



New models for the privatization of water and sanitation for the urban poor

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SUMMARY: *This paper draws on the authors' experience working in informal settlements in Buenos Aires and with the privatized utility (Aguas Argentinas) to consider how privatized provision for water and sanitation can best meet the needs of low-income groups, especially those living in informal settlements. It includes a discussion of the key issues that should be taken into account when government agencies responsible for privatization design the bid, and an elaboration of the different organizational models through which private utilities can provide water and sanitation in informal or otherwise unserved low-income settlements.*

I. INTRODUCTION

IN LATIN AMERICA, the policy of privatizing urban water supply and sanitation services was first implemented at the beginning of the 1990s. It has had a great impact on the urban poor, many of whom had received these services free of charge before privatization. In those cases where private contracts have been approved, in developing their bids the operating companies usually had to take into account factors relating to the presence of squatter or otherwise informal settlements with precarious levels of provision for water and sanitation (if any at all), without having a proper survey which would enable them to accurately evaluate the extent of the lack of services in such settlements. The consequences of this have generally been very negative, particularly for the urban poor. In some cases, no companies put forward bids because of what they regarded as unacceptably high risks. In other cases, the operators failed to adhere to the terms of their contracts with the result that a large proportion of the population is left without access to water and sanitation.

This paper will analyze the difficulties and possible solutions for the urban poor in obtaining access to water and sanitation services under private operation. It is based on the authors' experience in low-income settlements and on the opinions expressed by different experts on private sector involvement in water and sanitation services.

The paper is divided into three sections. The first describes the water and sanitation problems faced by those living in informal settlements in Buenos Aires. The second section draws on the opinions of different experts and analyzes the issues that should be taken into account when establishing the conditions on which companies can develop their bids.

The final section suggests some tools for the prioritization of informal settlements and models for private sector intervention in such areas.

II. WATER AND SANITATION PROBLEMS FACED BY LOW-INCOME SETTLEMENTS IN BUENOS AIRES

a. Background

GREATER BUENOS AIRES consists of a central core (the Federal District) and 30 districts (or *partidos*). According to the 1991 census, Greater Buenos Aires had a population of 11.3 million inhabitants at that time. In 1996, there were approximately 615,000 people living in informal settlements in Greater Buenos Aires, of whom only 65,000 were resident in the Federal District.⁽¹⁾

When provision for water and sanitation was privatized in 1993, there was a marked contrast in the extent of provision for piped water and sewerage between the centre (the Federal District) and the districts or municipalities on the edges of Greater Buenos Aires. If Greater Buenos Aires is divided into the Federal District, the first (inner) ring of districts and two subsequent rings, the districts in the inner and first outer ring where most of the population of Greater Buenos Aires lives had large sections of their population lacking piped water supplies and provision for sewers and drains. For instance, a 1994 report suggested that in the outer ring districts, 48 per cent of the population lacked access to piped water and 72 per cent had no connection to the sewerage network.⁽²⁾ An analysis of data from the 1991 census shows that the proportion of households without flush toilets was much higher in the districts in the first outer ring than in the inner ring (which includes many high-income suburbs) and the Federal District.⁽³⁾

Previous attempts to improve provision for water and sanitation in low-income settlements have concentrated on the provision of water supply, without improving provision for sewage and waste water disposal. Even though such initiatives initially improved water supplies, they increased the problem of waste water disposal which was the result of increased water consumption. In low-income settlements, small plot size impedes the construction of new pit latrines to replace those that are full and these often overflow directly into public areas, giving rise to fresh public health risks.

In 1993, the National Executive Authority which, until then, had been responsible for the National Water and Sewerage Authority (*Obras Sanitarias de la Nación*), awarded a 30-year concession contract for water and sewerage services in the Federal District and 16 continuous districts of Greater Buenos Aires to the private operator, *Aguas Argentinas* (subsequently, another district was added). A regulatory body, the Tripartite Entity for Water and Sanitation Services (*Ente Tripartito de Obras y Servicios Sanitarios - ETOSS*), was set up to regulate the concession. At that time, of the 6.4 million residents served, approximately 200,000 were in informal neighbourhoods. In 1998, of the 7.9 million people served, 550,000 were resident in informal neighbourhoods. For the present five-year period (1998-2002), *Aguas Argentinas* foresees 1.8 million new users, of whom 1.2 million will be resident in informal settlements areas.

