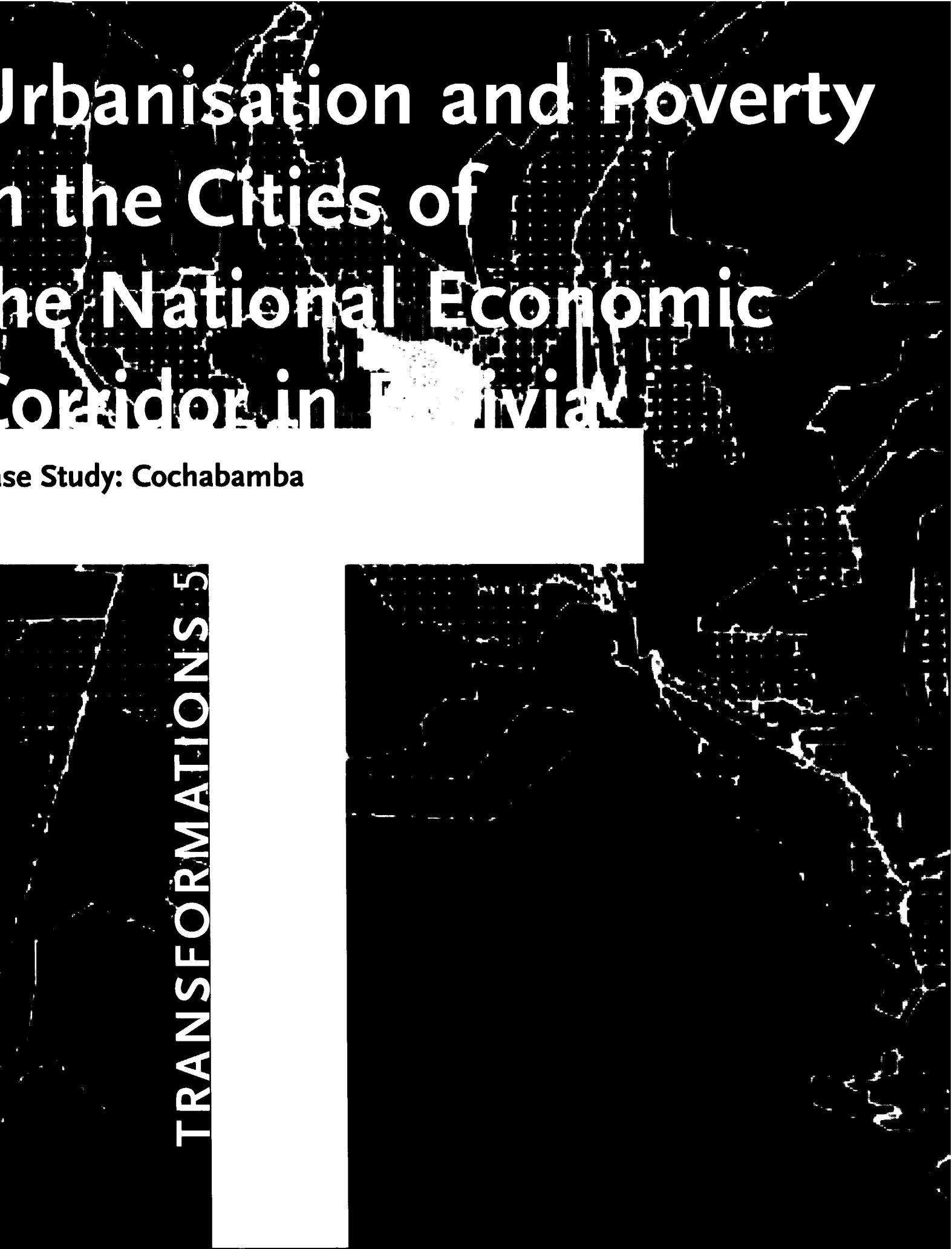
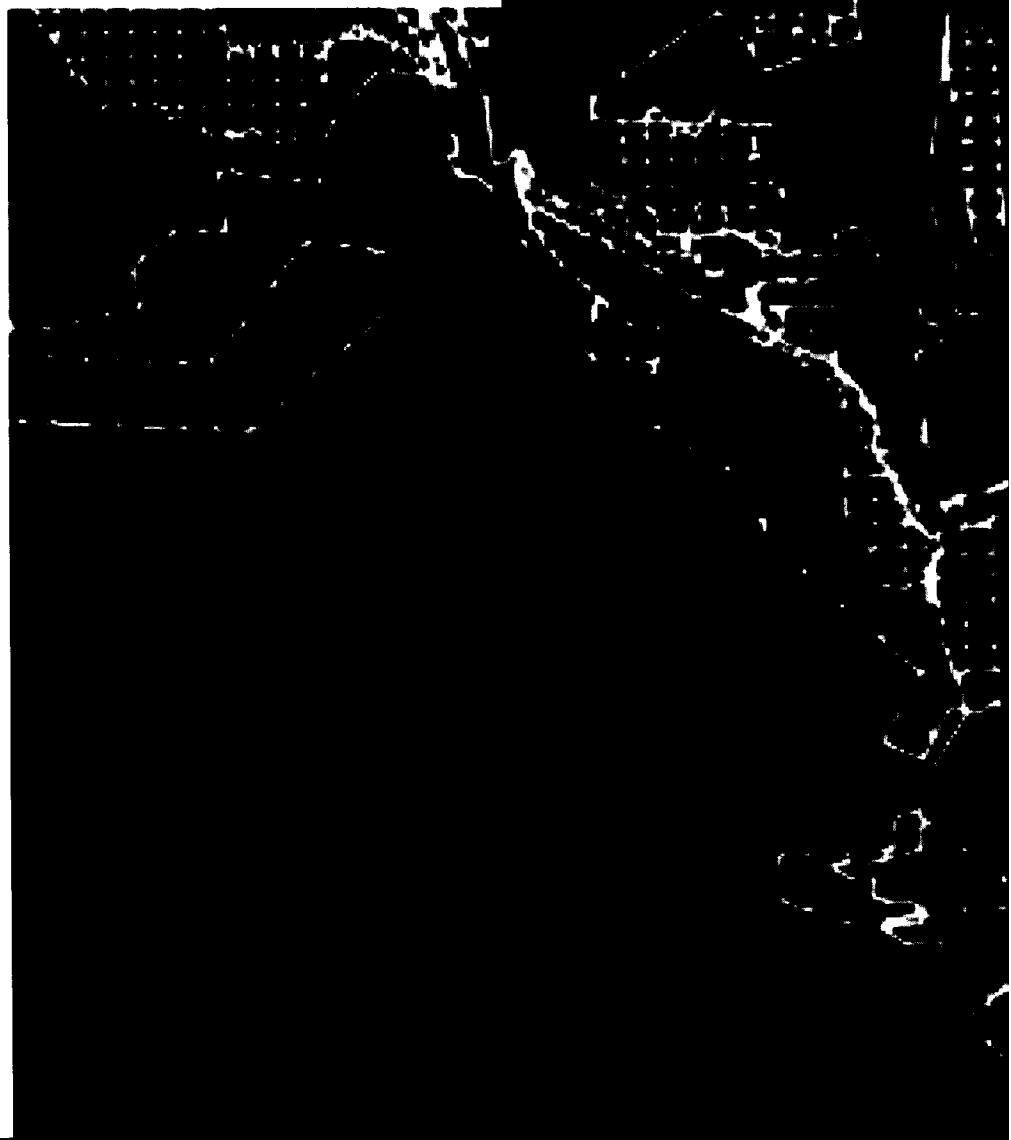


