



# Exploring the environmental and political dimensions of poverty: the cases of the cities of Mar del Plata and Necochea-Quequén

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**SUMMARY:** *This paper presents a framework to show how information drawn from different sources for any city allows the construction of poverty profiles and maps. These not only help local governments to act but they also provide a catalyst for more participatory and integrated approaches to poverty reduction. The paper also gives examples of how this framework was used in two cities in Argentina. This framework brings out the multi-dimensional nature of urban poverty, including environmental and political dimensions which are not made evident by conventional definitions of poverty. The framework also highlights the complex linkages between the different dimensions and shows how the environmental dimensions (including housing conditions) are not just visible features of poverty but also key "entry points" through which social, economic and political dimensions can be understood and addressed. Mapping environmental conditions also brings out key social and spatial inequalities.*

## I. INTRODUCTION

ARGENTINE SOCIETY IS suffering from a process of impoverishment, as are many other nations in Latin America. This is directly linked to a decline in various aspects of the quality of life that are apparent both within housing and living conditions (the urban habitat) and in the management practices of urban systems. Latin American nations are also affected by the lack of information to support management at the local level. In addition, the methods generally used to measure poverty are of no use in identifying problems within urban areas at the intra-urban level in the very few intermediate or small sized cities where these poverty measurements are carried out. Thus, there are two critical questions:

- What can be done to improve information systems regarding poverty and environmental quality at the local level? This has been understood within a context where achieving change at the national and provincial levels is difficult and slow and when most municipal governments are unable to generate primary data to fill the data gaps – for instance through commissioning private consultancy firms or universities to help generate primary data and diagnosis.
- Are the poverty "experts" (sociologists, demographers, economists, professionals and academics in general) the only voices that have authority on these issues?

This paper presents a framework to address the lack of information on

poverty at local level. This should provide a basis for local action and, in so doing, help overcome the passive role (and resigned attitudes) that are so common within municipal governments. The underlying assumption is that the lack of action at local level, as a result of the lack of information, is worse than an attempt to estimate poverty conditions, even if this attempt may lead to mistakes or be constrained in its interpretation. This paper shows how local poverty profiles can be developed, based on data generated by each municipality for its administration, or data that can easily be generated in the short term at low cost.

Thus, the framework presented here seeks to:

- explore the concept of poverty as a complex and multi-dimensional problem;
- highlight the difference between “poverty” and what is being measured and the confusion this causes;
- point to the need to broaden the dimensions of the analysis, specifically in urban contexts; and
- demonstrate the need for a redefinition of the concept of poverty.

The paper also presents a short example of how the different dimensions of poverty were translated into specific indicators and applied in two case studies. Then the political dimension of poverty is considered, with some comments which point to possible research topics.

## II. POVERTY

### a. Exploring the Concept of Poverty

POVERTY IS A multi-dimensional and complex problem. It is multi-dimensional because it not only has economic dimensions (for instance inadequate income) but also social, environmental and political dimensions.<sup>(1)</sup> It is complex because these dimensions are interrelated and sometimes it is difficult to detect which dimension subsumes or is part of other dimensions, especially when this division is not noted by the poor because “households and individuals plan cross-sectorally.”<sup>(2)</sup>

Moreover, the identification of more than one dimension is not only a sum of problems but also a new and synergetic situation that demands more than a single, sectoral solution. Reducing poverty demands a set of interrelated solutions. For instance, a household with a high dependency ratio and one illiterate income-earner, that lives in an unsuitable place – for example, close to a solid waste dump site – cannot be categorized as having three distinct problems, namely, low income, lack of education and inappropriate housing. It is the specific interrelationship of these factors which produces particular impacts in each member of that household and which is at the root of many other problems based on differences in, for instance, age and gender.

### b. The Tendency to confuse Poverty with what is being Measured

The most common and widely applied methods of measuring poverty are ones that are based on the definition of poverty lines; a wide range of studies recognize the many limitations of these methods and make different attempts to overcome them<sup>(3)</sup> and to apply composite indicators or sets of indicators.<sup>(4)</sup>

draws upon work undertaken as part of an agreement between the *Programa Arraigo of the National Presidency* and the National University of Mar del Plata to carry out assessments in the cities of Mar del Plata (in 1996) and Necochea-Quequén (in 1997). However, the author alone takes full responsibility for the text.

1. Cafferata, A (1987), *Pobreza y políticas sociales; Una aproximación teórico metodológica para la elaboración de diagnósticos operativos*, CFI, Buenos Aires; also Chambers, R (1995), “Poverty and livelihoods; whose reality counts?”, *Environment and Urbanization* Vol 7, No 1, pages 173-204; Stewart, F (1995), *Adjustment and Poverty. Options and Choices*, Routledge, London; Douglass, M (1992), “The political economy of urban poverty and environmental management in Asia: access, empowerment and community-based alternatives”, in *Environment and Urbanization*, Vol 4, No 2, pages 9-32; and Satterthwaite, D (1999), *The Links between Poverty and the Environment in Urban Areas of Africa, Asia and Latin America*, UNDP, mimeo.

2. Moser, Caroline O N (1997), “Urban social policy and poverty reduction” in Burgess, Rod, Marisa Carmona and Theo Kolstee (editors), *The Challenge of Sustainable Cities*, Zed Books, London, page 46.

3. For example, the Poverty Gap Measurement, the Poverty Band, the Sen Index, the FGT Index, etc. See reference 1, Stewart (1995); also, Wratten, E (1995), “Conceptualizing urban poverty” in *Environment and Urbanization*, Vol 7, No 1, pages 11-36.

4. See for example the Basic Needs method, the Integrated method and the different efforts which allow comparison between

countries, such as the Human Development Index or the Physical Quality Index. See reference 3, Wratten (1995).

5. Beccaria, Luis and Alberto Minujín (1991), *Sobre la medición de la pobreza: ense anzas a partir de la experiencia argentina*, Documento de trabajo No 8, UNICEF Argentina, Buenos Aires; also Minujín, A and A Scharf (s/f), *Estructura del hogar y línea de pobreza: algunas consideraciones en el empleo del concepto del adulto equivalente*, INDEC/IPA, Buenos Aires; and Epszteyn, E and A Orsatti (1985), *Características de una línea de pobreza para Argentina*, Documento de trabajo No 8, INDEC/IPA, Buenos Aires.

6. Rakodi, C (1995), "Poverty lines or households strategies? A review of conceptual issues in the study of urban poverty", *Habitat International* Vol 19, No 4, London, pages 407-426; also see reference 1, Stewart (1995); and Novaro, M and P Perelman (1993), "La pobreza en el AMBA (1974-1991)" in *Medio Ambiente y Urbanización* No 45, IIED-AL, Buenos Aires.

7. See reference 3, Wratten (1995); also Douglass, M (1998), "World city formation on the Asia Pacific rim: poverty, "everyday" forms of civil society and environmental management" in Douglass, M and J Friedmann (editors), *Cities for Citizens. Planning and Rise of Civil Society in a Global Age*, John Wiley & Sons, London; and see reference 5, Beccaria and Minujín (1991).

