

# CEPAL Review

*Director*

RAUL PREBISCH

*Technical Editor*

ADOLFO GURRIERI



UNITED NATIONS  
ECONOMIC COMMISSION FOR LATIN AMERICA  
SANTIAGO, CHILE / SECOND HALF OF 1977

## CONTENTS

The originality of a copy: CEPAL and the idea of development <i>Fernando H. Cardoso</i>	7
Preconditions and propositions for 'Another development' <i>Marshall Wolfe</i>	41
Fiscal policy and integrated development <i>Federico J. Herschel</i>	67
Notes on the future of the western democracies <i>José Medina Echavarría</i>	113
Comments by John Durston	138
Comments by Carlo Geneletti	140
Comments by Eduardo Palma	144
Comments by Gregorio Weinberg	146
Comments by Marshall Wolfe	149
Small nations and the 'constrictive' style of development <i>Carlos Real de Azúa</i>	153
The deficit in urban services: a structural limitation? <i>Francisco Barreto and Roy T. Gilbert</i>	175
On the article by Raúl Prebisch "A critique of peripheral capitalism"	187
Comments by Joseph Hodara	187
Comments by Eugenio Kossarev	191
Comments by Octavio Rodríguez	203
Comments by Marshall Wolfe	217
Some CEPAL publications	223

## The deficit in urban services: a structural limitation?

*Francisco Barreto and  
Roy T. Gilbert\**

The authors analyse the causes of the deficit in urban services in Brazil and maintain that they have their roots in the complex combination of an inappropriate and insufficient supply and a demand seriously affected by the economic crisis. On the one hand, they underline the fact that the structure of supply is based on technological and economic patterns unsuited to the population's needs and possibilities. Not only are technologies adopted which are proper to the developed countries, and which in the real conditions prevailing in Brazil prove too complex, inflexible and exclusive, but the generation of supply is guided by the criterion —appropriate to private enterprise— which assesses the value of investment by its profitability. On the other hand, they point out that the critical economic situation through which Brazil is passing has had a disturbing effect on the capacity for payment of the low-income groups, so that their needs in respect of services cannot be translated into real demand. To this profound inconsistency between supply, real demand and basic needs are added the financial problems of the municipal authorities and the difficulties they encounter in undertaking programmed action.

Accordingly, the authors suggest that the only way to cope with the inconsistency is by means of a substantial change in the guiding principles by which the supply of services is determined, in conjunction with a redistribution policy that will increase the majority of the population's capacity for payment

\*Staff members of the CEPAL Office in Brazil.

## Introduction

Brazil is at present passing through a stage of explosive urban development, and the rapid growth of the urban population entails a sharp increase in the infrastructure needed to service it. According to the figures given in the Second National Development Plan, the population will increase by approximately 25 million during the present decade, and suitable conditions will have to be created to ensure that the supply of urban services grows at a similar rate. Thus, services such as water supply, sewerage and refuse disposal, energy, transport, public health and hospital services, education, recreation, sports, etc., will all be among the basic infrastructural requirements.

This prospect becomes all the more serious when one considers that at the present time about 72.6 per cent of Brazilian homes are without drinking water, and only 12.1 per cent are connected to a main sewerage system. The deficit in these services graphically exemplifies the existing imbalance, which vitally affects the quality of life of city-dwellers in Brazil, particularly at the lower income levels.

Over and above this deficit, there has been a relative stagnation in the supply of these services, and indeed in the country's principal centres an actual decline, as a result of the high rate of urban growth.

In the light of these statements, an attempt is made in the present paper to describe the main aspects of the structural crisis corresponding to the nature of this deficit of urban services. The situation will be examined from two specific standpoints: first, the generation of supply, by way of an account of the process and of the patterns determining it, and next the formation and manifes-

tation of demand in the urban environment, the present character of which will be analysed.

