



Improving urban sanitation services in Lucknow

Mark Harvey, India

PHASE 1 OF the Gomti River Pollution Control Project at Lucknow (GRPCPL) has reached the halfway point of its 18 month planning phase. By the time of the WEDC conference the project will have passed month 12. Challenging times are ahead for all those involved in the project. This paper describes the background to the project, some key issues that have emerged and are emerging, the constraints to real progress and the opportunities waiting to be grasped.

The project in its simplest form aims to improve sanitation/sewerage, surface water drainage and solid waste services for the city of Lucknow, the capital of Uttar Pradesh. A multitude of agencies at local, municipal, state and federal levels, consultants and NGOs, and the donor are involved, some more actively than others.

Origins

The project was originally conceived as one of a number of similar projects under the umbrella of Phase II of the Ganga Action Plan (GAP 2) - to improve river water quality in specific tributaries of the river Ganga, in this case the Gomti river. Under the direction of the Ministry of Environment and Forests/National Rivers Conservation Directorate (NRCD) (formerly the Ganga Project Directorate) feasibility reports were prepared by state agencies to deal primarily with interception and diversion and, in most cases, treatment of polluting wastewater flows currently entering the river system. Standard packages of non-core schemes were also included (eg river front development, low cost sanitation, etc).

These feasibility reports were intended to have learned the lessons about cleaning rivers from the GAP first phase (GAP 1) (MoEF, 1995), from specific projects such as the Indo-Dutch project in Kanpur (BMB/EuroConsult/JPS, 1995) and, to a lesser extent, from similar approaches elsewhere (eg River Thames, UK).

The lessons from GAP1 relevant for the GRPCPL include:

- Bacterial pollution needs to be reduced.
- Social surveys prior to design need to be more effective.
- The approach on treatment should be phased upgrading.
- Designs for treatment should be based on real data.
- Collection systems and connections to them need planning.
- O & M of existing and newly created assets needs improvement.

- O & M should have a single responsible agency.
- O & M manuals are needed.
- Training programmes for O & M staff are needed.
- Resource recovery should be considered.

“Six Basic Flaws” identified from the Indo-Dutch project over a number of years are:

- There is a state monopoly in the urban services sector which is under-resourced and does not allow for mobilisation of other resources.
- There is a mis-match between institutional capacities and responsibilities.
- There is a lack of commercial policy and practice.
- Institutions are supply-driven, rigid and inward looking.
- Institutions lack commitment to change.
- Community based organisations are weak and user and private sector involvement is low.

The feasibility report for the Gomti river was critically reviewed by ODA and 3 important points emerged. First, in the catchment as a whole, by far the heaviest polluting load is imposed by the city of Lucknow (population 1.8M); secondly, of that load, the majority is from domestic and municipal waste; and, thirdly, that those wastes find their way into the river system as a result of poor management of urban services. The GRPCPL focuses on ways and means to improve those services.

In order to develop a sound way forward it was agreed with NRCD and the Government of Uttar Pradesh (GoUP) that a long-term vision was needed, captured in masterplans for improving the three services. From such long-term plans options for improving services in the short-term could be extracted. The principle underlying the project is to work towards a preventive rather than curative approach to cleaning up the river through Lucknow.

By working to improve urban services a complimentary objective to better river water quality emerges which is that of better environmental health for citizens of Lucknow - ie the customers of the sanitation services in question.

Ideas and issues

The basic idea of intercepting, diverting and treating polluting flows from the city's drains raises five issues.

First, such a strategy relies on operation and maintenance of sewerage and pumpstations, the current state of which presents a picture of neglect and disrepair.

Secondly, treating wastewater requires provision of costly infrastructure and its continuing operation and maintenance, but if the “problem” is moved downstream of the city then who should pay for this luxury? There are not many downstream users and the river recovers its quality after 20 to 30 km.

Thirdly, the impact of rapid urban growth must be taken into account; an understanding is needed of how quickly, in which areas and with what sort of development the city is growing.

Fourthly, and perhaps most importantly, the question “who is the project for” must be asked. Ultimately it is for the citizens of Lucknow. There appears to be demand for improving sanitation services and the state of the river - as measured by column inches in the press! So if they are the final owner they must have a collective stake in determining the shape of the project and a commitment to and understanding of their future responsibilities.

Fifthly, as the view of the project has zoomed in from the river basin to the Lucknow stretch to the city services and finally to the primary stakeholder, we find ourselves at the household level. Issues arising at this point are concerned with behaviour, preference, choice, affordability, and demand.

These five issues pose five questions:

- 1) What can the city of Lucknow sustain?
- 2) What can the city of Lucknow pay for?
- 3) What does the city of Lucknow need?
- 4) What commitment, responsibility and accountability can Lucknow provide?
- 5) What do people want and how will they behave?

Constraints

Difficulties in taking the approach forward arise in a number of areas. The Ministry promoting the project is that of Environment and Forests yet the implementation of projects at the local level and their sustainability is dependent upon agencies working under the Department of Urban Development (DUD). Although at the state level the DUD is the coordinating state department it has a slightly different agenda to that of the National Rivers Conservation Directorate.

The limited time available in which to complete studies in sufficient detail imposes a heavy burden not least in that there is a great need for orientation of those involved in the project to new approaches, new methods and, occasionally, unpopular concepts.