Shortly after having taken up the concession, *Aguas Argentinas* realized

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1. *La Nación* newspaper, 19 May 1996, page 27.

2. COFAPYS (1994), "Servicio cloacal", UNICEF Argentina.

3. Arrossi, Silvina (1996), "Inequality and health in metropolitan Buenos Aires", *Environment and Urbanization* Vol 8, No 2, October, pages 43-70; also Pescuma, A and M Guaresti (1991), "Gran Buenos Aires: contaminación y saneamiento" in *Medio Ambiente y Urbanización* No 37, December.

4. Chaumin, C (1996), personal communication, *Aguas Argentinas*.
5. ETOSS (1994). The Argentine currency, the peso, is tied to the US dollar so one Argentine peso equals one US dollar.
6. *Clarín* newspaper, 25 September 1997, page 34.
7. See Mazzucchelli, S (1999), "Nuevos escenarios y perspectivas para un desarrollo urbano sustentable en la Argentina", *Medio Ambiente y Urbanización* Vol 14, No 53, December, page 32.
8. For more details, see Hardoy, Ana, Jorge E Hardoy and Ricardo Schusterman (1991), "Building community organization: the history of a squatter settlement and its own organizations in Buenos Aires", *Environment and Urbanization* Vol 3, No 2, October, pages 104-120; also Schusterman, Ricardo and Ana Hardoy (1997), "Reconstructing social capital in a poor urban settlement: the integrated improvement programme, Barrio San Jorge", *Environment and Urbanization* Vol 9, No 1, April, pages 91-119.

that the commitment to expanding water services that it had assumed was not merely a matter of extending the pipes but would also require connections for new users,⁽⁴⁾ many of whom had not connected to the service due to the very high infrastructure connection charges relative to their income. Furthermore, the provision of services to low-income areas implied additional maintenance costs that *Aguas Argentinas* had not allowed for in its original bid.

In view of the objective to provide water and sanitation services to the population living in informal settlements, and in order to make progress with respect to the targets set out in the concession, in July 1994 the regulatory body approved the adjustment of service connection charges and the tariff structure. The adjustment entailed a 30 per cent reduction in connection costs, reducing the water connection charge from the equivalent of US\$ 600 to US\$ 400, and the sewerage connection charge from US\$ 1,000 to US\$ 670.⁽⁵⁾ However, according to a national newspaper: "...even as the bills with the revised charges started going out, the protests of new users in Buenos Aires were increasing because they could not afford the payments."⁽⁶⁾

In 1996, *Aguas Argentinas* created the Low-income Settlements Programme⁽⁷⁾ as part of its plan to optimize the planning and expansion of water and sewerage services. The programme is based on past experiences of service provision in settlements of this type. Included among these is the case of Barrio San Jorge between 1993 and 1995, an initiative jointly developed by IIED-AL and the residents in conjunction with the Municipality of San Fernando and *Aguas Argentinas* itself.⁽⁸⁾

The strategy proposed by *Aguas Argentinas* aimed to develop a methodology of service regularization and management with the goals of integrating low-income settlements into service coverage with minimum investment, controlling operating costs and integrating these into the accounts and developing ways to improve billing and collection. The methodology is based on the need to change the working relationship employed up to that point, from a top-down style to a horizontal and decentralized approach that is agreeable to the different actors. The

Actor	Objectives	Resources
Low-income, informal settlement	* Normal service * Affordable cost/ ability to pay * Social integration	* Labour * Participation
Local government	* Expand infrastructure * Demonstrate efficiency while satisfying demand	* Authority/ legitimacy * Financial resources
<i>Aguas Argentinas</i>	* 100 % coverage * Control investment costs * Sustainability	* Technical capacity * Financial resources * Equipment
Local NGO	* Service to low-income areas * Community development * Strengthening of institutional links	* Linkages between actors * Technical / organizational capacity

SOURCE: The table, collated by the authors, is based on information from *Aguas Argentinas* (1997), *Action Plan for the Regularization of Low-income Settlements*, Buenos Aires.

objectives and resources of each actor are identified in the plan developed by *Aguas Argentinas* (see Table 1).

