9, Water and Sanitation Programme, Washington DC, 1992.

JMP (2001) *Global Water Supply and Sanitation Assessment, 2000 report*, WHO & UNICEF, USA.

WELL (1998) Guidance Manual on Water Supply and Sanitation Programmes, WEDC, Loughborough University, UK.

WHITE, J. (1997) *Evaluation synthesis of rural water and sanitation projects*. DFID Evaluation report EV 596 May 1997.

WORLD BANK (1993) '*The demand for Water in Rural Areas: Determinants and Policy Implications*' World Bank Water Demand Research Team World Bank Observer, Volume 8, No 1 January 1993.

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