An aerial photograph of a city, likely Cochabamba, showing a dense grid of buildings and a prominent winding river that cuts through the urban landscape. The river flows from the upper right towards the lower left, creating a natural corridor through the city.

Urbanisation and Poverty in the Cities of the National Economic Corridor in Bolivia

Case Study: Cochabamba

TRANSFORMATIONS 5





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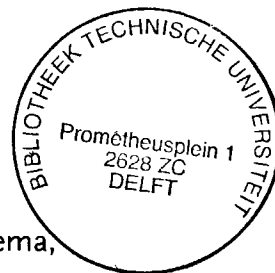
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Case Study: Cochabamba

Proefschrift

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voorzitter van het College voor Promoties,



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geboren te Cochabamba -Bolivia



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I dedicate this to my daughter, Carla Andrea

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1. Introduction

1.1 Theoretical, Conceptual Issues

1.1.1 Urban development, the city and the internal urban structure

The concept of space in this research work has a dynamic, qualitative and variable meaning. These attributes are understood in so far as one acknowledges a double sense in the concept of space. Firstly, one where it is a particular geographic area in which economic and social events unfold, with variable physical constraints. Then, in a second sense, in which it is part of a social process where territorial occupation and the traditions of social action refer to a complex set of historical determinants. Both meanings constitute a dialectical unit that has a life of its own, inasmuch as it is part of a concrete economic reality.

This definition of space, therefore, encompasses productive activities, social institutions and ideological streams. Thus, it is that various styles of organisation of work, technological practices, legal and political regulations and cultural values, amongst others, can structure a society. It is these that give rise to various guidelines for placing and interacting and which, in a nutshell, determine the specific forms of use and appropriation of space. Hence, it can be argued that socio-demographic expressions in the different ways that a population spreads out are not merely issues to be found in the territory alone, but follow determinations that are structural in nature. They are rooted in space and define patterns of inequality and segregation.

The flow of capital and other means of national and international enterprise exist in space and co-exist in the local space. This implies the existence of a 'duality' with opposing social, cultural and economic structures. Structural dualism is to be found in several sectors in the development of information and communication technologies, in the decline of industry, in the degradation and re-training of the work force and in the distinction between formal and informal work. All the preceding lead to a differentiation of the family models and of the uses of the urban space. These end up in a multiplicity of fragmented social universes with no clear borderlines or a truly reciprocal communication¹.

Individuals, their family groups or the multiple grouping

patterns that may adopt are part of a social whole in which they occupy dissimilar positions, at times even opposing positions in terms of interests and goals. Such differentiation is not a mere coincidence or random fruit; rather it responds to historical conditions that connote the combination of multiple factors. It is, in fact, because people belong to a body social that the individual behaviours give rise to economic, social and demographic patterns and are the cause for the heterogeneous capacities for organising space.

The urban development in Latin America is a process that has involved modifications in the economic, political, social and cultural structures of each particular economic and social formation². At the end of the 20th century one notices that the succession of transformations has negative consequences, among which one can mention vulnerability, the ever growing excluding nature of its economic base, fragmentation, social polarisation and the noticeable growth of poverty³. The multi-causality and multi-dimensional character of poverty⁴, adds the complexity of an analysis of urbanisation and poverty.

Bolivia has not escaped the common expressions of this process that in ecological demographic terms is the rapid growth of numerous urban centres and the concentration of goods and services in a few major cities. Bolivian society has become urbanised and has been affected by the interventions of the State because of both its global policies and its internal dynamics.

An expression of the urban concept is the city. This is the symbol of change, of innovation, of cultural diversity, of opportunities and of segregation⁵. It is the result of separating the economic, social, cultural and political world from the coming together of the physical, social and personal parameters. Hence, it is fundamental to understand the city's *functions and permutations* from a historical, structural perspective. In so far as the exercise of power calls for the existence and use of an administrative apparatus and armed forces, it becomes necessary to bring together, in the same place, civilians and the military, so that they may 'create' and organise the city. The city becomes the seat of power and this is in fact one of its reasons for existence.

Bolivian cities, one notices, still dominate the countryside through the use of the goods produced in the country for the reproduction of the urban population by the use of their agricultural produce, the main element in the family shopping basket. This leads to a mutual dependency: the city has to dominate the countryside and extract its surplus. The city is virtually dependent on the countryside for its subsistence; the countryside, on the other hand, depends on the city according to the degree of specialisation reached by the activities of the city.

And how does the city come about? When the geographical ties binding the population to natural resources break at a given moment in history then industry, trade, services and transport, amongst others, settle in the cities. These concentrate capital, markets, the institutions of the State and the infrastructure that provides the basic set-up for the production of goods and the reproduction of the labour force, namely: electricity, water, sanitation, education, etc. If one now considers a capitalist production system one notices that all the surplus value, the basic drive for the functioning of the system, is accrued in the urban centres. As a result, the capitalist system has sought the maximal urbanisation of the population. Therefore, it is valid to argue that the way the division of labour happens constitutes not only the determining factor in social, urban differentiation, but is also the indicator of the levels of development of capitalist production and its capacity to meet consumer needs.