In early 1997, *Aguas Argentinas* initiated a further renegotiation of the concession contract which was finally approved in 1998 and which led to the creation of a universal fixed charge paid every two months by all its customers. The charge is US\$ 2-3 for those with connections to the water network and US\$ 5-6 for those with both water and sewerage services. This charge (a cross-subsidy) is in force at present and replaces the service connection charges. New customers are just charged service connection fees of 30 two-monthly payments of US\$ 4 for each service.

If the goal is to extend water and sanitation services to all residents, the Buenos Aires experience provides a series of lessons relating to both opportunities and constraints that need to be taken into account in order to improve the outcomes of future privately operated schemes.

b. Constraints and Opportunities

One constraint is the fact that the legal aspects required for services to be provided to low-income areas were not defined in the contract. The contract defines the responsibilities of the operator but fails to consider the possible contributions of other actors involved, especially the public sector and civil society.

There is a contradiction between the requirement of 100 per cent coverage and the prescriptive framework that proposes the use of conventional water and sanitation systems which are technically inappropriate for many low-income neighbourhoods and which imply costs that are unaffordable by low-income groups. Added to these constraints are the other usual difficulties of managing public assets. These include the differences between different actors' interests and the differences in their time frames – for instance, for politicians, the timing of elections; for residents, their immediate needs; and for NGOs, when resources exist to allow them to act. These differences contribute to a lack of coordination between the actors and/or the bureaucratization of the procedures.

However, there are also opportunities. For instance, the concessionaire is required both by its contractual obligations and its commercial image to provide services to low-income areas. There is a growing number of successful experiences of improvements in low-income settlements undertaken by networks and alliances between groups and organizations from different sectors. The combination of these actors' available resources has led to situations in which all parties involved have gained (what are sometimes termed "win-win" situations).

Residents of low-income settlements are increasingly less willing to adopt a passive role and accept the practices of a paternalistic style of governance. They are increasingly engaging themselves in the formulation of proposals and participating in solutions; in many cases, they are also bearing a proportion of the costs of neighbourhood improvement and maintenance. In almost all low-income communities, there is a variety of institutions that can be engaged in participatory activities, which might include their involvement in the provision of services. Although rare, "unconventional" experiences have demonstrated that they represent a viable alternative that can be implemented in low-income settlements: their costs can be borne by the residents and the end results produced are similar to those from conventional solutions.

9. The following persons were selected from attendants at the World Bank Water Week in Annapolis, and were interviewed by the authors during November 1997: Oscar Alvarado, Penelope Brook Cowen, Gilles Febre Rousseau, Harvey Garn, Vincent Gouarne, Jonathan Halpern, Abel Mejía, Klas Ringskog, Fernando Troyano, Anne Wellestein and Guillermo Yepes.

III. KEY AREAS AND ISSUES REGARDING CONDITIONS FOR A CONCESSION CONTRACT

THE INVOLVEMENT OF the private sector in the provision of public services, the reasons for its involvement and the new roles that the actors involved have had to assume have been analyzed by different people who were interviewed by the authors in November 1997.⁹ For the purposes of clarity, their thoughts have been ordered under a series of themes.

a. General Considerations

With regard to informal settlements, the private operator should play a proactive role in engaging in dialogue and in providing information to communities (Yepes). However, if the interest of the private enterprise is centred on making a profit (Brook Cowen), it does not seem likely that it will respond to the array of problems relating to informal settlements or other low-income areas with any speed, and the government may seek to distance itself from these obligations (Garn).

On the other hand, even though the private operator can be expected to help increase efficiency (Garn) and contribute its technical capacity, the following questions must still be asked: is the private sector capable of addressing a new situation – as would be the case with serving the poor – with a different approach from that which it has used with its usual customers? And if so, under what conditions? *How can the concessionaire's preference for serving more developed areas and excluding lower-income groups be curbed?* Is it possible to retract the operator's total monopoly in order to work towards solving the problem of service provision to the poor? (Brook Cowen).

According to Mejía, the failure to extend services to the poor is due to the lack of economic incentives offered to the private operator to invest in low-income neighbourhoods, to the absence of appropriate social policies and to the lack of experience and the lack of proven models.