In these two main areas some theoretical considerations will be put forward, followed by a review of the actual situation aimed at bringing into focus

the real nature of the crises described.

After these preliminary observations on the fundamentals of the study, the following sections will set forth the main hypotheses regarding the causes of the prevailing imbalance between supply and demand in the urban infrastructure.

## A. Supply

### 1. *The generation of supply: the entrepreneurial approach*

One of the criteria most widely followed at present in the public sector, as regards the supply of urban facilities and services, is the application of the principle of profitability to public investment so as to ensure returns on the capital invested. Its most usual justification is the claim that the supply of urban services is part of the general production process and should therefore necessarily involve a constant feedback in terms of capital invested.

This criterion was adopted as a result of observing the practices followed by the industrial countries and their experience in the installation of urban services. In actual fact, the principle of seeking the maximum financial yield on investment came to prevail in the majority of industrial countries as the natural consequence of the intensive industrialization process which was then taking place.

Accordingly, the installation of urban facilities, effected in line with entrepreneurial practice, was subject to the internal laws of the market and therefore to keen economic and technological competition; thus, it met certain

economic and financial prerequisites. The development of urban services not only accompanied the industrialization process but also received from it the financial and technological impulse needed.

In this context, the principle of the maximization of profit, which was perfectly appropriate for private investment, was subsequently applied in the public sector, in order to avoid the dissipation of scarce financial resources on projects not considered to be economically viable.

More recently, analysis of the cost-benefit relation has broadened the concept of profit, which in the case of public investment has now come to be known as the 'social return'. Nevertheless, even though this so-called 'social' aspect has been introduced, it is always presupposed that factors exist which could increase the national product through the reduction of 'social costs'. This type of analysis, therefore, has merely broadened the bases of the entrepreneurial approach, without changing its real nature.

Moreover, although this broadening of the approach in question led to the achievement of a high level of efficiency

in the industrial countries, it is difficult to imagine how the same thing could happen in Brazil in the conditions at present characterizing the internal economic structure.

The reasons for this discrepancy stem basically from the structural and historical differences between the industrial countries' processes of industrialization and urban growth and those currently taking place in the developing countries.

The first of these differences relates to the high opportunity cost of the provision of urban services in Brazil at the present stage. The industrial countries have at their disposal infrastructures inherited from the past, but this is not so in the developing countries. In these latter, the cost of making good the lack of urban services would impose a great sacrifice on the present population, whereas essentially the benefits would be felt only by generations to come. In the industrial countries, however, it is the present generation that is reaping the benefit.

Another difference lies in the socio-economic patterns (income and consumption structures, social strata, cultural values, etc.), which are extremely diverse in the countries lacking urban infrastructure, whereas they are relatively homogeneous in the industrial countries.

More specifically, the non-industrial countries are lacking in indigenous technologies, and when they have them they do not make use of them. Take, for example, the case of *taipa*,<sup>1</sup> a traditional

<sup>1</sup> *Taipa*: a building material for walls made of clay, which may also contain lime and sand, mixed with pieces of wood. It is noteworthy that this technique was used in buildings of the colonial epoch in Brazil (18th century) which are still standing today.

building material which is used particularly in the north-east of Brazil but which has not been officially approved by the bodies concerned with low-cost housing. In contrast, foreign techniques are introduced which often prove unsuited to local conditions from the economic and/or ecological standpoint.

Finally, attention should be drawn to the disparity between the different groups of countries in respect of a basic feature: their income structure. In the non-industrial countries the low level of income of the majority of the population creates a widespread incapacity to pay for the services they need, and from the entrepreneurial point of view this in its turn provides a justification for the lack of supply.

Consequently, as the private sector plays only a small part in the provision of urban services in these countries, the responsibility for supply falls mainly on the public sector.

Thus the adoption of attitudes and values based on socio-economic and technical patterns foreign to Brazilian conditions is likely to aggravate still further the causes of a crisis in the supply of urban services which is already almost beyond remedy. The degree of compatibility between the entrepreneurial approach and the provision of urban services therefore depends to a great extent on the country's economic and social structure.