8. Some studies on social indices include: INDEC (1984), *La pobreza en la Argentina: Indicadores de necesidades básicas insatisfechas a partir de datos del censo nacional de población y vivienda 1980*, Estudios INDEC, Buenos Aires; also INDEC (1996), *Perfil de los*

Different authors point to the limitations of these methods.<sup>(5)</sup> For income/consumption/expenditure-based indicators, the most common failings are that:

- they do not measure the capacity to obtain access to different resources or assets;
- they do not take account of household size and of the allocation of income or consumption among members within a household;
- they do not take into account economies of scale;
- they do not value home production or earnings from self-employment;<sup>(6)</sup>
- they do not consider the different needs and costs of different places, making allowances for instance for the higher cost of housing in cities.<sup>(7)</sup>

As many aspects of well-being cannot be measured by income, consumption or expenditure, social and demographic indicators such as life expectancy, infant mortality rates, nutrition, literacy, and dependency rates<sup>(8)</sup> are also used.

Poverty lines are based only on income or consumption as key variables, and on very representative indicators in the case of indices<sup>(9)</sup> – which means that they focus on very low thresholds and consequently on very inclusive criteria for identifying poverty conditions. One frequent source of confusion is that "poverty comes to mean what is measured"<sup>(10)</sup> as the difficulties of measurement lead to over-simplified conceptualizations of poverty. The assumption is that there is a solution for each particular problem and that if that solution is given to the poor, this will alleviate their poverty. For instance, a household that does not have enough income to cope with its needs does not necessarily cease to be poor with a higher income. The inhabitants of a poor neighbourhood with sub-standard housing do not necessarily cease being poor with new houses. This assumption is based on demand-driven approaches<sup>(11)</sup>, which are those most commonly applied by the state and planning agencies at the sectoral level. However, there is no attempt to explain why poverty is as it is. The stress is on the symptoms of poverty, not on the causes.

What is needed is an understanding of poverty that recognizes its multi-dimensional nature and that recognizes the complex linkages between the different dimensions. This means that it is not so much new ways to measure it that are needed but rather an understanding that any single method applied is not enough to reveal the complete state of poverty conditions. This means that any study of poverty conditions demands research methodologies that incorporate both quantitative and qualitative anthropological and sociological techniques. Furthermore, the study of poverty conditions demands an open-mindedness which will allow interpretations of data that are closer to the reality that they seek to describe. It means that any method or combination of methods needs researchers or practitioners to apply common sense to understand the interconnections between the different dimensions.

### c. The Need to broaden the Dimensions of Analysis, Specifically within Urban Contexts

A broader view of poverty which includes a consideration of its economic, social, environmental and political dimensions has allowed the definition of concepts such as:

- perceptions of non-material deprivation and social differentiation;<sup>(12)</sup>
- disempowerment, delegitimization, marginalization and exploitation;<sup>(13)</sup>
- deprivation as interlinked factors including physical weakness, isola-

tion, vulnerability and powerlessness;<sup>(14)</sup> and

- marginalization (poverty of the city) and unequal integration (poverty of people) as applied by Geisse,<sup>(15)</sup> among many others.

The last two concepts are used below to analyze urban poverty in two case studies. It is worth noting that these concepts have not only expanded the meaning of poverty so it is recognized as a complex set of problems but have also introduced the analysis of poverty in the context of society as a whole, leaving behind its conceptualization as a marginalized and “self-contained” problem.<sup>(16)</sup> In essence, they have helped to develop an understanding of poverty that recognizes the relevance of the relationship between poor and non-poor populations, mainly in urban contexts where key aspects of poverty can be seen in specific material manifestations in intra-urban area analysis.

In Argentina, both poverty lines and social indices are applied with the constraints noted above. Nevertheless, there are other issues that need consideration with regard to their application in urban contexts:

- The generation and dissemination of statistical data is poor and expensive for users. A national census is held every ten years. A country-wide household survey, with a sample of 30,000 urban households, is held three times a year but only in the capital city of each province and in a few other intermediate-size cities. Accessing both these sources of data is difficult and expensive.<sup>(17)</sup>
- The kind of data generated is too aggregated to allow the analysis of sub-populations within cities;<sup>(18)</sup> addressing poverty requires more detailed and far more disaggregated data.
- Besides the lack of data which would allow accurate diagnoses, there are the particular problems within most middle- and small-sized cities in Argentina. These cities are undergoing a restructuring process as the municipal authorities seek ways to cope with the new duties they have been assigned but with no increase in resources – economic and political. Indeed, sometimes they have to do so with even fewer resources.<sup>(19)</sup> Municipal governments are facing critical problems since they have to deal with very low rates of tax collection and also new roles and responsibilities in areas such as health care, education and housing that have been added to their long-established role in infrastructure supply.

In this context, the lack of diagnostic tools causes a vicious circle because, while municipal governments need more information to allow a better allocation of their already reduced resources, the lack of data sources produced at national level generates the need for more investment in local information systems. Thus, there is an expansion in the duties or responsibilities of local governments but fewer resources available for this purpose. The inability to carry out accurate diagnoses also limits the chances of obtaining external resources (for instance, from international agencies or national funds).

As well as the wider understanding of poverty conditions as complex and multi-dimensional, and the intrinsic limitations in the methods for measuring poverty (both generally and, in particular, for the Argentinean case), there are other factors that reinforce the need for a redefinition of poverty:

- the rapid process of urbanization evident in most countries in Africa, Asia and Latin America, and especially evident in many intermediate cities;
- a renewed interest on the part of aid agencies and development banks in small and intermediate-size cities;

*hogares y de la población con necesidades básicas insatisfechas*, Estudios 24, INDEC, Buenos Aires; see reference 6, Novaro and Perelman (1993); INDEC/CEPA (1992), *Necesidades básicas insatisfechas. Evolución intercensal 1980-1991*, Documento de trabajo No 1, INDEC, Buenos Aires; Psacharopoulos, G, S Morley et al. (1996), *La Pobreza y la distribución de los ingresos en América Latina. Historia del decenio de 1980*, Temas de debate: investigaciones en curso, Documento técnico del Banco Mundial, Washington DC; UNDP (1996), *Informe sobre desarrollo humano 1996*, Ediciones Mundi-Prensa, Madrid; and Morris, M (1979), *Measuring the Condition of the World's Poor: The Physical Quality of Life Index*, Frank Cass, London.