It is crucial to bear in mind that a concession contract for a city with low-income areas cannot be socially and economically sustainable if it provides a single homogenous service with no variation in levels of service throughout the area covered by the contract. A pro-poor concession should offer different levels of service at different prices and the contract should include provision for subsidies (Gouarne).

Mechanisms to enable other actors, such as non-governmental and community organizations, to become involved and contribute the resources they have available should also be considered (Brook Cowen).

b. Contract Terms and the Evaluation of Bids

Bids for the contract cannot be compared if they do not indicate when the proposed new connections will take place. If the time frames are known, it is possible to compare the bids on the basis of the calculation of the current value¹⁰ of the connections (Ringskog). Given that quality and business do not always go hand-in-hand, it is necessary to check the operator's tendency to offer the level of service that gives the highest rates of return although of a lower quality.

It is recommended that the appropriate time to set the conditions for the concession is before the start of the contract in order to hold the operator to extending provision into informal settlements. At the renegotia-

10. "Current value" refers to the value of the investment at the outset, that is, the capital that should be invested at the present time in order to have US\$ 100 in x years.

tion stage, the private operator will be in a stronger position than government agencies or civil society for two reasons:

- its greater availability of human and financial resources and information; and
- the lack of experience on the part of the regulator.

The population of a city to be served with water and sanitation services consists of a heterogeneous set of users. However, if the population is seen as a homogenous group with similar characteristics, which the operator is expected to serve using a fixed tariff, the operator will naturally tend to focus provision in the areas where it will receive the highest returns for the lowest levels of investment (Troyano).

Recommendations

- Clearly define targets for investment and coverage that will directly benefit low-income settlements.
- Determine the type, quality and time of installation and location of connections in agreement with the local government. The location of new connections should be prioritized according to two principal variables: need (degree of lack of service) and feasibility (degree of ease of installation) (see also the next section on tools).
- Establish mechanisms for evaluating and comparing bids, weighing up the different variables within each:⁽¹¹⁾ type, quality and time of installation, location and maintenance of the connections, and their corresponding current value.
- Provide incentives to the operator to extend services into low-income settlements. One way to do so is by applying a higher weighting coefficient to the number of connections offered in informal settlements. Since one of the measures applied to the operator's performance is the number of connections, the incentive to increase this in informal settlements could be heightened by agreeing that (for example) each connection in an informal settlement was worth two connections in other areas. Other forms of incentive include offering compensatory payments, providing government subsidies or providing tax exemptions.

c. Costs and Tariffs

There was a wide consensus among the interviewees on the need to include a social component in the tariffs in the form of a subsidy. In order to define the subsidy, it was suggested that the service connection charge be separated from the operation and maintenance charges (Brook Cowen; Ringskog). According to these specialists, the connection charge should be subsidized, possibly through a loan to the operator from an international financial institution that is guaranteed and repaid by the government (Ringskog). The operation and maintenance charges could also be covered by subsidies and/or with revenue from user charges which, in the case of low-income groups, would need to be reduced (Brook Cowen).

The costs of a service with minimum acceptable standards should be proportionate to the income of low-income groups, and those wanting higher standards should pay the difference (Ringskog).

Subsidies were mentioned as one of the appropriate mechanisms for the provision of water and sewerage services to low-income groups (Gouarne). However, it was indicated that different levels of subsidy are required for different income levels among those living in poverty (Garn).

Among the interviewees, there were differences in opinion regarding

11. To be able to compare bids, coefficients must be applied that consider the number of households served according to the level or standard reached, bearing in mind that each one has a different cost. In this way, the number of connections offered would effectively reflect the bidder's financial commitment.

the source of finance for subsidies to services. Garn believes that cross-subsidies are risky for a number of reasons. First, a cross-subsidy, by definition, implies that it overcharges some users to benefit others, which obscures the relation to the true cost and thus distorts the tariff. Second, it has the potential to hamper economic activity because, in general, the additional costs for covering the cross-subsidy element are borne by business and industry. Third, cross-subsidies lead to distortions in the use of water. Fourth, they give out a conflicting message, as the application of subsidies is incompatible with stimulating increases in efficiency. Also, there is no reason why some users should pay for others when the government is responsible for the implementation of social welfare measures, which should be carried out in a transparent manner. Furthermore, higher-income groups will find ways of not paying for these subsidies.