## 2. *Imitation of socio-economic and technical patterns*

The imitation of socio-economic and technical patterns is a constant factor in the creation of the supply of urban facilities. It is evident, from the type of construction and the forms of urban services considered necessary (e.g., the

priority given to motor-cars through the building of urban road networks), that the patterns generally adopted are imported and are in keeping with a more homogeneous type of demand such as exists in industrial countries. It is therefore clear that the kind of supply of urban services generated by the application of entrepreneurial criteria derives from patterns incompatible with local conditions, and this almost always leads to situations of crisis, on the demand side because of the population's inability to pay, and because of the limitations of local finance in the case of supply.

It can be seen from this that the current process of development and modernization of urban services bears witness to the attempt to achieve, qualitatively and quantitatively, the same patterns as are found in the industrial countries, as in the case, for example, of the familiar adaptation of cities to the motor-car by means of heavy investment in road infrastructure such as viaducts, tunnels, etc.

On the other hand, the importance of indigenous technology, as reflected, for example, in the case of improvised housing like that of the *favelas* in the big cities, is ignored. In these communities collective technical solutions are devised, such as the use of makeshift building materials, the strategic location of water supplies, even independent systems of refuse collection, and finally, the planned organization of the community on the basis of the self-management which these solutions imply. Although born of difficult conditions, these technologies should be assessed with a view to their possible incorporation in the official supply of the urban services of which they already form an important, albeit unofficial, part.

Examination of the technological patterns used at present in the supply of urban services reveals that they constitute a discriminatory factor in themselves and that they inevitably confine within very precise limits the scope of the resulting supply. In other words, it is hard to see how the supply can meet the needs of the low-income population, if from the very start the patterns conditioning it are, by their technological nature, rigid and exclusive.

Moreover, the adoption of complex techniques implies the need for equally complex programming; and what is meant here by programming is the capacity of the local authorities to plan their investment with a view to carrying out a definite work programme. Furthermore, since programming involves intensive survey work in order to ascertain local needs and thus be able to provide an effective response to popular demand, it is an essential stage in the provision of public services. The type of programming which employs information obtained only from the upper strata of society, without adequate technical backing or empirical verification, is therefore of dubious worth.

Another point to note is that scarcely any local personnel technically capable of programming the supply of urban services is available. As a general rule, the services which possess a better planning infrastructure are those which depend on the allocation of external resources and require the incorporation of operational skills.

At the present time, the majority of municipal authorities in Brazil are without the minimum information needed for correct programming. In particular, there is a lack of work records containing information on the projects

executed and the order of priority of those still pending. Availability of such records would be a significant aid to understanding not only how best to carry out the work in hand but also how to plan better alternatives.

It may be added in conclusion that while in certain cases, because of the lack of facilities, programming may be a stumbling-block to the harmonious development of supply and demand, in others (assuming a given installed capacity) it can have an adverse effect on the already limited municipal funds, even to the point of exhausting them. In these circumstances it is quite possible that good programming capacity too may stragulate local resources if excessive use is made of the borrowing capacity available.

Hence it is clear that a partial solution as regards programming will not produce satisfactory results. It is necessary to deal simultaneously with the financial problems of improving the process of raising funds, and with the problems of assessing the potential demand for urban services. This is because of the need to ensure that the effort to improve programming has a sound financial basis and at the same time satisfies the aspirations of the people.

### 3. *Financial crisis or economic crisis?*

The foregoing analysis shows that the crisis in the supply of urban services tends to be aggravated when the entrepreneurial approach is used, with its adoption of socio-economic and technical patterns borrowed from other countries. In Brazil today this crisis is apparent in the exhaustion of the local funds available for investment in urban infrastructure in most of the Brazilian municipalities. These often rely on trans-

fers and loans from other official bodies, but now they are finding it impossible to resort to loans owing to their very limited borrowing capacity.