9. See reference 6, Rakodi (1995); also reference 1, Satterthwaite (1999); and reference 8, Psacharopoulos (1996). The analysis of poverty and income distribution in Latin America in Psacharopoulos (1996) points out that “...although the specific poverty thresholds of each country are more appropriate for the analysis of one country, a regional analysis should balance the conditions of the poorest and richest states to determine the threshold. What can be an adequate threshold for a relatively rich country such as Argentina is inappropriate for assessing poverty in Guatemala. A regional threshold, to be uniform, should be focused on the actual poor, and give up the consideration of relative poverty” (page 59). The Basic Needs method of measurement is used in Argentina, developed on the basis of statistical information available from the National Census of Population, Households and Houses. The main aim of this index of basic needs is its application to the

whole national territory, which has very different cultural and natural conditions. In consequence, the index is very inclusive, with very low thresholds for each indicator and little capacity to identify where poverty is not extreme.

10. See reference 6, Chambers (1995) in Rakodi (1995), page 411.

11. See reference 2, Moser (1997).

- the increased importance of third-sector actors such as NGOs and community-based organizations at the local level;
- a growing perception of the worsening of environmental problems by the population affected, and the consequent organization of environmental groups at local level;
- growing evidence of a direct relationship between urban poverty and inadequate urban management (see Box 1).

The brief list in Box 1 highlights how poverty conditions are strongly related to the urban environment and thus to the quality of environmental management. These kinds of examples are reported from all over the world and prove that definitions of poverty should be broadened to incorporate issues concerned with the quality of the urban environment.<sup>(20)</sup>

### Box 1: Examples of links between urban poverty and inadequacies in urban management

- the poor consume fewer basic resources per capita because they lack services and appropriate information. They often can only afford to buy small quantities of food at a time, which means they generally pay higher prices per unit than if they could buy in bulk;
- the lack of basic infrastructure and services generates an ecological and sanitary situation that affects health negatively;
- large sections of the poor live where the availability of social services is low and the costs of transport (money and time) are higher. These people also have fewer chances of finding a job, in part because of the long distances to employment centres;
- the poor are concentrated in high-density areas characterized by overcrowding and sub-standard housing, or in unplanned settlements with illegal tenure, etc;
- eviction threatens the mechanisms by which the poor survive in cities because having secure housing is crucially important to the livelihoods of urban dwellers. Their homes are often bases for household enterprises and foundations for an entire network of social support;
- these settlements are exposed to greater natural hazards;
- in population terms, these settlements have a high susceptibility to morbidity and mortality caused by environmental factors, lower life expectancies, higher infant mortality rates and more premature births, among other things, that is to say, they suffer from a higher exposure to environmental hazards.

12. See reference 3, Wratten (1995).

13. See reference 1, Douglass (1992).

14. Chambers, R (1989), "Vulnerability: how the poor cope", *IDS Bulletin* Vol 20, No 2.

15. Geisse, Guillermo (1988), *Alternativas urbanas para enfrentar la crisis. Repensando la ciudad de América Latina*, GEL, Buenos Aires.

16. Graciarena, J (1982), "La estrategia de las necesidades básicas como alternativa. Sus posibilidades en el contexto latinoamericano in Franco, R (compiler), *Pobreza, necesidades básicas y*

To sum up, a more accurate understanding of urban poverty demands not only the generation of more and better diagnostic information but also a consideration of the synergetic interrelations between different aspects. As stated above, it requires more careful interpretations – mainly of the linkages – of what is measured. Related to this, a broader understanding of the many dimensions of urban poverty should also take into account a better understanding of the particular poverty profile of each city. Indeed, what emerges from these observations is that the main reason for the need to redefine the concept of poverty is to meet the challenges of environmental management at local level.

#### d. The Need to redefine the Concept of Poverty

If the aim is to gain a better understanding of poverty conditions, a redefinition of the concept of poverty is necessary. In light of what has been discussed already, this paper understands poverty as the situations of failure in the consumption of urban resources that cause the costs or burdens of urban life to be internalized in the lives and living conditions of some sub-populations. Therefore, this definition conceives urban poverty as a specific outcome of urban concentration that generates processes through which costs and benefits are distributed in a differen-

tiated way in cities.<sup>(21)</sup> These processes include those that determine which areas of the city are to be industrial locations, those that configure public transport systems and decision-making processes that prioritize key urban infrastructure, including where this should be located and which activities are to be stopped or encouraged.<sup>(22)</sup> Processes that are less diffuse and more clearly linked to poverty conditions include "...slum demolitions; eviction of the poor; destruction of older petty capitalist business neighbourhoods; conversion of rich agricultural lands to urban zones; loss of open spaces; and longer commuting distances for the hapless wage worker"; also "...residential occupation of marginal urban environments."<sup>(23)</sup>

Thus, poverty conditions can be identified through urban "scenarios" that are affected by such processes, within which the population lacks the capacity to move to better quality sectors or areas of the city. Within these urban scenarios, other sections of the population are also affected by the processes of impoverishment.<sup>(24)</sup> In response, they also seek to access these areas (due to, for instance, low prices, fewer controls on illegal land occupation, lower quality of environment and longer distances to the city centre). These scenarios, that generate and reproduce poverty conditions, have specific social, economic and environmental traits that create the spatial patterns of poverty conditions.

### III. APPLYING THE DEFINITION OF POVERTY TO POVERTY MEASUREMENT

#### a. The Social, Economic and Environmental Dimensions of Poverty

The strategy to be implemented will focus on the environmental dimension through which the economic and social dimensions can be analyzed. This is based on the following arguments:

- At a theoretical level, it makes sense to replace approaches to measuring poverty that focus on the economic and social dimensions which have manifestations in housing and living (or habitat) conditions, by a new approach that no longer considers housing and living (and other environmental) conditions as "context" but recognizes them as a key dimension of poverty. This is because urban environmental problems are not neutral but have political origins, conditions and ramifications that affect social and economic inequalities and the political processes.<sup>(25)</sup> At the same time, the unequal distribution of environmental costs and benefits reinforces or reduces these social and economic inequalities.
- The increased importance given to the environmental dimension here does not stress one set of problems over another, but interprets poverty as a cross-cutting issue with no clear divisions from the viewpoint of the poor.
- The local scenario confirms the relevance of this methodological strategy. On the one hand, historically, it is local government or local agencies that are responsible for addressing the environmental problems – what might be termed poverty of the city – and for addressing conditions of spatial marginality. On the other hand, the higher levels of decision-making have influenced people's poverty conditions – what Geisse<sup>(26)</sup> calls "unequal integration".

Recent studies have shown that poor households do give environ-

*desarrollo*, CEPAL/ILPES/UNICEF, Santiago de Chile.

17. INDEC is part of the National Ministry of Economy, and it is the office that carries out the censuses and sample surveys. It is the only one that receives the data demands from all over the country for these sources of information. Sometimes, it is possible to find some degree of disaggregation and some preliminary outputs of this information at the provincial offices of statistics.

18. It includes the Argentinean human development reports, and the specific reports for some provinces done every year since 1995 (UNDP website [www.undp.org.ar](http://www.undp.org.ar)).

19. Especially human resources, through a massive process of withdrawal of municipal staff in the earlier stages of the application of structural adjustment policies.