Yepes took the view that not all subsidies should be cross-subsidies and that the public sector must continue to be involved in their provision. According to Fabre Rousseau, cross-subsidies are used in Paris where they are an acceptable mechanism to users.

With regard to state provided subsidies, it was mentioned that the levying of taxes by central levels of government tends to be more efficient in terms of revenue collection, more progressive in terms of distribution of resources and that it produces fewer tariff distortions than local government subsidies (Garn).

Recommendations

- A variety of possible scenarios should be defined to finance infrastructure improvement costs, including a definition of the responsibilities of each actor involved.
- The costs of the service should be such that they are affordable to the user by way of a tariff that is proportionate to their income and thus less than that levied in areas with conventional standards of service. The other options to achieving this are either different standards, which imply lower costs, or a conventional standard with a tariff subsidized by the operator, the government or by other customer groups (cross-subsidy).

d. Service Standards

Almost all the interviewees made reference to the need to use different technologies, standards and systems that can be progressively improved and upgraded for the provision of services to informal (or otherwise low-income) settlements. The use of alternative systems to conventional ones was mentioned principally in relation to two issues:

- that the consideration of alternative technology should be included and its use promoted at all stages, including definition in the terms of the contract; and
- that these technologies should enable tariffs to be set that are compatible with the incomes of poor groups.

It was proposed that pilot projects should be undertaken to try out different technologies and identify their various shortcomings. The results obtained could form the basis for integrating these projects into the mainstream of the concession contracts (Gouarne).

Recommendations

- The standards and procedures enabling the use of alternative technologies should be defined prior to bidding and the required standards

should be established along with the method of weighing up the different options.

- Mechanisms to ensure the participation of all interested parties in the selection of technical solutions, standards and cost options throughout the process should be established in advance.
- When it is decided to carry out projects in a series of stages in order to reach the required standards, each of these stages should be required to be sustainable.
- A fund should be set up for non-conventional projects which, while serving to support pilot tests, would also enable low-income settlements to increase their access to services. Once the feasibility of different options is demonstrated, the operator should incorporate these into its range of options.

e. The Political and Legal Framework

On the one hand, private sector participation in the provision of piped water and sewers has monopolistic characteristics, thus making it unlikely that the operator will decide to serve low-income urban residents of its own accord. On the other hand, it is impossible to extend services to low-income settlements without the participation and political will of the local government.

Recommendations

- Appropriate incentives to the private operator to extend provision to low-income settlements should be pre-defined, such as flexibility regarding measures and standards that allow the involvement of different actors, sources of resources and technologies. This can include contributions that are within the scope of each actor, such as political will on the part of local government to accompany the operator in unfavourable political situations (such as disconnections), the organization of community labour or the capacity of NGOs to coordinate actors.
- Tools for increasing attention to sanitation issues and their incorporation into contract targets should also be included.

f. Achievement of Targets and Renegotiation

Among the different comments made concerning the performance of the operator, the idea for including in the terms of the bid provisions on the achievement of targets stood out. The objective would be to anticipate and form a pre-established framework to deal with any disputes that might arise between the service provider, government and consumers, whether these arise from problems encountered during the course of the concession or at the moment of revision of the investment plan.

The need to establish a formal procedure that sets out the process of dealing with each negotiation was brought up and included issues such as the types and levels of service to be implemented, tariffs and the possibilities of subsidizing some investments. Also identified was the need to develop a mechanism to ensure that any changes in the situation that affect the contract, such as urban growth and changes of priority, are also considered during renegotiation (Yepes).

Local governments and regulatory bodies are usually at a disadvantage in negotiations with the private operator due to the operator's higher level of resources and information compared to those of the government

and regulator. In general, the information available to the regulator is provided by the same private operator with which it must negotiate. Thus, the information is at risk of manipulation by the private operator. In order to prevent this, it was proposed that the terms of the contract should be fixed in the most comprehensive manner before the commencement of the concession, when the government is in control of the management of the information (Brook Cowen).

In view of the fact that the regulatory body represents the government, Wellestein suggested that consideration be given to specific organizations that represent the users, such as consumer protection bodies. Brook Cowen agreed with this and stressed the need for open channels for consumers. Without entering into specific detail, Brook Cowen also posited that fundamental issues should not be open to negotiation.