Internalisation and globalisation are not new phenomena to Latin America since its cities were founded on the crossroads of the main commercial routes. Then they developed their power and obtained their resources thanks to the control they exercised over trade and on the activities in the surrounding area. The impact of the economic, political and demographic forces has always depended upon the development of communication technologies and transport. Yet, the emergence and proliferation of networks and cyberspace, an expression of the technological revolution, tends to disintegrate national control mechanisms and social cohesion for the citizens in countries like Bolivia, in Latin America, are losing control over their lives, their economies, their culture and their government⁶.

Present-day technology does not just reproduce images and sounds existing in nature but it produces, manipulates and broadcasts new visual and sound elements that portray a new kind of life in the city, it fosters an increase in migration flows – which give a new logic to the urban territory – as well as many other expressions such as the construction of stereotyped landscapes, with imported architectural designs. Hence, the loss of identity and symbolic contents of many Latin American cities.

In the current phase of the development of capitalism – the globalisation of the financial capital – one witnesses the rapid growth of the urbanisation of poverty, vulnerability, and ethnic and cultural pluralism in Latin American cities. Much of this is due to migration flows. What is global becomes local in socially segmented and spatially segregated way through human displacements provoked by the destruction of the old production patterns and the creation of new centres of activity. Territorial differentiation in the process of creation and destruction increases the unequal development among regions introducing a growing diversity within the urban social structure⁷, leading to the degradation or disappearance of the public places that were meant to bring citizens together. In this new city communication infrastructure does not create stronger centres, but rather fragments or fractures the territory and polarises human relations⁸.

The cognisance of society is not the result of good, short-term intentions, nor can it be created by decree. It is rather a society that learns throughout its history. But, the incredibly rapid growth and development of the Technologies of Information and Technology have meant that the process of social exclusion and urban fragmentation worsened because only a section of the population has access to them⁹.

The modern, urban society is characterised by heterogeneity in the economic, social and political make-up of its inhabitants. This diversity translates in turn into an internal, spatial differentiation of the city, since a city is not just a consumption unit, but also a composite of a great diversity of practices and functions which can be understood when one takes into account the various

stages of its configuration over time. Only then it is possible to identify – within it- specialised spaces. Thus, one can identify residential, industrial, commercial and other types of neighbourhoods. These, in turn, become households and groupings of households such as mothers' clubs, neighbourhood committees and associations of all types. So one can identify a multiple, internal differentiation of the city, none of which alone makes sense unless it is interpreted as part of the whole.

Just as the urban system is not equivalent to a mere collection of cities, so the city is not just a mere agglomeration of neighbourhoods. The greater or lesser relative importance of some urban centres depends upon its position in the context of the national society; the greater or lesser relative importance of some intra-urban spaces depends upon their place in the global environment of the city. As was said earlier, space is a material product that expresses the relationship of elements that are also material, among those that are inherent to social interactions are those that give it specific forms and functions. One can deduce from this that there is no theory of space that is not part of a general social theory, be it explicit or implicit. The urban space does not come about, therefore, by chance. To be precise, it is the social processes that create under given historic conditions the units that can be identified within the city.

In order to understand the intra-urban units it is necessary to establish their influence by acknowledging the concept of urban structure. This refers to the linkage between the key social elements within a city. These elements encompass production, exchange, management and its symbolism¹⁰. Each element, on account of the intervention of the various actors and the State, contributes to outlining the forms of specialisation and inter-action among the particular spaces configuring overlapping and oppositions that give each specific urban structure its own appearance. The use of this concept permits appreciation of how the social forms govern spatial organisation. It is in this sense that it is interesting to identify the 'two qualitative fields that are indissolubly linked to social reality'¹¹ and which have a direct bearing on the process of spatial construction. These two fields are the policies of the State regarding

city planning and the urban social movements. The intervention of the State, as an agent that represents a given power structure, on the various elements of social formation acquires a definite materialisation in the urban context. In fact, the political apparatus does not act only as a regulatory entity of the social movements, but it also provides a structural and permanent answer to the needs that are inherent to the enlarged reproduction of the dominating production system¹². Although the urban entity is a locus of a complex set of production and exchange activities, it is, in essence, the stage for the reproduction of the labour force and, therefore, its administration is oriented to ensuring the fulfilment of that function. Here lies the importance the urban policies have, implicitly or explicitly, in the involvement of, among many other elements, of the organisation of traffic flow, the provision of infrastructure and the territorial zoning – elements all of city planning.

The urban social movements involve a wide range of customary activities that result from the linkages of the system of social agents in such a way that their development leads to the structural transformation of the urban system¹³. It is from this point of view that one can understand how inequality among social groups leads to differentiation in the ways they use and appropriate the land. It is thus that the various groups gain urban space from different positions and place themselves in a contradictory situation where costs are shared, but the benefits deriving from the territorial convergence are privatised. To a certain extent, the way the city organises itself is not only a reflection of the social contradictions within it, but also a projection, in an enlarged fashion, of the said contradictions.

Both fields, city planning and urban social movements configure the characteristic identity of the city. Strictly speaking, the internal urban structure becomes part of the collective reproduction of the labour force to the extent that intra-urban spaces constitute spatial forms of social relations. Accordingly, it is not surprising that in the case of a social formation characterised by a scanty degree of development of the productive forces and on account of its dependent condition in the context of international relations, the urban forms keep a

significant part of its population in precarious forms of existence. Nor is it unexpected that the said forms express themselves in spatial linkages that are remarkably asymmetric and which somehow become consolidated through the intervention of the State and exist in patterns of spatial segregation. It is in this sense that the establishment of the internal urban structure ends up being affected by the process of differential appropriation of the net benefits of the interventions of the State. This implies cost effects on the habitat and impacts on the use of the material means for life.

Urban segregation can be understood as a trend towards organising space in zones of strong internal social homogeneity and marked social disparity between them. This segregation includes not only differentiation elements, but also inequalities in hierarchical terms¹⁴. Since a city is a historic inter-weaving of several social structures, it contains particular mixtures and combinations within the distribution of activities. And, since it is a social product, a city involves contradictions that become evident through the economic, political and ideological elements that determine the configuration of the internal spaces. It is these elements that signal the location of the roots of urban spatial segregation.