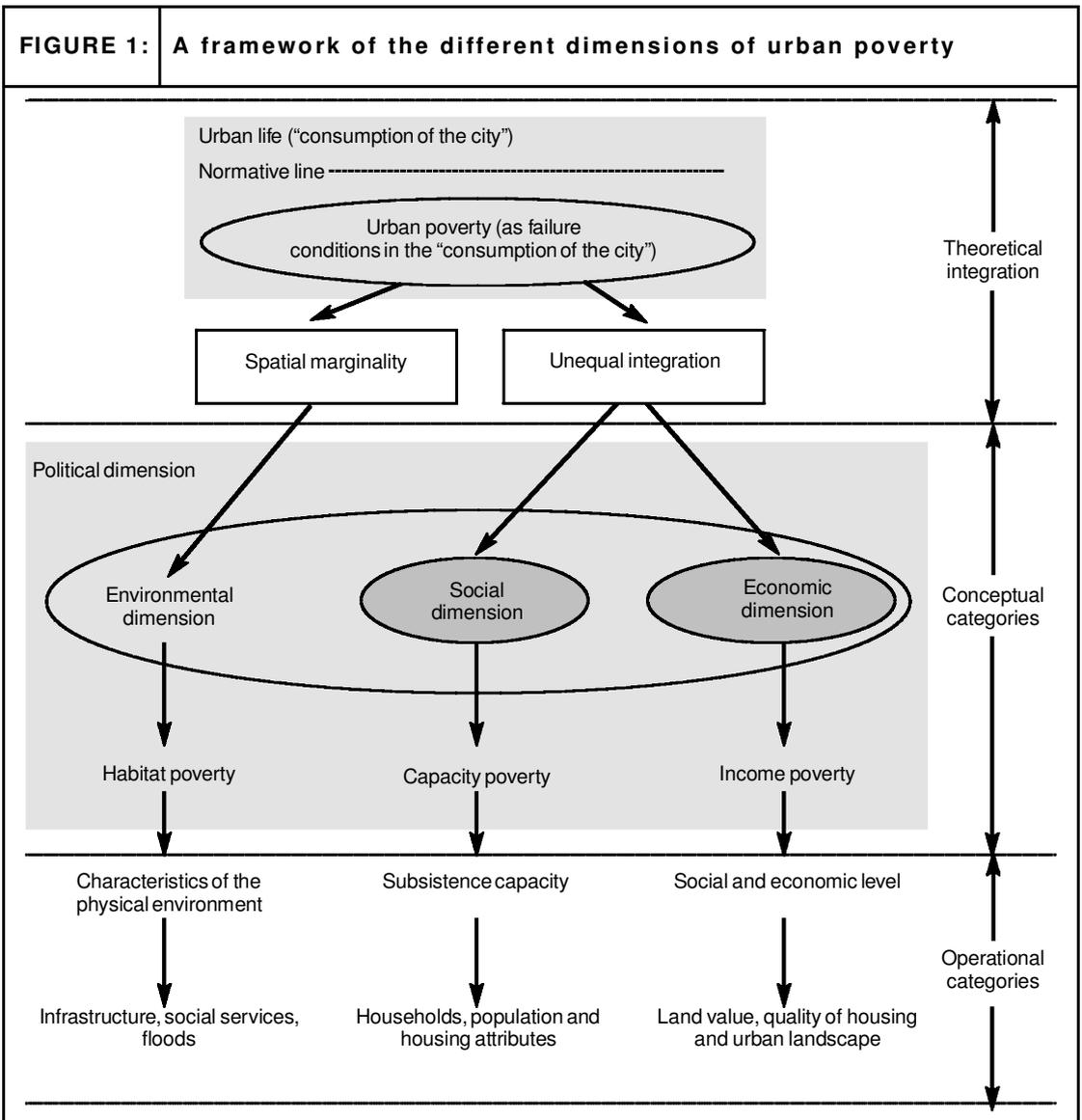
20. This list is based on different authors: Bradley, D, C Stephens, T Harpham and S Cairncross (1992), *A Review of Environmental Health Impacts in Developing Country Cities*, World Bank Urban Management Programme (PGU), Washington DC; also Vanderschueren, Franz, Emiel Wegelin and Kadmiel Wekwete (1996), *Opciones para políticas y programas de reducción de la pobreza urbana. Un marco para la acción a nivel municipal*, World Bank Urban Management Programme (PGU), Washington DC; Hardoy, J and D Satterthwaite (1991), "Medio ambiente y condiciones de vida en América Latina: su impacto sobre la salud" in *Medio Ambiente y Urbanización* No 36, Buenos Aires; Satterthwaite (1999), see reference 1; Moser, Caroline ON (1996), *Confronting Crisis. A Comparative Study of Household Responses to*

*Poverty and Vulnerability in Four Poor Urban Communities*, ESD Studies and Monographs No 8, The World Bank, Washington, DC; and Garrett, James and Marie Ruel (1999), cited in *Research Perspectives* Vol 22, No 1, IFPRI, Spring 2000.

21. Based on Geisse (1988), see reference 15 and Navarro, L (1999), "Sustentabilidad social: problemática ambiental y pobreza en Mar del Plata"

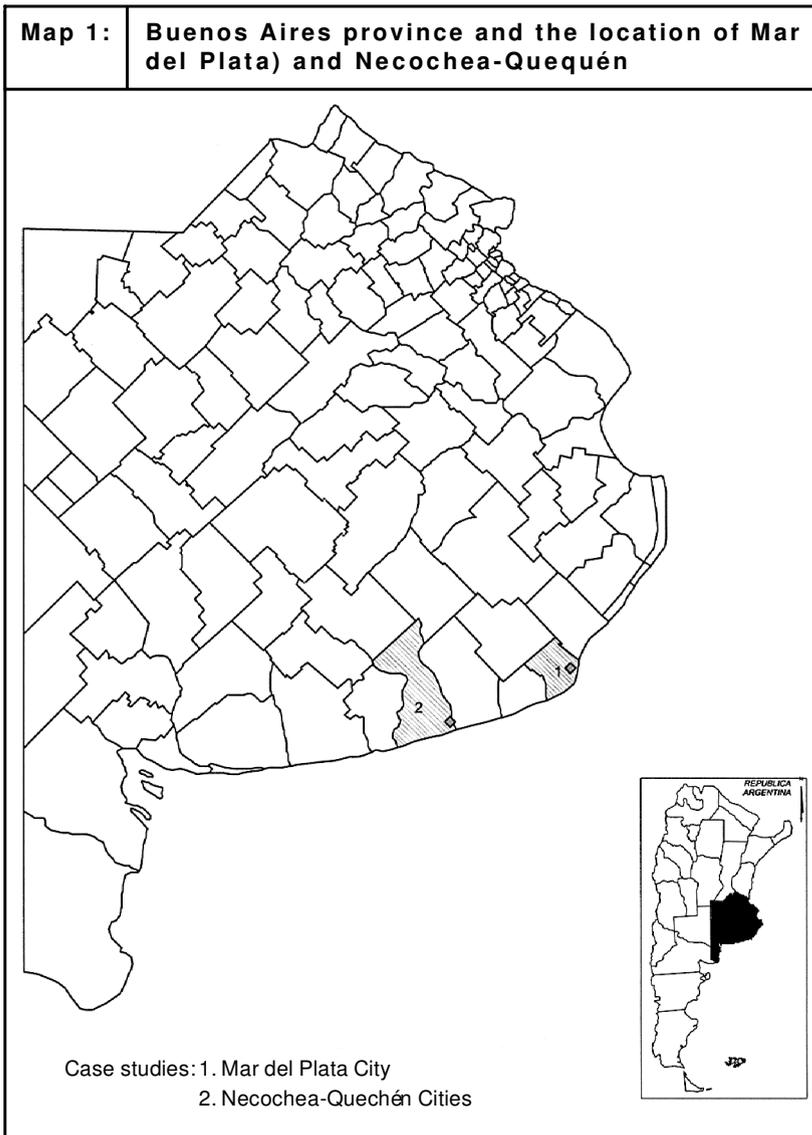
mental considerations a high priority; "...contrary to conventional wisdom that 'the poor are too busy being poor' to care about their habitat or environment, research in low-income communities in Asia consistently shows that substantial amounts of households' allocations of time, labour and resources are devoted to environmental considerations even among the very poor."<sup>(27)</sup> This is also confirmed in seven poverty reduction initiatives,<sup>(28)</sup> where poor groups themselves identified basic services and housing as their priorities. So, if income is not considered as the only core need, for whatever reason in each context, more importance should be given by local governments to helping address the other aspects of poverty.<sup>(29)</sup>