Various reasons were given to explain the so-called "regulatory model crisis", notably the lack of a regulatory tradition; the politicized appointment of regulators; influence being exerted on the regulator by the operator or politicians; and the excessive costs of regulation. One of the most common problems of regulatory models is the confusion between rigorous regulation and rigid regulation, with the latter leading to little flexibility for negotiation on the part of the regulator (Mejía).

In order to maintain integrity and quality in the terms of the contract and to avoid political interference, it is necessary to appoint independent arbitrators. The possibility of having different types of arbitration was proposed, which would entail different degrees of intervention and authority and which, for certain problems, would allow the case to be taken to international arbitration bodies.

Each actor's capacity for negotiation is very different and this means that the weakest actors have more limited possibilities for fulfilling their objectives.

Recommendations

- A mechanism for negotiation or a procedure that takes into account the differences in capacity and resources should be designed. This should introduce compensatory mechanisms such as the right of community organizations to take part in decisions through their representatives and/or with the help of, for instance, independent external consultants, consumer protection bodies or ombudsmen.
- A higher form of arbitration should be considered. To this end, an independent arbitrator is needed to override paternalistic or non-transparent political interests.
- Prior to bidding, the targets must be clearly established, specific and verifiable indicators must be set and it should be decided which aspects are negotiable and which are not. The authors' opinion is that the fulfilment of minimum investment and coverage targets, as well as the upper limit for tariffs, should not be subject to negotiation.

IV. TOOLS: PRIORITIZATION AND MODELS FOR SERVICE PROVISION IN LOW-INCOME SETTLEMENTS

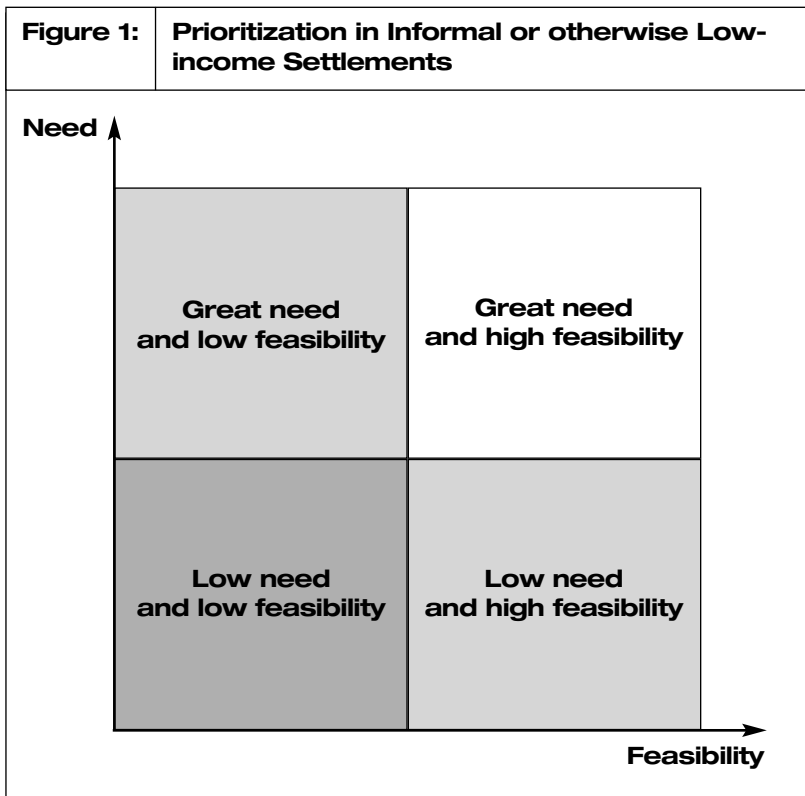
a. Prioritization

IN THIS SECTION, a methodology is proposed for the prioritization of

low-income neighbourhoods for water supply and/or sanitation provision which enables information to be organized, and situations where there is the greatest need and suitable circumstances for carrying out improvements to be weighed up.