In fact, multi-cultural and ethnic pluralities are characteristic features of the Bolivian society, including the migrants. This cultural dynamism can give rise to new conflicts, which are at times violent. One is witness of the birth of a new economy of private security, of a new 'aesthetics of fear'. The level of delinquency in the urban milieu implies changes to the spatial arrangement of the cities and increases both social and geographical segregation. This is what has been happening since the eighties because of the economic recession. There is a new kind of segregation based on the concept of security. It has become an ever-more significant feature of the present-day city¹⁵.

It is fitting to dig deeper into certain issues that further inequality. The impersonal distribution of the net benefits derived from the interventions of the State – through urban policies – and the effect of this on the differential value of the land, have a bearing on the relative price structure/ rent of the land – and on the

changes in the patterns of location – which normally implies extending the urban sprawl. On the other hand, the distribution of houses in space reproduces social differential – according to the general rules for product distribution – and, therefore, promotes re-groupings in terms of the social capacity of the individuals. One can speak, therefore, of an urban stratification that reflects the system of social stratification.

In the city, the appropriation of space and the varying rents for land inter-twine to form a picture of segregation in consumption. Its physical indicators, the deterioration or shortcomings of services are the expression of these causal factors. The social distribution of urban space is embodied in the physical conditions in which peoples' lives unfold. Hence, the varying forms of appropriating urban space turn into inequalities within the residential settlement.

Segregation on account of housing means, in turn, spatial concentrations of political and economic power. It is because of this that areas where the better-off live tend to receive, in proportional terms, more net benefits accruing from the intervention of the State. Why? Because, the households here have much greater influence in decision making.

In the cities born as part of the Bolivian social formation, most of the so-called 'illegal housing settlements' and the growing difficulty in making the integratory mechanisms work have strengthened the incipient social and political organisation of the masses into a process of social mobilisation. They exhibit new styles of concrete action and fighting as a result of the 'urban crisis' that has fallen especially hard upon these sectors¹⁶.

Many studies of this issue tend to associate the process of 'urban marginality' with the rural exodus that has taken place nearly in all Latin American countries. Yet, empirical evidence would seem to indicate that this is not totally valid. An appropriate perception of the dimensions of the phenomenon can only be explained from within the social process in which it is immersed.

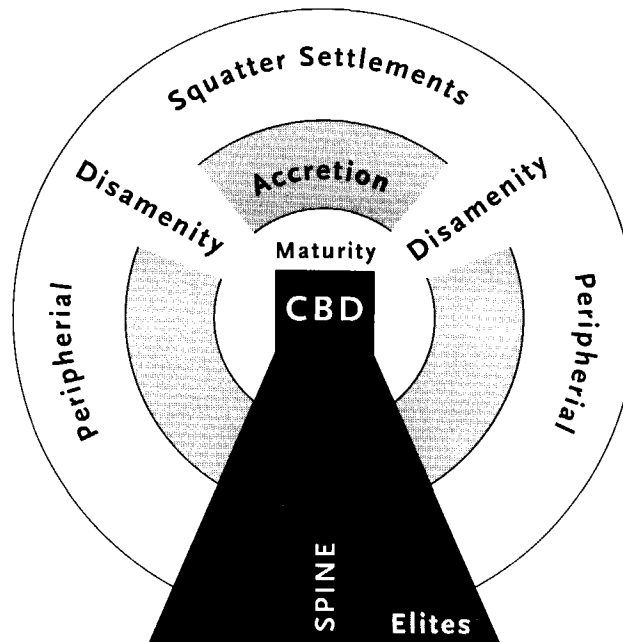
The main connotation of 'marginality' refers to how specific the occupational structure is in dependant

Figure 1.1
Model of Latin American Cities

CBD= Central Business District

After Larry Ford, 1996, A New and Improved Model of Latin American City Structure, *The Geographical Review*, pp. 437-440. San Diego, California.

Turkstra Jan, 1999 Urban Development and Geographical Information, Page 28, ITC, Enschede, The Netherlands.



societies. This must be so because of the unequal and combined development of today's capitalism and of the disintegration of the pre-existing production forms that have yet to be replaced.

In spite of the negative connotations or the statements one often finds in the journals regarding 'urban marginality', the groups so described have shown a capacity to organise themselves into supporting type relations and also to develop survival strategies that would probably never be possible in an environment other than that of the city. The housing settlements these 'marginal' groups have built in Latin American cities have contributed to characterise even more the internal structures of our cities.

Internal Urban Structure

An internal urban structure is a complex set of spatial forms that are part of the workings (or the changes) of the labour force collective reproduction units. The modes that this structure involves will depend upon the historic conditions inherent in the social formation to which a city belongs, as well as to the specific details which, within that context, adopted by the division of labour. That is why it is argued that the internal urban structure of a city is the spatial result of the linkages and of the adjustments in the ideological,

political and economic elements of a society.

In the process of internal structuring of the city forces of various types intervene. A significant force is the rôle the State plays – through urban policies – and urban social movements. As a result of these inter-actions, the urban centres exhibit segregation patterns in terms of use of space and in the modes of appropriation of the benefits resulting from concentration. On the other hand, and because of the operation of these forces, the social inequalities are reproduced on a scale corresponding to the intra-urban spaces. These social inequalities, together with other elements, configure the phenomenon of 'urban marginality'.

Although the forces just described are the 'intermediate variables' that are directly responsible for the internal dynamics of the city, one cannot fail to acknowledge that there is also a certain component of inertia that tends to make spatial forms rigid, making them 'hard' and lasting.

This component of stability derives from the gravitation of fixed social capital accumulated over the process of construction of the city and its persistence will depend, in the short term, on the characteristics assumed by the real estate market and the formation of urban rents. Therefore, the inertia alluded to imposes conditions upon the workings of the forces of change.

Without attempting to identify a sort of deal prototype, one can refer to some areas that are usually found in the Latin American cities. In most of them, especially in the largest and most important, one can identify a central nucleus that is clearly defined by the functions that happen in the place (Central Business District). These are connected to political and administrative, financial, commercial or other types of specialised activities. All are associated with demand and also with the provision of services. They all require frequent inter-personal interaction. This nuclear area tends also to be the oldest area in the city. There one sees perpetuated the foundational and symbolic elements that serve as references not only of testimonial type, but also of daily type. In one way or another, the decision makers, at the political, economic and ideological level, assign this nuclear area a preferential treatment, which is in any case useful for their own ends and their goal of strengthening their domination and control.