Following these arguments, a consideration of urban poverty will be structured as shown in Figure 1.



Based on the definition of poverty as the specific conditions of failure in the consumption of the city, the conditions of spatial marginality and unequal integration can be understood by the three dimensions of poverty (environmental, social and economic) all of which are influenced by the political dimension (see Figure 1). Because of the lack of information on many aspects, especially in smaller towns and cities, the social and economic dimensions can be assessed through the environmental dimension of poverty. In addition, the political dimensions can be appraised, in a participative way and building on the information developed. The particular indicators to be used (the operational categories in Figure 1) depend on the characteristics of the available data for each city.

This framework was applied to two urban assessments carried out in one intermediate and two small cities in Buenos Aires Province, Argentina in 1996 and 1997<sup>(30)</sup> (see Map 1).



in Fernandez, R et al. (1999), *Territorio, sociedad y desarrollo sustentable. Estudios de sustentabilidad ambiental urbana*, Espacio Editorial, Buenos Aires, pages 303-352.

22. See Navarro (1999), reference 21.

23. See Douglass (1998), reference 7, pages 118-119.

24. "Newly poor" and "borderline poor" for the World Bank, "newly poor" as one of the categories of "vulnerables" for Minujin, A (1992), *Los senderos que se bifurcan*, Documento de trabajo No 5, GADIS, Buenos Aires; also Minujin, A and G Kessler (1995), *La nueva pobreza en la Argentina*, Ensayos, Buenos Aires.

25. Bryant, R and S Bailey (1997), *Third World Political Ecology*, Routledge, London.

26. See reference 15.

27. See reference 7, Douglass (1998).

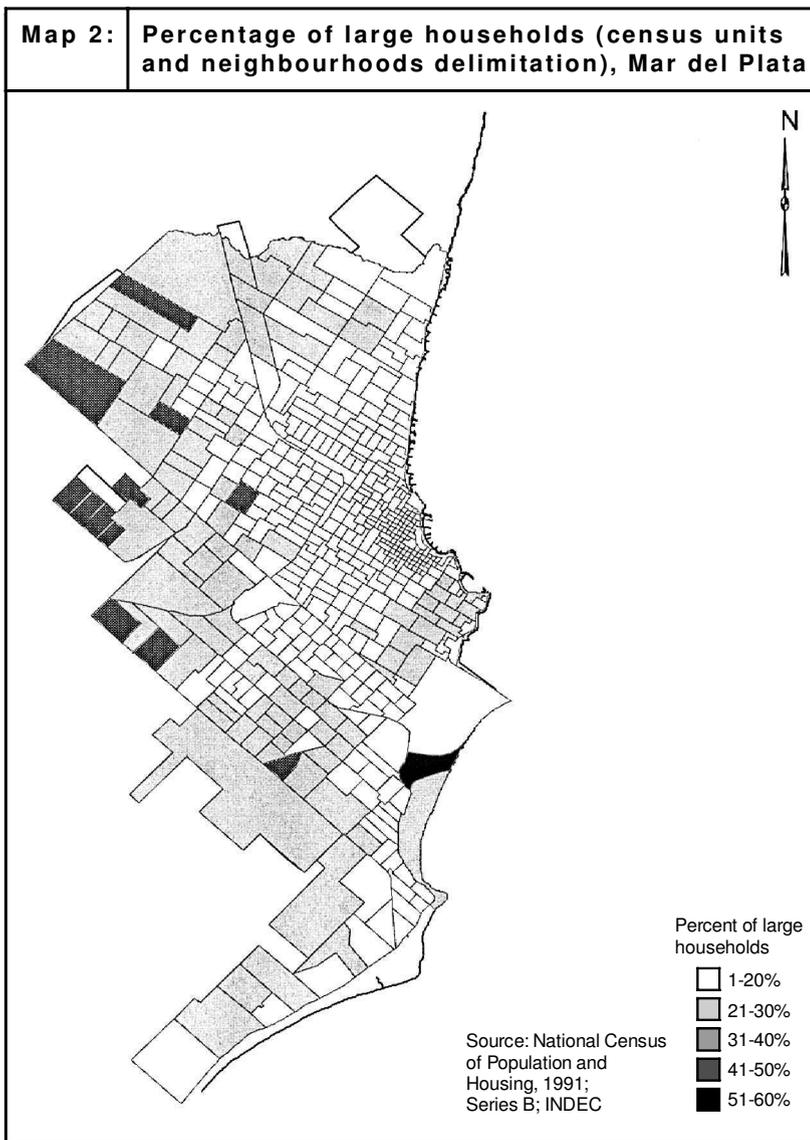
28. Anzorena, Jorge, Joel Bolnick, Somsook Boonyabanha and others (1998), "Reducing urban poverty; some lessons from experience" in *Environment and Urbanization* Vol 10, No 2, pages 167-186.

29. See reference 1, Satterthwaite (1999).

30. Both studies were carried out by the Environmental Research Center (CIAM) of the Faculty of Architecture, Urbanism and Design of the National University of Mar del Plata.

b. Case Study 1: The City of Mar del Plata

Mar del Plata (see Map 2) is the main city of General Pueyrredon district, with 533,000 inhabitants in 1991. The population grew by 22.6 per cent between 1980-1991, a relatively rapid growth rate but less than for the previous inter-census period (1970-1980). An analysis of the city's age structure and dependency ratios shows that the city's population is becoming older than the average for the province. The trend is towards the pattern evident in the Federal District of Buenos Aires, which has the oldest population in the country. Mar del Plata's production structure is dominated by the service sector, and its labour market is highly dynamic, linked to its role as a tourist centre at the national level. However, unemployment rates are very high.