The proposed methodology entails the definition of variables that allow different cases to be compared and considered. The primary variables adopted are the need of the residents of each settlement for better services and the feasibility of undertaking the improvements. It is thought that these two variables represent a set of factors that should be evaluated in order to decide what to do, where and when. Combining the two variables leads to four potential scenarios in a settlement, as shown in Figure 1:

- Great need and low feasibility
- Great need and high feasibility
- Low need and low feasibility
- Low need and high feasibility



In order to establish which scenario applies to each individual settlement, need and feasibility are analyzed by way of secondary variables and indicators. To achieve this, general variables, applicable to water supply, sewerage and drainage services, need to be differentiated from random or case-specific variables which apply to certain circumstances. Other variables which represent the priorities of other actors also need to be included. The general variables of degree of need and technical, social, economic and institutional feasibility and their respective secondary variables and indicators are summarized in Table 2.

Table 2: General Variables for the Prioritization of Settlements		
General variables	Secondary variables	Indicators
NEED	Poverty	1. Household income 2. Service coverage
FEASIBILITY		
Technical	Location Existing networks/ infrastructure Form of land tenure Settlement layout	3. Distance from existing network 4. Capacity for expansion 5. Legality of land tenure 6. Regular plot and street layout
Social	Social structure	7. Community organization 8. Educational and cultural level
Economic/financial	Economic/ financial calculation	9. Cost of projects 10. Resources of different actors 11. Ability to pay 12. Willingness to pay

b. Alternative Organizational Models

In this section, four organizational models are put forward for the provision of water and sanitation in informal settlements. These models range from a closed system wholly contained within the hands of the private operator to an open system with a high level of participation by other actors.

Each model is based on different conceptions of how to work in informal settlements and on the assumption that the actors involved have different levels of authority and fulfil different roles. Even though the four models are aimed at achieving the same objective (better provision), each of them prioritizes different variables, which will have implications for how that objective is achieved and how it will be managed in the future.

These models are not designed to be adapted exactly to all situations due to the heterogeneity of the communities to be served. Therefore, the authors suggest that the model selected should allow sufficient flexibility for the incorporation of such variations.

- **Model I: Closed system.** There is no specific structure envisaged for informal settlements. The concession is considered as a homogeneous entity with no form of differentiation in the treatment of different issues. No special attention is paid to issues of demand. There are no mechanisms in place for the participation of different actors. The operator has full control over the situation with eventual external intervention from the grantor and regulator.

- **Model II: Semi-closed system.** This model creates a specific formal procedure for dealing with the issue of informal settlements. It entails a certain degree of special attention to such areas. The participation of other actors is not assured, although it is favoured if an office or department exists that can channel the specific concerns of the low-income residents. The operator has overall control of the situation but with possible intervention by the grantor-regulator and by other key actors, in particular civil society organizations and NGOs.

Model II is the one adopted by *Aguas Argentinas* for the Buenos Aires concession. Projects have been carried out in various informal neighbourhoods with positive results. However, a working methodology for

the expansion of services on a significant scale has not yet been successfully implemented. This is due to the fact that the operator needs to hold negotiations with each neighbourhood and municipality since no general framework exists for this purpose.

- **Model III: Semi-open system.** This structure is different in terms of economic and financial administration. This organizational structure facilitates the auditing of financial resources used for low-income groups within the population, thus making the various activities more transparent and enabling the results to be evaluated. It facilitates the search for alternative systems or solutions.

Model III comprises a specific organizational structure for informal neighbourhoods as it includes representatives of the regulator, the operator, civil society and local government. It also entails participatory management of a consultative and independent nature. The operator is in overall control of the situation, but there is scope for assessment and control on the part of other actors.

- **Model IV: Open system.** Independent and representative organization by the administration (rather than the concession) and under the charge of the concessionaire or another actor. This model allows the entrance of independent providers who can offer more innovative, personalized and economical services, with constant quality control by the regulator which allows the faster recovery of investment costs.