Beside, and as result of the historical aggregate of investments, the nuclear area tends to concentrate a high proportion of the infrastructure and services available to the city. In short, then, the city centre is a unit of spatial linkage of the city's whole that is identified because it is, precisely, central.

The city centre brings together simultaneously the effects of change and inertia. In the first stages of city development, the groups with higher incomes or power also live there¹⁷. Gradually, there is a change in the use of the land – commerce and services take over. Real estate becomes more expensive through a speculative process. The erstwhile residents with high incomes and power move out in search of attractions to be found elsewhere in the city.

The above does not imply that the residential function of the central nucleus ceases, but rather that it changes in content and nature, becoming heterogeneous. Next to the residences of the dominating sectors that still remain there, a take-over occurs. People with lower incomes come to live there, but as a result of an almost endless process of sub-division of residences often leading to overcrowding. They are people who move in there because they could not afford any other place in

town. Furthermore, they pay rent to be there. Of course it is convenient for them to be there. They benefit from being centrally located and save on transport costs. They also benefit from the infrastructure that is not available elsewhere in the city.

The process of growth and diversification of a city resulting from a greater division of labour leads to a relative depreciation of the city centre. Some of the central functions move out. If such a process of expansion and diversification happens as part of a wider process that reproduces social inequalities, then it is likely that the segregation trends end up by acquiring a kind of regulatory nature. The urban plan is zoned and a poly-centric structure is defined. In such circumstances it is not uncommon to find together with the worsening of the city centre, the creation of a pattern of location of activities that are directly associated with the modes of settlement of the various social groups.

This description corresponds only to that situation one observes happening under conditions of capitalist expansion. In fact, it is almost a stereotype. Each social and economic formation will, in fact, follow its own type of definition and re-definition of its city centre and its internal urban structure. Furthermore, each city will create its own linkages. There is not attempt, therefore to identify 'universal' ecological processes tending to a kind of 'natural' history of the structuring of the urban spaces. In any case the above might only apply to the larger cities in Latin America. In many cities that could be categorised as intermediate and lower, the city centres have maintained their structure and nature.

It will be possible to understand the growth lines of a city depending on the rôle a city plays in the national economy, on the nature and intensity of its inter-actions with its hinterland and of its links with the remaining elements in the urban system.

All these factors that coincide with the trend which the more global modes adopt and that regulate the social organisation of labour will operate as determining factors of the internal structuring of the urban spaces and the demographic dynamic associated with them. Again, the internal urban structure expresses the effects of social

and technical division of labour encompassing multiple inequalities. These are evident in the various uses of land and in the unequal patterns of location of the various social strata. Thus, around the centre of a city there will be production units, commercial intermediation units and, above all, city housing. All making up distinctive areas in the process of reproduction of the labour force.

Together with the sharing of costs that results from the functioning of the urban set-up, where various activities are to be found together with the people who carry them out, the city plays out an unequal distribution of the benefits which this agglomeration generates. Both dimensions acquire a bodily representation in the models of intra-urban spaces and also affect the behaviour of the components of the development dynamics – economic, political, social and cultural.

If one admits that, in general terms, the various social groups bestow differing contents to the internal space of the city, so must one also admit that the demographic behaviour of those groups will contribute to widening the heterogeneity of the internal urban structure. The intervention of the State, through the provision of infrastructure and residential units and also through the application of regulations will contribute to raising or lowering inequality regarding the material living conditions of the various social groups. The latter, in turn, organised into linked interest groups will exert pressure upon the political bodies to obtain the kind of intervention that is favourable to them whilst doing something about the shortcomings and constraints within their own area.

It is, therefore, unquestionable that social inequalities become evident in the city¹⁸. The various inhabited spaces show amongst other multiple aspects of reality differing development parameters. This diversity is stressed through the modes the spatial mobility of the population displays – immigration. It is not strange to verify that young families are more common in some areas and older families in others. In any case migration to and from the city tends to affect the patterns of distribution of the population and its characteristics. The interventions of the State, through selective policies and the demands of social movements do not happen in vacuum, but in the built up spaces where agents capture

the urban surplus value resulting from agglomeration. Such conditions tend to expansions of the city limits in such a way that the differences (or inequalities) between the groups in the city become deeper¹⁹. All these elements have a bearing, then, on the heterogeneity of the dynamics of urban development.

The features the economic, social and political structures possess as well as the cultural elements determine the type of living conditions for individuals. In other words, the ways individuals relate to the means of production constitute a key element in enabling them, or disabling them from access certain goods and services. The intervention of the State, through the various levels of political intervention, might or might not contribute to ensuring such accessibility.

To attempt an interpretation of the causes of exclusion from a social perspective implies finding the risk factors that are present in a given context so that any determination here often precede, give rise to, (or become) determinants in an unsustainable development.

This summary must serve as a reference that explains how the intra-urban space is organised and to identify specific units in the patterns of poverty and vulnerability with the parameters of a given city. To the extent that this becomes part of a particular social formation, it will display differing patterns inherent to the groups that make it up, while possessing certain specificities. Just as the internal urban structure involves varying spaces associated with the guidelines for the localisation of social groups, it also contains varying degrees of exposure to the risks of social exclusion of the homes that constitute those units. While it is true that these spaces reproduce a more global situation of social inequality, the capture of the benefits of concentration, thanks to the interventions of the State and of social movements may involve material living conditions that tend to soften or accentuate the risks of exclusion.

1.1.2 Theoretical approaches on the migratory phenomenon

a. The approach of modernisation²⁰

One of the major exponents, the Argentinean sociologist, Gino Germani, emphasised the search for

micro- and macro- social issues in his analysis of the Latin American process of urbanisation. He regarded the individual as the unit of analysis in terms of the psycho-social and motivational variables that are implicit in the transit between two ideal types of societies and a flow from the traditional to the modern, or secular, society²¹.