SOURCE: Based on National Survey 1991 and Municipal data).

From consultations with key informants,<sup>(31)</sup> it emerged that the most critical environmental problems for the city are:

- inadequate supply of urban infrastructure services – mainly piped water, sewerage and piped gas;
- inadequate treatment of solid waste;
- sedimentation or accumulation of sand in coastal areas;\*
- inadequate provision of social services;
- low housing standards due to precarious housing and high levels of overcrowding;
- diseases associated with air pollution and other environmental problems;
- insufficient or altered underground water resources;
- marine erosion;\*
- inadequate management of environmental and cultural urban assets.

From this prioritized list of problems, only two (\*) are not linked directly or indirectly to poverty conditions in the city.

There were various constraints on sources of information. Although there was enough information, mainly due to the city's National University and its many research centres, this information was scattered in different offices and departments. When the study was carried out in Mar del Plata, little data could be obtained from the national census,<sup>(32)</sup> especially data processed and disaggregated at intra-urban level (i.e. available for each neighbourhood and thus of value to the local authority in identifying areas of deprivation). The municipality also had very valuable information in different offices and departments but there were many bureaucratic constraints on obtaining access to it. In general, it was relevant for the purposes of identifying and measuring poverty but it was fragmented between many offices, with no connection between them.

With regard to an adjustment of the index to the city scale, Mar del Plata's size "fits" within the grade of disaggregation that the national survey units allow. The synthesis achieved stands for an easy "reading" of the city as a unit and the spatial identification of the higher values of each indicator. For example, the presence of slums can be seen in higher levels of some indicators because the census units are delimited, taking into account this issue. If not, concentrations of certain high values for some indicators would have become obscured in larger census units.

### c. Case Study 2: The Cities of Necochea-Quequén

Originally, Quequén belonged to another district but was added to Necochea district in 1979. Although the two cities are separated by the Quequén river, they have had a close functional relationship throughout their development. This relationship is characterized by a kind of specialization – mainly industrial uses, storage, and grain and fertilizer processing in Quequén, and commercial, cultural and general services in Necochea. In 1991, there were 84,600 inhabitants in the district of Necochea, 69.4 per cent of whom were in Necochea City and 16.6 per cent in Quequén City. During the period 1980-1991, Necochea's population grew by 13.3 per cent while that of Quequén grew by 17 per cent. When looking at age structures and dependency ratios – this last indicator showed 58.5 per cent in Necochea and 61.6 per cent in Quequén – it can be seen that the trend of ageing population is more remarkable in Necochea.<sup>(33)</sup>

From consultations with key informants,<sup>(34)</sup> it emerged that the most

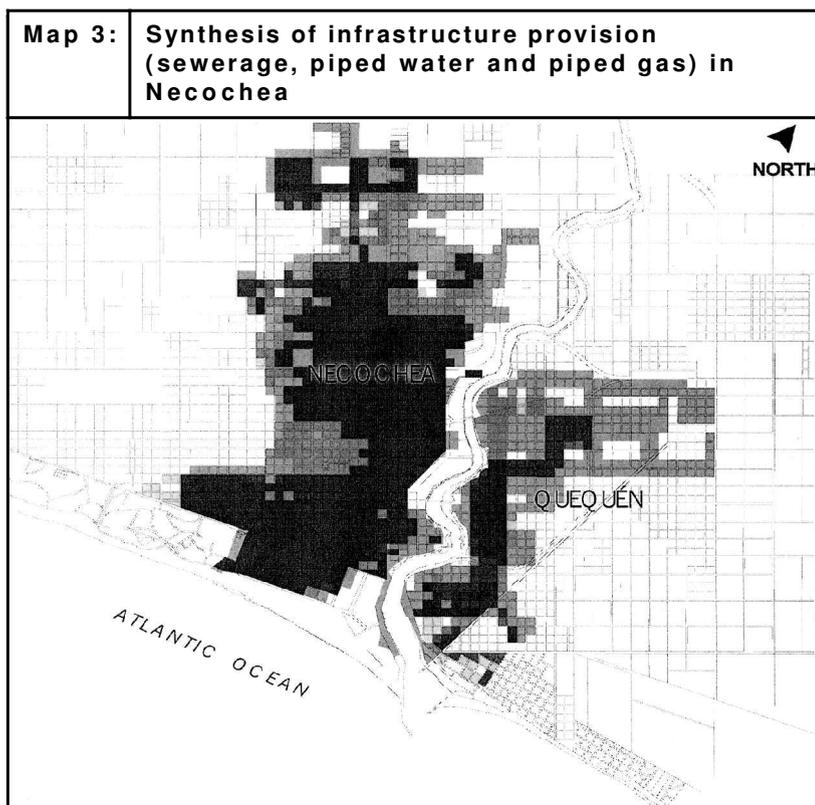
31. In Fernández, R, A Allen, M Sagua, L Navarro, M Burmester, A Olszewski, H Goyeneche and M Malvares (1999), *El observatorio ambiental. Estudios sobre información y problemática ambiental*, CIAM (Environmental Research Center, Faculty of Architecture, Urbanism and Design, National University of Mar del Plata), Mar del Plata.

32. Structural attributes of a population obviously have a slower dynamic than economic ones. This makes it valid to use the national census as a source of information although the research was carried out seven years after the census was carried out.

33. As noted in Moser, Caroline O N et al (1996), *Urban Poverty Research Sourcebook Module II: Indicators of Urban Poverty*, Working Paper No.5 UNDP/UNCHS (Habitat)/World Bank, Washington DC, "the poorest households are not necessarily the largest, but specifically those with a large number of young children, no wage earner or only a single wage earner, or only older members with no economically active children living at home. In many ways, the dependency burden is a more useful and sensitive poverty indicator than household size and fertility rate. It is, however, subject to the vagaries of the definition of the term "economically active" and needs to be evaluated alongside measures of unemployment and informal-sector income generation" (page 40). In both the urban cases analysed here, there were no household samples from which to calculate the dependency burden (or the dependency ratio, the ratio of working population to non-working population or "dependants"). As a sample, it also would not permit the disaggregation

of the data to intra-urban areas. Consequently, the Potential Dependency Ratio was calculated for both case studies as a proxy to the age structure. This is the ratio of children between 0-14 years old plus the population older than 64 years old to the population between 15-64 years old. In the case of Necochea-Quequén, this indicator shows that every person between 15-64 years old is "potentially" having to support about 5 other persons. In Quequén (part of the same agglomeration, just across the river) this ratio is 6 persons for each potentially working person. It should be noted that this indicator is used as a proxy for the age structure.