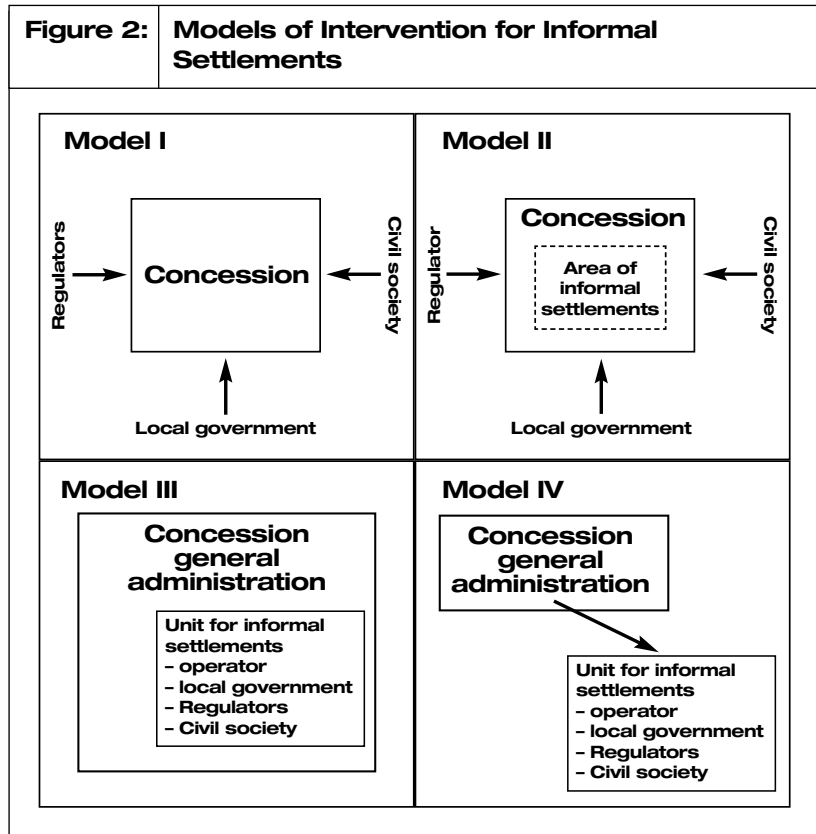
There is participatory management at all stages with the situation being under the control of the board of representatives. When a project reaches a previously agreed stage of development, it is incorporated into the concession.

The authors believe that models III and IV offer more possibilities of working over time. The difference between these and models I and II is that they guarantee the presence of representatives from different groups of actors in the discussion of problems, allowing decisions to be reached by consensus. Furthermore, they offer the possibility of actors' giving opinions on and defining the end use of the financial resources set aside for projects in informal settlements, ensuring that these funds will not be put towards solving the problems of customers who are more able to pay.

The authors presented the four models to the specialists during the interviews. The fourth model was the one that generated the most debate. It was argued that it is not necessary to create a fund and a structure outside the remit of the concessionaire for the purposes of serving informal settlements, as the segregation of certain areas could lead to these being designated as second-class neighbourhoods (Garn) and could run the risk of generating a situation similar to that which existed before the implementation of the concession.

Other specialists emphasized some positive features of models III and IV. Considering that neighbourhood improvement is a long-term process, the use of a specific fund could be a good option (Wellestein). Model III is better suited to the private operator, which is better able to justify the different levels of service that it provides. In addition, the identification of problems is more visible and the model allows for the greater participation of the different actors (Fabre Rousseau).

Brook Cowen noted that the four models offer different possibilities for control over the private operator's management of its interventions in low-income settlements. In order to ensure that the operator invests in low-income areas, she believes that it is sufficient to demand that a separate account be kept for these activities. Brook Cowen added that, in any



model adopted, it is necessary to ensure transparency, independence from political interference and the availability of information.

Another highlighted variable was the participation of the different actors involved. During the World Bank Water Week in 1997, the lack of capacity of private operators to work in a participatory way was identified as one of the factors contributing towards their failure to work with low-income groups.

The conditions that need to be met in order to work with these models do not appear difficult to achieve as they consist basically of political will on the part of local government, a guarantee of funds to work in low-income settlements and a community that – even if it has difficulty organizing – can be supported by external institutions such as universities, reputable NGOs or advisers appointed by such institutions.

In summary, it can be said that the key factors in low-income people's access to water supply and sanitation services is a change of attitude on the part of the private operator, the regulatory body, government and politicians, communities and other civil society organizations. This will allow a differentiated level of service to be introduced in accordance with the different realities of the groups to be served, together with participation and coordination between the different actors' interests and resources.



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