In reality, the present financial crisis is closely linked with a broader crisis affecting the whole structure of the national economy. It may therefore be assumed that the aforementioned inefficiencies in the local revenue-collecting systems afford only partial and incomplete explanations of the present financial shortages in the Brazilian municipalities in general.

Accordingly, an adequate supply of funds does not depend exclusively on a good revenue-collecting system. Moreover, the collection of revenue by any municipal authority may of course encounter obstacles restricting the expansion of local finances, and one of these—namely, the population's low economic capacity—is a limitation of a structural nature. This relative financial incapacity of the population is conditioned both by the income structure and by their degree of participation in the overall production process, which can be assessed from the employment figures.

From the situation described above two basic conclusions can be drawn: firstly, in the face of the lack of funds at the local level the broader socio-economic situation must also be taken into account, and secondly, the solutions to be evaluated, conditioned as they are by entrepreneurial criteria, only aggravate a precarious financial situation owing to the high costs of the patterns adopted.

In conclusion, what are apparently financial problems mask chronic economic situations which give rise to the financial deficit and prevent the rapid satisfaction of the needs of the low-income strata as regards urban services.

## B. Demand

### 1. *Formation of demand: theoretical and practical aspects*

Thus far the analysis has emphasized the most important factors in the supply situation from the standpoint of the population's requirements. In the following sections these factors will be examined in relation to questions connected with the formation of demand for urban services.

Before going any further, it is important to define this demand for urban services, so as to gain a clearer idea of its characteristics. Demand is understood as the set of necessities which a specific population considers indispensable for leading an urban life compatible with its aspirations.

This concept of needs places the accent on the aspirations of the community and, therefore, underlines the importance of analysing the demand formation process. A point to be noted is that, within global demand for urban services, it is essential to establish two major distinctions with respect to the formation of demand. The first relates to the income structure, and the other to the actual supply in the light of its limitative patterns.

Such an approach recognizes the existence of a potential demand which represents the whole set of needs and aspirations of the population as regards urban facilities and services, and which is not necessarily explicitly defined or quantified.

Taking this view, potential demand is converted into effective demand accord-

ing to the population's payment capacity, so that the low-income population groups have little chance of seeing more than a minimal part of their potential demand satisfied.

In practice, there is seldom a difference between potential and effective demand, in the case of the population in the highest income strata, since their potential demand can nearly always be satisfied. This scarcely ever happens in the other categories, however, and herein lies a basic distinction resulting from the income structure.

It should be remembered that according to the entrepreneurial approach, if effective demand does not exist a corresponding supply would not be justified. It is therefore the responsibility of the public bodies providing urban services to ascertain the potential demand of the low-income population. Through its various technical and political instruments, the public sector attempts to 'assess' this demand, on the basis of the entrepreneurial approach and its technological patterns.

Consequently, the 'assessed demand' may be understood as the official version of both the potential and the effective demand. This official version excludes, *a priori*, the elements deriving from the socio-economic and technical patterns of the population, which are not officially recognized by the agencies concerned with the provision of services.

As a corollary, a second basic distinction in the formation of demand is to be noted in connexion with the essentially limitative structure of the existing



supply of urban services. This limitation is basically imposed on the low-income population sectors, whereas little difference can be seen between the potential demand and the assessed demand of the middle- and high-income population strata. This is because the patterns of these latter strata coincide with those officially adopted and generally applied in the provision of urban services.

For the rest of the social categories, the disparity between the two types of demand is so marked as to justify the statement that it contains the elements of a serious crisis.

## 2. *Socio-economic and institutional patterns*

It is a truism in technical circles that the assessment of potential demand, i.e., the definition of priority demands for the authorities, is a direct function of the local decision-making process.