Perhaps the greatest problem so far has been the extremely poor data base for the city. Records of services (maps, drawings, plans, layouts, etc) are either not available, not being made available by agencies or scattered between agencies - Lucknow Development Authority (LDA), Lucknow Jal Sansthan (LJS), Lucknow Nagar Nigam (LNN) and the Uttar Pradesh Jal Nigam (UPJN).

Even the maps and plans that are available contain limited data on service lines and are several years old. The

rapid urban growth and planned and unplanned housing development that has taken place in recent years is not reflected on any available maps. To relax this constraint a mapping contract has been let but it must be remembered that “garbage in = garbage out”.

A constraint of the project that was first prepared in 1993 (although this is somewhat suspended now with the focus being on Lucknow) is that of a River Basin Management (RBM) approach. Though laudable and sensible in its approach and very much the need of today, using a RBM approach within an administrative and sector structure that does not follow such a system would have been almost futile.

Political constraints are present of course, populist and ad-hoc decisions to proceed with some initiatives override sensible planning based on robust analysis.

Finally in this section a fundamental difficulty in the project is the lack of commonly shared clear objectives and management by those objectives. NRCD’s objective is to produce a river Gomti with a Class B quality standard, ODA’s objectives are improved health for poorer groups of people and a sustained reduction in pollution in the river through and immediately downstream of Lucknow. Other stakeholders have their own objectives and priorities.

Of the local agencies a constraint has been the difficulty in bringing all of the concerned departments along as the planning phase progresses. Many of them perceive the project as being solely concerned with implementation (construction) of sewerage and treatment facilities to be left to UPJN. Continual dialogue with them is needed to raise issues which should rightly be of concern to them - operation and maintenance, increasing revenue and reducing costs, improving efficiency, extending coverage equitably, and aiming to improve environmental health. The institutional home, or client, for the project is not a single entity. This contributes, as in many projects, to multiple and therefore divided ownership and responsibility - eg NRCD is the client for a project delivering a cleaner river; GoUP’s Department of Urban Development client role needs exploring and Lucknow Municipality should be the client for improved services.

Improving services

- The project’s purpose is to improve the 3 urban services. But what does this mean in practice? It means seeking answers to a number of questions.
- What does it mean “to provide a service”? It means knowing about your current and future customers, their behaviour, their preferences, their needs; and it means knowing about yourself as the provider, your strengths and weaknesses, opportunities and constraints.
- What is the nature of the service? Is it the provision of a product or the removal of a nuisance?
- What are current and future demands?

- What is the current supply and future capability of supply?
- What are current and future costs?
- What is the current and future revenue generation capability?
- What is the standard of service? (System coverage, hours of supply, frequency of collection, liability to flooding, exposure to health risks).
- What is the service efficiency? Measured against staff resources or operating cost.
- How is the service used? What promotion takes place for such issues as health, function, utility and access.

All of the above questions imply studying trends which require good record keeping, analysis and forecasting.

Project components

The Phase 1 planning period has 3 areas of activity:

- (long-term) = Masterplanning for the 3 services,
- (community-based, NGO-assisted) = Nullah Community Improvement Projects,
- (short-term) = Technical Sub-Projects.

This is an interesting mix of some pilot work to test approaches, solutions, designs and models; and to generate qualitative, pertinent information to feed into what is expected will be a practical “manual-type” masterplan of use to the Lucknow agencies.

Essentially the project has been taken from the river basin to the household, behaviours are being studied and then used to build up appropriate city-wide plans.

The challenge and opportunity is to progress from a position of “business as usual” where resources are used to provide more infrastructure to one of incremental improvements in capability to deliver services and from a position where resources are allocated to those who are already served to one where equitable, sustainable services are provided.

Findings of the last 4 months

A number of findings have emerged from the work of the project consultants over recent months as well as from the general project process:

- A continuing problem is identifying the client for the project.
- The city has a very poor database of information
- There will be *little* environmental health benefit from cleaning the river.
- The solid waste chain is efficient, with good recycling, but is fraught with complicated socio-political con-

straints, and is not efficient enough to keep other dependent systems (sewers, drains) working effectively.

- Considerable urban growth imposes a massive burden on the weak urban management existing at present.
- Water supply may be a constraint on water-borne sanitation systems.
- There is a desperate need for institutional strengthening.
- Service latrines, while not being officially acknowledged as existing, are prevalent throughout old Lucknow and indeed some residents have returned to using them as other sanitation systems have failed.
- Hand-washing at critical times and the possible introduction of potties to deal with children’s faeces have been identified as critical interventions in any hygiene promotion programme.

We still expect to gather results from ongoing studies and others which are about to start:

- The project will test what people are willing to pay for improved services through a contingent valuation survey.
- The project will examine how to rehabilitate and upgrade infrastructure in congested areas.
- The project will assess how water supply may impact on water-borne sanitation.
- The project will model the impact of technical options on the river environment through computer based quality modelling.
- The project will determine what the public thinks about possible improvements through consultative processes.

Finally we can envisage what we might do in a Phase 2 project:

- Institutional strengthening, focusing on improving revenue.
- Area by area rehabilitation and upgrading - getting the systems working better.
- Some capital expenditure on the existing systems of sanitation/sewers, drains and solid waste.
- Hygiene promotion.

References

- BMB/EuroConsult/JPS Associates; June 1995; Ganga Institutional and Community Development Project - Inception Report (Draft).
- Ministry of Environment and Forests, Government of India; April 1995: Evaluation of Ganga Action Plan.