34. In Fernandez, F, A Allen, M Sagua, L Navarro et al. (1997), *Habitar Necochea-Quequen. Diagnóstico y propuestas para un desarrollo sustentable*, CIAM (Environmental Research Center, Faculty of Architecture, Urbanism and Design, National University of Mar del Plata) and ARRAIGO Programme, Mar del Plata.



critical environmental problems were prioritized as follows:

- inadequate management of environmental and cultural urban assets;
- sand sedimentation in the fluvial-maritime estuary;\*
- insufficient or altered underground water resources;
- loss or degradation of valuable natural areas;
- lack of urban functionality (in terms of a spatial structure of urban activities with inadequate inter-connections which brings problems in terms of poor accessibility and congested traffic flows);
- incompatible land uses (for instance with industrial activities conflicting with residential or tourist activities);
- inadequate treatment of solid waste.

As in Mar del Plata, it is obvious from this prioritized list that the majority of problems are linked either directly or indirectly to poverty conditions; only for those marked with an \* is there no obvious link. Regarding constraints on sources of information, when the study was carried out, there were some studies on specific natural or regional issues but these had never been integrated. Also, the social information was out of date. However, the municipal structure is less complex, with fewer offices and departments than Mar del Plata, as well as staff that have to take on more duties in each area. This encourages a natural integration of available information because every member of the municipal staff knows what the other offices, and even other institutions, have.

With regard to an adjustment of the index to the cities' scale, the size of the national survey units obscured the spatial manifestation of some indicators in very low-density areas, particularly in Quequén City. To adjust for this, it was very useful to have visual surveys of the quality of housing,

the urban landscape and land uses. It was possible to carry this out because there were relatively few areas under this condition. For instance, these visual surveys were able to identify the concentration of a high percentage of precarious houses in three blocks out of twenty. If these adjustments were not carried out, particular concentrations of poverty conditions would not have been identified.

#### d. Indicators that can be used to assess Poverty and Comments on the Methodological Constraints on their Application

As an example of the primary data, sources and indicators used, as well as the final information that could be generated, Table 1 shows the processing of information carried out for Mar del Plata and Necochea-Quequén. It lists the primary and secondary data that could be found and their sources, and indicates how these could be developed into thematic or primary maps – and then into synthesis maps, such as those showing access to infrastructure or social services. Map 3 is an example of a synthesis map – for access to infrastructure in Necochea.

To reflect on the data available in these two assessments:<sup>(35)</sup>

- Many indicators did not measure what might be termed the best or ideal indicator and so proxy indicators had to be used. For instance, “availability of public network of piped water” had to be used instead of “real access to the network” even though in these cities, connections to the network cannot be afforded by every household. Another example was the impossibility of disaggregating by urban area the most common diseases because social services do not register the neighbourhood in which each case occurs.
- There are constraints inherent to the information sources and to its utilization. For example, the statistical information can only be used in the spatial units used by the national census. Sometimes these units are too large to allow the needed identification of deprivation within the unit.
- There is a lack of data on individual or household income in both cities. There are two different ways to address this problem. The first is by making a visual review of the city using a methodology<sup>(36)</sup> for environmental diagnosis that assesses the quality of housing and of the urban landscape. The second is by assessing the level of income based on the structural relationship between land values and household income.<sup>(37)</sup>

In both case studies, it was useful to retain a certain level of disaggregation between the variables, so as not to obscure the particular information provided by each variable. Although developing the derived map categories listed in Table 1 (income poverty, capacity poverty and habitat poverty) is recommended to provide a holistic view of the scale and spatial distribution of poverty, the thematic and synthesis maps from which these are built are also very useful for everyday management.

#### IV. THE POLITICAL DIMENSIONS OF POVERTY<sup>(38)</sup>

THE CONSIDERATIONS ABOVE are strictly technical as they seek to explain a possible methodology for developing local poverty profiles. However, to apply this methodology in isolation neglects the underlying social forces which help explain why poverty exists and the form it takes.

35. General information about the potentials and constraints of maps of basic needs drawing on census data can be found in Kartzman, R (1996), “Virtudes y limitaciones de los mapas censales de carencias críticas” in *Revista de la CEPAL* No 58, Naciones Unidas, Santiago de Chile. A detailed analysis of the ideal indicators for each dimension and the proxy indicators available in each city, with their constraints and potentials is developed in Fernandez, R, L Navarro et al. (1996), *Habitar Mar del Plata*, CIAM (Environmental Research Center, Faculty of Architecture, Urbanism and Design, National University of Mar del Plata) and ARRAIGO Programme, Mar del Plata for Mar del Plata city. For Necochea-Quequén, see reference 31, Fernandez et al. (1997).

36. Used by Di Pace, et al (1994), “Diagnóstico ambiental del municipio de San Fernando”, *Medio Ambiente y Urbanización* No 47-48, IIED-AL, Buenos Aires.

37. Pérez, Pedro (1995), “Actores sociales y gestión de la ciudad”, *Ciudades*, October-December. This was also applicable because a re-evaluation of fiscal land values was recently undertaken by an interdisciplinary commission in both cities that sought to make a more accurate weighting of the different variables involved in land prices.

38. These concepts are developed in Navarro (1999), see reference 21.

| <b>Table 1: The different data sources used to identify and assess poverty in Mar del Plata and Necochea-Quequén</b> |  |   |   |                      |
|--|--|---|---|----------------------|
| <b>Primary or secondary sort of data</b>   | <b>Source</b>  | <b>Thematic or primary maps</b>                         | <b>Synthesis Maps</b>   | <b>Derived maps</b>  |
| (*) Visual search (quality of housing and urban landscape)   | To be elaborated or based on municipal searches (for instance, cartography of land uses in planning or urban development offices)                              | Housing quality and urban landscape                     |   | INCOME POVERTY (1)   |
| (*) Fiscal land values   | Provincial taxes or the processing of the same information by municipalities, generally to identify differentiated sectors with differentiated municipal taxes | Fiscal land value                                       |   |                      |
| National Census of Households, Population and Houses (NCHPH)   | National Institute of Statistics and Census (INDEC)  | Potential dependency ratio of infants                   |   | CAPACITY POVERTY (2) |
| NCHPH  | INDEC  | Per cent of extended households                         |   |                      |
| NCHPH  | INDEC  | Per cent of overcrowded households                      |   |                      |
| NCHPH  | INDEC  | Per cent of household heads with low educational level  |   |                      |
| NCHPH  | INDEC  | Per cent of large households                            |   |                      |
| NCHPH  | INDEC  | Per cent of households with irregular tenure situations |   |                      |
| Availability of piped water network  | Municipality or private service company  | Urban areas with water network                          | Integrated map of accessibility to infrastructure (1)         | HABITAT POVERTY (2)  |
| Availability of sewerage network   | Municipality or private service company  | Urban areas with sewerage network                       |   |                      |
| Availability of piped gas network  | Municipality or private service company  | Urban areas with gas network                            |   |                      |
| Routes of urban public transport   | Municipality or private service company  | Urban areas with public transport                       |   |                      |
| Addresses of public kindergartens  | Municipality or provincial education council   | Physical accessibility to public kindergartens          | Integrated map of accessibility to social public services (1) |                      |
| Addresses of public primary schools  | Municipality or provincial education council   | Physical accessibility to primary schools               |   |                      |
| Addresses of public nurseries  | Municipality   | Physical accessibility to public nurseries              |   |                      |
| Addresses of public health care services   | Municipality or regional sanitary unit (it includes several municipalities that share the more complex services such as hospitals with specific specialities)  | Physical accessibility to health care services          |   |                      |
| Areas usually affected by floods   | Municipality, civil guard  | Areas usually affected by floods                        | Critical conditions of natural and built environment (1)      |                      |
| Precarious settlements   | Municipality   | Precarious settlements                                  |   |                      |