Thus, the directions in which supply will be oriented are determined by a series of multiple pressures or claims through institutions which formally or informally make up local political life, so that the establishment or expansion of urban services is merely a natural and reciprocal response to this pressure system.

Manifestly, then, the demand assessed in these circumstances is the result of a pressure process and, obviously, of the capacity of the various sectors of the population to voice their urban infrastructure requirements clearly and claim their fulfilment.

It follows that the present manner of assessing potential demand for urban services depends not only on the system of influences composing the decision-making process, but also on the existence of formal channels of communica-

tion between those exercising power and the community.

This system of pressures operates through the various existing channels of communication whereby local authorities and/or the agencies providing urban services obtain their information and thence adopt their decisions. Thus, potential demand can only be properly assessed through these institutions, which transmit the claims and thus create a link between those demanding and those supplying urban services. It should be noted that one of the most frequent and traditional ways of assessing potential demand is through political channels, as occurs in the specific case of town councillors, who are primarily spokesmen for the most immediate needs of the population. Although the information thus transmitted nearly always has a strongly political connotation (as could hardly be otherwise), this is one of the most active ways in which the population can make its voice heard at the decision-making levels.

This type of representation is more within the reach of those in the upper income strata (equivalent to the level of the industrialized countries). As a result, the poorest population strata (i.e., those whose needs are greatest) are precisely those which have most difficulty in expressing their demands clearly and, moreover, are deprived of representation through the channels aforesaid. This patent marginalization is due to their economic position and their minor political importance (in terms of actual votes, since illiteracy is still a considerable factor).

Such a situation produces a real distortion as regards determining the aspirations and needs of large segments of Brazil's urban population, and clearly has the effect of widening the gap

between supply and demand where services for the low-income population are concerned.

The lack of formal instruments at the disposal of these population strata has led them to organize themselves spontaneously in neighbourhood community associations. Since urban facilities and related services constitute community assets, in respect of the formation and expression of demand for them such associations would appear to be an important form of organization of the community. The authorities thus have within their reach an efficient means of information capable of providing them with an accurate picture of the consensus of the population regarding its most pressing needs and aspirations. The usefulness of the community associations is readily understandable, since they can furnish both the local government and the agencies which provide services with information based on the real needs of a population whose potential demand has little likelihood of becoming effective demand.

The experience of some Brazilian cities in the field of community development bears out this statement. Accordingly, the performance of these types of neighbourhood associations, in those urban centres where they still exist, shows that their possible strengthening and habitual consultation by local governments, far from being negative for these latter, is not only highly positive for them but also very desirable from the standpoint of the formation of demand.

Moreover, the mayors and their representatives can learn about the population's problems through these associations. Finally, dialogue between the local government and the community is a valuable innovation which, while fraught with some risks, nevertheless possesses undeniable merits.

### 3. *Economic crisis or crisis of patterns?*

In addition to the above-mentioned trend towards a crisis of supply, there are two basic problems on the demand side which are leading the low-income population sectors into a critical situation.

The first relates to the economic structure itself, which prevents the transformation of potential demand into effective demand, because of the inability of those sectors to pay for the urban services provided. The second problem concerns the official patterns of supply, i.e., the discrepancy between potential (or effective) demand and assessed demand.

The first case is closely linked with the individual's economic situation. That is, where supply is generated in accordance with entrepreneurial criteria, effective demand assumes capital importance in attracting the corresponding supply. In other words, only the middle- and high-income strata have the capacity to pay for urban services, as can be seen from the following table.

The table shows that the proportion of dwellings in each income bracket which had piped water and sewerage in 1970 increases progressively in direct relation to the level of income. In addition, it is only in the highest income strata (3 000 cruzeiros a month and over) that the proportion of dwellings supplied with water — 76.3 per cent, 84.1 per cent and 89.3 per cent, respectively — is as high as the present levels of this service in the more developed countries. It is extremely significant that while virtually all housing units in the industrialized countries are found in these income categories (over 3 000 cruzeiros),<sup>2</sup> only a minimal percentage falls within them in Brazil.