Germani proposes four stages in the process of change in a society. It starts with the traditional society in its pure state: that is, one that has not been influenced by industrial societies. Then, a second, where the traditional society disintegrates by contacting the modern societies. The third is the setting up of dual societies – or co-existence of the modern and traditional sectors and, the fourth and last is the social mobilisation of the masses. The theory of migrations lies here.

The last stage sub-divides into six. These go from integration into the traditional structure, the process of rupture of disintegration (the decision to emigrate), the displacement of individuals, groups or social sectors, their making themselves available, the mobilisation itself and, finally, the integration into a new structure.

Thus, the first step in the migratory process is the individual's decision to migrate. This implies the actual moving of individuals from the traditional sector or society – usually rural areas – into the modern sector or society – urban areas. This is, then, the process of modernisation that leads to the acculturation of the urban society where the migratory flows go.

This approach has failed to provide an account of the Latin American process of urbanisation because it is not historical. Empirical evidence refutes Germani's view of the city as a modern polarity and the rural man as having his personality disorganised by moving into the city. Space is organised in a new way today. It features new social processes and novel country-city relations. Both the country and the city bear the stamp of new structures as well as new linkages.

b. The historical, structural approach²²

The 'Structural Historical Approach' promoted a series of theoretical proposals tending to give an answer to the

problem of Latin American development and of internal migrations, emphasising factors of structural historical character in their explanation. In this context internal migrations are always historically conditioned', being the result of a single, global process of structural changes whose origin is initially economic, although this does not mean that the causes are to be found exclusively in this field.²³

One can consider that internal migrations are the answer to the changes operated in the productive structure and that they work as the main mechanism for the spatial re-location of the population and, in turn, as the spatial re-organisation of the economic activities in the urban areas.²⁴ These are explained by the deep disparities and regional inequalities that lead to the spatial re-distribution of the population.

Expulsion factors are those which define the areas that originate the migratory flows but the factors of attraction are those that determine the orientation of these flows (the destination of the temporary or definitive migration), that is to say, the areas to which there is movement. The demand for the work force must be understood not only as being generated by the industrial companies, but also as a result of the expansion of the services of the technologies of information and communication under the control of the capitalist companies, and of those government institutions, public companies and autonomous individuals.

Migration is a social process whose units are 'the groups' that participate in the movements. It is they that give a collective and social character to the migratory currents. Under this paradigm, it does not make sense to investigate the migratory movements of isolated individuals between two fixed points in a given moment because a migratory current does not happen isolated in space and in time. Rather, it is but a part of a group of movements whose causes, social composition and consequences change according to the degree and nature of the development of a region or country and according to its prevalent structure.

When one wants to investigate social processes, it is necessary to distinguish between the reasons (the

individual's) for migration and the causes (structural) of the migration. Hence, the first determination as to who goes and who stays is a social determination, that is, it pertains to a class. Given certain circumstances, a social class is put into movement conditions that determine members of that class will migrate and which stay behind.²⁵

When a social group starts moving, it creates a migratory flow that can be of long or short duration and that describes an itinerary that can include several points of origin and of destination. Hence, we can perceive movements not only between the classic rural – urban dichotomy, but also in a complex set of areas and spaces that go beyond national and international environments. It is, therefore, important to define the moment and the place where the facts happen. The migratory process can include several points of origin and of destination that assume different significance in this approach. In consequence the origin of a migratory flow is the socio-economic transformations that caused one or several social groups to migrate. A destination point is harder to identify and cannot be defined *a priori*. For certain flows a given point can mean the final point of their trajectory while for others it could simply represent an intermediate point.

Since migration is a social fact – immigrants come from the proletariat or from the peasantry, but also from the dominant classes of the bourgeoisie. Migration does not cause any social group to lose its class condition. Immigrants may arrive at their destination without financial resources, yet the mechanisms of class solidarity often allow them to occupy a position within the social structure. Thus, immigrants of hierarchically inferior classes may well continue at that level. It is an exaggeration to think that migration is an important means of social advancement.²⁶ It should also be borne in mind that migration is a selective process that involves the movement of those highly qualified. Thus, it is important to better outline the profile of migratory flows and so avoid simplistic appreciations that associate migration to economic marginality.²⁷

In synthesis the theoretical proposal of the Structural Historical Approach demands the establishment of

high-priority area for investigation on internal migrations. This will facilitate a contextual reading on the structural processes and their relationship with population movements. This analytic perspective has been chosen in this investigation because in the Bolivian case, in general, and in Cochabamba, in particular, migration constitutes the only answer the population has found to meet their multi-variate range of dissatisfactions, resulting from the interventions of the central power.

It is in this sense that the study of the migratory movements becomes meaningful as part of a global structure, constituted in its turn by two sub-processes: displacement and insertion in the new environment. Starting from this premise then, it is possible to avoid partial explanations that tend to mechanistic versions of the process and at the same time take the necessary steps to articulate these processes with the structural historical context of the changes at a macro level. This will allow the interpretation of the conditions and the possible explanatory factors of a phenomenon of great scope currently in an understanding of the acceleration of the urbanisation process.

It is important to look for the causal explanations of the spatial mobility of the population. This would first imply processes of creation of databases able to incorporate the structural historical elements in the explanation of these problems. In this context it is imperative to further explore the impact on migration of the structural reforms for, these have not only produced transformations in the productive structure, but have also increased the number of people engaged in the occupations of the informal sector.

It is also important to carry out investigations that go beyond those simplistic approaches that associate conditions of poverty to migration processes. It has been shown, that migration is a social fact consequently, various class sectors migrate, and also demonstrated that migration originates not only in rural spaces, but also from a variety of sources that require identification. With these results typologies can be built that allow us to understand the peculiar characteristics of the migratory process for each concrete social economic formation.

1.1.3 Theoretical approaches to development

Development is a process that results from social effort. That effort is sometimes channelled through public institutions, sometimes through companies and other private entities, and sometimes through the social organisations that mobilise the collective energy. It is necessary to evaluate this effort.

But, for this to happen, certain techniques must be defined. One cannot be totally detached from the definition of priorities, objectives and conceptions of the world. This in turn sends one to political and ideological definitions. In that sense, it is not possible to ignore that the indicators used to evaluate development condense and synthesise theories and that they represent different ways of seeing the world. This is particularly important since many use the same words to refer to different theoretical and ideological contents. From a purely economic point of view, development is merely a synonym for economic growth. The market lies at the centre benefiting from all the interpretations and the benefit of scientific and technical progress, particularly in the reduction of the barriers of transport for the movement of goods, services, money, people and information.