(\*) These variables are not exclusive but one of them is enough

(1) Variables to be built through overlaying of different maps

(2) Variables to be built by weighted values and matrixes

■ Economic dimension

■ Social dimension

■ Environmental dimension

Developing the poverty profiles has been viewed as a tool for governance to encourage participative action at local level with the aim of supporting empowerment and achieving accountability and capacity-building processes. This means that its major potential lies not in the understanding of poverty that it produces for external viewers (researchers and government officials) which they keep to themselves (i.e. a knowledge of the scale and nature of poverty and its spatial characteristics), but as a means of developing a process open to the will and commitment of the social actors involved. Thus, its value lies in the fact that it helps to go beyond an understanding of poverty as an "object of study" to its being "a subject of transformation".<sup>(39)</sup>

Local poverty profiles can be combined with wider assessments of poverty (such as the ones made by INDEC in Argentina, for example), and supplemented by sectoral assessments realized at the local level (as in the many assessments of national social programmes applied locally, and in the work of different municipal departments).

The political dimension of poverty, from the environmental perspective applied here, can be understood from the notion of a "politicized environment"<sup>(40)</sup> that is explained as the consequence of the socially and spatially differentiated distribution of the costs and benefits of urban concentration. This dimension refers to the interaction of all actors over the city environment and other resources and, mainly, to the power relations that shape it; or, to put it in other words, to the abilities of certain social actors to control their and other actors' interactions with the environment.

The analysis of the politicized environment underlying the problems of poverty is important for two reasons. First, it leads to an understanding of what causes the "failure conditions in the consumption of the city" – for instance why people cannot obtain piped water, even though the pipes pass in front of their houses, or why women living in distant neighbourhoods cannot reach the health services in winter when their babies are at major risk of suffering acute respiratory infections. Or why, in some poor neighbourhoods, even though there are schools, the percentages of children that have to repeat grades or that are over-age is higher. The second is that it goes beyond definitions of poverty that focus only on "the poor" to definitions that are located within the context of the poor/non-poor relationships. Achieving an understanding of these power relations of the politicized environment requires participative interactions.<sup>(41)</sup> In this sense, the main purpose in selecting every indicator to be mapped is based on the willingness to use this tool in participative discussions.<sup>(42)</sup> To obtain a shared understanding of the indicators of the assessment, maps are a straightforward way of identifying intra-city differentials, even for those social actors not used to dealing with this kind of information.

## V. SOME FINAL COMMENTS

THE IMPLEMENTATION OF this index in these cities, although still being improved and explored, allows the identification of some potential areas of action not only to reduce poverty but also to encourage an environmental management that plans its resources in a strategic way. Specifically on poverty issues, this index allows for more than just the direct intervention in the programme units identified. For instance, it also allows indirect intervention such as the adjustment of administrative and norma-

39. Villarreal, Juan (1996), *La exclusión social*, Flacso/Grupo Editorial Norma, Buenos Aires.

40. See Bryant and Bailey (1997), reference 25.

41. It is not the purpose of this paper to either cite or discuss participation in detail. However, much good research and writing exists on this topic which takes into account the potentials and constraints of expanding participation to every stage of any planning process. See, for example, Moser, Caroline O N (1989), "Approaches to community participation in urban development: programmes in Third World cities", *Progress in Planning* Vol 32, Part 2; also Desai, V (1996), "Access to power and participation", *Third World Planning Review* Vol 18, No 2, pages 217-242; and Rydin, Y and M Pennington (2000), "Public participation and local environmental planning: the collective action problem and the potential of social capital", *Local Environment* Vol 5, No 2, pages 153-169

42. One way is to analyze the maps and to discuss the different problems related to poverty conditions in participatory workshops, adding during the process other levels of information that can come only from everyday experiences. The main aim is to trigger interaction between actors in a dialectic construction of the problem and their relationships. These participatory workshops can complement the "external view" of poverty that this methodology gives, adding information including the opinions, perceptions and beliefs of the different actors involved.

tive frameworks through re-zoning for municipal taxes in a way that relates housing and living conditions (habitat poverty) to populations' attributes. Thus, it allows the achievement of greater equity within the city.

In a more ambitious sense, the process of building and elaborating this index could be a catalyst for creating participative and interdisciplinary work that addresses the compartmentalized functioning of local governments. Getting cross-sector, cross-departmental and cross-agency links to achieve a more holistic view of poverty and other problems in middle-sized and small cities can move short-term solutions towards the practice of a more comprehensive urban environmental management. The potentials of the process outlined here are that it is:

- a relatively inexpensive instrument;
- easily developed and understood by all social actors;
- adjustable to the reality of each city;
- easily updated; and
- relatively simple, requiring simple techniques for its implementation, even more so if they can be implemented with the use of Geographic Information Systems technology.

In conclusion, this paper has examined the limitations in different methods of assessing poverty and has presented a redefinition of the concept and a possible methodology for assessing poverty conditions that lead towards better urban environmental management. These aspects should contribute to future research in order to tackle the following issues:

- Environmental problems in middle- and small-sized cities have not yet reached critical conditions in Argentina. The opportunities to reverse the trend still exist although these cities' increasing economic importance and the resultant competitive behaviour between them is threatening the narrow margin for change and for solving their socio-environmental issues.
- The national statistical system is very unequal because the accurate information needed by municipal authorities to make urban and environmental management easier for middle- and small-sized cities is very rarely available. This is a problem particularly at the local level and one that has been much increased as a result of the increasing responsibilities that local governments now face.
- In a more stable economic context, before the sharp increase in poverty indicators at national level took place, the linkages between poverty and environment were rarely included in urban management. Now, within the economic crisis, the analysis of these linkages has been completely abandoned. The result is that only short-term actions are being considered.

Finally, this paper has also sought to show the growing relevance of the political and environmental dimensions to a better understanding of poverty in urban contexts. Two aspects need to be stressed:

- The environmental dimension should not be considered just as a physical feature or symptom of poverty but also an intrinsic condition in the study of poverty.
- The weight given to the political dimension should be greater if the aim is to shift the understanding of poverty from an "object of study" to "a subject of transformation".