It can be seen that at the present time the dwellings with satisfactory water supply are precisely those corresponding to the higher income levels. As regards sewerage services, too, there is the same disequilibrium between the various population strata. Moreover, it will be observed that the proportion of housing units with sewerage is much lower than the proportion with piped water. This is accounted for by the inclusion of rural dwellings, which do not require sewerage whatever the income level.

If it is assumed that the same situation arises in the case of other services making up the urban infrastructure, a serious crisis can be said to exist, of which the economic manifestation is the inability to convert the existing potential demand into effective demand.

The so-called economic crisis is thus aggravated by the present patterns of supply and by the method of defining the assessed demand; as noted earlier, the high costs deriving from complex technologies and the difficulty of introducing them at the local level put these patterns well out of the financial reach of most of the population.

The discriminatory nature of the technological patterns used precludes, to

a certain extent, the adoption of solutions not officially recognized, which are discouraged on grounds of technical efficiency; and this in turn adversely affects the efficiency of local technologies in that it hampers their development. For example, hardly anything has been done to develop simple septic tank technology as a means of solving the problem of human wastes disposal. This method, although quite safe from the health point of view if the population density is low and watercourses are duly respected, is not encouraged officially because it does not fit in with the progressive image which the dominant sector of society wishes to promote in the supply of urban services.

Solutions of this kind, which are currently in use among the low-income population, instead of being considered as concrete possibilities for remedying the shortage of some urban services, are regarded rather as problems.

In such conditions, the impossibility of assessing potential demand and the failure to make use of existing techniques which reflect a high degree of inventiveness still further handicap the complex task of improving the quality of life for Brazil's urban population.

---

<sup>2</sup> Although there is still a certain amount of difficulty in making this type of comparison, it can nevertheless be affirmed that in the same year approximately 90 per cent of housing

---

units in the United Kingdom were in the income strata corresponding to 3 000 cruzeiros and over (see Central Statistical Office, *Annual Abstract of Statistics*, London, H.M.S.O., 1974).

**BRAZIL: EFFECTIVE DEMAND FOR WATER SUPPLY AND SEWERAGE SERVICES  
BY THE DIFFERENT INCOME STRATA, 1970**

<i>Monthly household income<sup>a</sup> (cruzeiros)</i>	<i>Number of dwellings (thousands)</i>	<i>In each income stratum:</i>	
		<i>Percentage of total number of dwellings with water supply<sup>b</sup></i>	<i>Percentage of total number of dwellings with sewerage services<sup>c</sup></i>
Up to 150	979	2.1	0.7
151 - 300	2 747	3.1	1.1
301 - 450	2 162	7.0	2.6
451 - 600	2 281	14.6	6.2
601 - 750	983	18.6	7.8
751 - 900	1 174	25.6	11.1
901 - 1 200	1 394	33.1	14.8
1 201 - 1 500	1 039	42.9	19.9
1 501 - 3 000	2 198	58.2	28.5
3 001 - 4 500	692	76.3	40.5
4 501 - 6 000	340	84.1	46.8
Over 6 000	543	89.3	51.2
No income declaration presented	1 097	-	-
<i>Total</i>	<i>17 629</i>	<i>27.4</i>	<i>12.1</i>

*Source:* Instituto Brasileiro de Geografia e Estatística (IBGE), Eighth Population Census of Brazil, 1970. Guanabara, June 1971.

<sup>a</sup>At 1976 prices.

<sup>b</sup>'Water supply' is understood to mean a system of water mains with internal connexions to dwellings.

<sup>c</sup>The term 'sewerage services' is understood to mean that the dwellings are connected up to a main sewage system.