Here, economic performance is measured in terms of the rates of growth of the GNP. Well-being is determined by levels of consumption and people are better off the more rapidly they increase their consumption.

The biggest criticism of this line of thought is its strong economic bias since it leads to serious distortions in policy design which are more concerned with the economic and monetary sectors, financial balances or the rates of exchange reducing their social intervention to merely assistance measures that do not deal from inside with the structural causes of the poverty, social exclusion and polarisation.

There have been several attempts at constructing a paradigm that defines development from a structural, integral and historical perspective that should be coordinated by an appropriate political intervention. Several groups of intellectuals and environmentalists, criticising the destructive character of production and

consumption-centred development, have suggested inclusion in the debate on the issue of sustainability and have proposed exploring the routes that make sustainable development possible.

The environmentalist discourse has even penetrated every corner of the world, The Earth Summit – Rio de Janeiro, 1992) includes in its Agenda 21 the definition of sustainable development. It has been defined as the satisfaction of the necessities of the present without committing the capacity of the future generations to satisfy their own necessities. However, many questions are still unanswered, especially the question as to what should be sustained.

It is certainly unquestionable that sustainability is a fundamental characteristic of development, but it has overtaken the merely environmental dimension since development should also contemplate economic and social efficiency. In other words, it requires sustainable development in terms of justice and inter-generational environmental equity and then to go on to conceive sustainability as a pattern for organising society in such a way that cohesion and survival of the social system is ensured.

Development is a dynamic, complex and multi-dimensional phenomenon. A purely economic concept is not acceptable nor is it one that promotes social progress at the expense of economic advances. In this sense, the only valid recommendation is to accept integrated economic, social, and cultural development policies that seek to promote 'virtuous' dynamics where the mutual influence of the various factors generates societies with higher incomes and more complete and fulfilled human capacities.²⁸ It is, therefore, necessary to fully define the processes of development not on account of the accessory characteristics or their nucleus of dynamism, but because of their end and objective.

Globalisation, as a process of inter-penetration among economies, cultures and diverse political systems, has a long history, save that it never had the speed which it now has, when all the frontiers seem to vanish. Humanism was born in the first moments when this process became perceptible. It was a statement of the

existence of values of universal reach. The theories of development accompanied this process in their own fashion, but instead of taking into account the importance of inter-penetrating, they only analysed the process in terms of expansion. That is to say that the conventional theories of development supposed that universalisation and westernisation are synonyms.

The concept of human development is an answer to this challenge.²⁹ Development must be measured in terms of a widening of human capacities, so that a growing number of individuals, as many as possible, if not all, have the opportunity to best carry out what profits them and their community. Development can only be defined as long as it is centred on human beings, their necessities and expectations and in their limitations and potentialities.

The debate on human development seeks to reverse this misunderstanding and, recognising the force of the trends towards globalisation, claims the need to value human life for itself. Hence, the concern for equality and the significance of analysing the ways in which opportunities happen and are distributed.

Inter-generational equality demands that human development be sustainable and intra-generational and fairness requires social justice. While universal ethics demand not only the globalisation of the market, but also that of some essential values, the notion of human security stimulates the recognition of the particularities of human life and the multiple forms in that they combine freedom, usable resources and the capacity to make decision and to assume options.

It is in those multiple combinations where one sees peoples' perceptions about their present and future and the importance they assign to the diverse dimensions of social life: economic, environmental, personal and political, among others.

Consequently, sustainable human development can be understood as an analytic perspective that allows study and understanding in an integral way the achievements and problems of a society. It is an option that proposes well-being through the widening of peoples' capacities

and opportunities. It requires an economy that can grow without jeopardising the opportunities of future generations, and, therefore, without draining natural resources and the environment, but, at the same time, with the capacity to translate economic achievements into social and individual well being and quantity into quality of life.

The strategy of human development has to be able to take into account the issues described, to establish high-priority action lines, to orient the design of policies and specific projects, as well as to detect existing potentialities since they are resources already available for development, becoming the platform whose strength will facilitate overcoming several problems simultaneously.

The paradigm of human development has strong consequences for the very concept of local development. It is defined as an integral or holistic concept that does not organise the diverse and inseparable dimensions of democratic, economic, social, environmental and cultural development into a hierarchy, but locates them all to work for the expansion of human capacities and freedoms, trying to break the false independence on what is economic from what is social.

In contrast, the neo-liberal concept of local development continues to be mainly economic, subordinating social, democratic and environmental issues to its achievement. In practical terms it seeks to set up a local government that is effective and efficient at providing services and a city that knows how to exploit its comparative advantages to attract investment. Prominence is given to the local private sector. Politics plays an accompaniment rôle in the process of inserting the city into globalisation while community action and NGO's seek to mitigate the most serious social consequences of the process.

Development is not an issue that can be detached from power, in particular, from the power of deciding on public issues. Here, one can see the option between delegating to an illuminated technocracy or to democratic strategic planning.

In a participatory administration, society understands

that it cannot solve all the problems simultaneously and so becomes co-responsible in designing a long-term strategy that includes comprehensive development as a whole. It implies constructing social nets capable of solving problems, of participation and self-representation in the public domain. All this demands much more than the welfare or tit-for-tat political models³⁰.

Local Human Development should acknowledge and respect the multi-ethnic and pluri-cultural nature of cities and so help them to develop their own identity as a component of humanity's universal rights. Faced with the risk of concentrating ethnic minorities in segregated urban spaces, with the deterioration of housing and urban services, low levels of employment, lack of professional opportunities and crime rate, it is necessary to create policies founded in the consideration of pluri-culturality and multi-ethnicity as sources of economic and cultural wealth for urban societies³¹.

It is necessary to discard the idea that local development is achieved if you are successful in attracting global capital. The only sustainable development at local level is one that flows from the bottom up -in real democratic and participatory terms. This is not easy in a world of extreme necessity and of continuous emergency. Therefore, agreement must be sought to build up human and sustainable development that involves the reduction of poverty, vulnerability and the improvement in the quality of life. For that reason development from inside, from the bottom-up, is an important key that should guide local politicians³².