## Conclusions

An analysis of supply and demand with respect to urban services is undoubtedly a highly complex matter, and cannot be fully dealt with in this brief article. A great many doubts still remain, and the conclusions set forth here relate to a group of hypotheses, so that they are subject to critical revision. Provisionally, however, and allowing for these limitations, they can be taken as a first approximation to the problems under review.

The analysis has shown that a critical situation exists as regards the supply of urban services. Financial implications are frequently invoked to substantiate the true nature of this crisis. Explanations of this kind may be satisfactory as regards the conjunctural elements in the present situation, but they represent only a partial view of a much deeper problem: the economic crisis.

It has also been noted that this economic crisis is the main cause of the critical situation affecting demand. Therefore, when examining the true character of the disequilibrium between supply and demand in respect of urban services in most Brazilian cities it is impossible not to take into account the structural crisis.

Accordingly, one of the main purposes of the present study has been to show that there is a critical situation of this type which affects demand owing to limited payment capacity, and which is at variance with the adoption of an entrepreneurial approach to the supply of urban services. This has led to a veritable impasse, determined either by

the population's lack of economic capacity or by the public services' need to rebuild their stock of capital.

Brazil's existing economic structure (considered from the standpoint of the present situation of the low-income sectors) is incompatible with a supply of urban services which is generated in line with entrepreneurial criteria and, moreover, adopts technological patterns suited to industrialized countries.

The chief incompatibility makes itself felt in the local agencies providing such services, which are unable to develop investment programmes with their own resources or—in view of their low borrowing capacity—to turn to external sources of financing; to say nothing of their inability to apply the technological patterns aforesaid. Admittedly, then, even if the financial crisis were overcome by means of a rapid increase in local financial resources, the municipalities would still be held back by the lack of capacity to programme, put into execution or carry through projects on the basis of patterns copied from quite different environments.

It should therefore be stressed that the refusal to recognize other technologies adapted to local conditions greatly intensifies the financial crisis, in view of the high costs of the technological patterns adopted by the official institutions.

In technical circles it is often suggested that in order to resolve this crisis the payment capacity of the low-income sectors should be increased rapidly through a rise in the total gross product. Even if such an increase were to be

achieved, however, it seems unlikely, given the present parameters of the model, that these sectors would ever have sufficient payment capacity for it to find expression in effective demand. The public sector, therefore, is basically responsible for correcting the distortions encountered in the generation of the supply of the services in question.

Moreover, since the population strata which are currently enjoying satisfactory urban services in Brazil are precisely those which possess a higher level of income and are in a position similar to that of the social strata in the industrialized countries from which the official patterns of supply for those services are obtained, it is considered of basic importance to prepare all-embracing programmes for the present supply of urban services, that will contemplate technological innovations compatible with the internal differences existing between the economic and social conditions of the urban population as a whole. In this respect, it is important to base such innovations on the valuable experience built up by poorer communities, as exemplified by the construction of their own housing without the assistance of official institutions, and even the spontaneous organization of their own water, sewerage and street-cleaning services. Such a revision of the official patterns

would imply recognition of the structural heterogeneity of Brazilian society, which is expressed in economic, social, cultural and other terms.

Within this approach, the community associations are of great importance as an element of reference for the amplification of technological patterns and the search for alternative solutions. They can transmit not only the real needs of the low-income sectors, but also their cultural characteristics. In addition, they can play an important part in defining the various types of technologies suited to each case, on the basis of their past experience.

Thus, it is considered that only through direct on-the-spot assessment of the real aspirations of the low-income population sectors by the institutions providing the services can the first steps be taken to overcome the present crisis.

It is therefore clearly a matter of urgency to make a comprehensive study of the potential and effective demand of these sectors, keeping in view a probable revision of the premises of the entrepreneurial approach and, consequently, of the patterns adopted. As a result, with the establishment of goals on the basis of the real situation, appropriate responses can be formulated to the great challenge presented by the task of improving the quality of life of Brazil's low-income city-dwellers.