The sustainable city should be conceived as a process rather than as an end; it picks up a great diversity of ideas and practical experiences on how to deal with questions on sustainable urban organisation. This should aim at attending to the social and economic necessities of the inhabitants, conserving the local, regional and national environment.

For this purpose the creation of support structures that allow cities to study innovative approaches that are appropriate to their local circumstances and to take advantage of local democratic customs is proposed. The success of the process will depend, not only on the agents – the urban administrators (technicians, politicians and professionals), but also on the active

participation of the local communities and of the creation of means to achieve consensus between the private sector and NGO's.

The challenge facing urban sustainability is how to solve the problems that arise inside the cities as well as the problems caused by these, keeping in mind that the cities themselves offer many potential solutions. In particular, it is necessary to find complex political instruments with multiple objectives since the solution of problems demands a combination of instruments and each one of them should be good to solve more than a problem³³.

Today, the Latin American City demands a new urban social pact to construct the structured territory of the city, to re-distribute revenues, to facilitate mobility and generalised accessibility. City planning can be tremendously effective in reducing exclusion, and yet modern city planning tends many times, consciously or unconsciously, to do the opposite through policies that exalt competitiveness, that facilitate changing city centres into thematic, consumer-centred spaces, that permit (instead of penalising) self-isolation (closed neighbourhoods, managerial parks, etc.), that prioritise the private car over quality public transport. Public policies must seek to eliminate poverty in the long-term through multiple actions, but there are people that will support them and fight to achieve them. To eliminate exclusion concerns not only public policies in terms of city planning, among others, but also facilitating the appearance of citizens who can exercise their rights in the city, who can fight for their total insertion in urban life³⁴.

Comprehensive economic, political, cultural and social development implies discovering and activating all the productive potential that cities have. Now, the most important potential or strength a city has is its own population and organisations. These two, as well as its comparative and competitive advantages, its infrastructure, its educational system, the management capacity of the municipality must all be developed. There are capacities and there are resources that can become the means that modify the despair the city lives in³⁵.

1.1.4 Concepts and measurements of poverty and human development

Although poverty is a reality with multiple dimensions, its theoretical conceptualisation is riddled with ambiguity. In most works it is conceptualised as a lack related to a state of situational deterioration. To date there is no theoretical framework that accounts for the phenomenon satisfactorily.

From the perspective of conventional economic theory, poverty *"is no more than a problem of well-being, the result of a value judgement that can not even find a precise location among the propositions of the well-being theory. There one tries to compare, in the scale of 'better' or 'worse', possible optional economic situations"*³⁶.

Consequently, when considering the phenomenon of poverty as an anomalous situation that should be eradicated from society one ends up proposing welfare and paternalistic solutions that lie, in fact, outside development policies and strategies. Hence, poverty would be an evil that can be eliminated without questioning the continuity of the current social order³⁷.

The democratic perspective associates the issue of poverty with structural aspects of society. It is primarily concerned with pointing out the causes of poverty and of the existing inequalities, indicating that these are product of the social organisation, politics and economics of a society. These in turn derive from inequitable patterns in the distribution of wealth, deep discriminatory processes in various dimensions, such as those of gender, education, culture, race, work and access to the benefits of the progress of a society, amongst others.

The efforts carried out up to the present have been directed at the issues of lacks and thresholds. In a short-term perspective, there has been an attempt at modelling the characteristics of the poor. According to indicators used and hence, depending on the method applied to measure and classify the phenomenon, a person is a poor when it is not possible to satisfy some of the requirements that have been defined as 'basic necessities' but one is also poor even if managing to meet basic requirements, but your income lies below an imaginary line of poverty. The results obtained in many

cases are inconsistent because they lack indicators that reflect with clarity the identification of solutions to address the problems detected. Such short-term measurements become obsolete if one includes here the characteristics of development and the dynamics of change

Poverty is considered as *'a situational syndrome associated to under consumption, malnutrition, precarious housing conditions, low schooling, deficient sanitation, an unstable insertion in the productive apparatus, attitudes of discouragement and anomie, little participation in the mechanisms of social integration, and maybe adherence to peculiar scale of values that somehow differ from that of the rest of society'*³⁸.

The situation of lack and deterioration does not only endanger the present, with the weakening of the social web, but it also involves future generations. Thus, poverty constitutes a vicious circle in the inter-generational transfer of poverty, one in which marginality conditions reproduce.

The concept of human development is opposed to poverty, since human development belongs to the order of being, and not to the order of having, where to be is to produce. To fight against poverty one must fight to evict from each human being, from each community and from each nation, the internal or external causes of that degradation, abysmally painful, of dying from not living, of withering from not bearing fruits.³⁹ That is why in this type of investigation one must go beyond simple lacks, privations and thresholds. This because one is interested in learning which factors lead to unequal development patterns.

Two methodologies have been developed for the measurement of poverty. These are briefly described below:

a. Limits and Degrees of Poverty

Poverty lines or thresholds, monetary in nature and indicators of the degree of satisfaction of basic necessities, seek to measure the quality of life and to determine critical points above or below some standardised food basket in order to define who the poor are. In each region or country, people used

approaches that were not necessarily compatible with other applications. It is only in the mid nineties that an effort was made to standardise the threshold on a fixed value of 1 U.S. dollar per day per person to define the threshold of extreme poverty⁴⁰.

— Determination of poverty lines starting from a minimum budget.

It is understood that most basic necessities of a population can be satisfied as long as it has sufficient revenues. It is possible to establish minimum entrance levels the population should have to obtain the goods it requires. This supposition is not applicable throughout Bolivia since many activities are not paid for with a salary in return for work carried out. This happens, for example, with the workers in the informal sector. Yet, it is possible to carry out approximations to the magnitude of the phenomenon because goods and services have a monetary expression.

In consequence, the income method can present difficulties when one tries to evaluate the amount earned in kind, be it for gratuitous services coming from public or private sources, or for self-consumption. Additionally, peoples' average incomes may not represent the total of their purchasing power, especially in those cases where families have some inherited patrimony or some other means of obtaining revenues. The sources of data that capture income information concentrate exclusively on the incomes resulting from participation in economic activity, that is to say, salaries or wages. Income from other sources is not included. This certainly reduces the possibilities for inferring definitive conclusions. Income as an indicator of poverty does not provide information regarding the basic lacks from which individuals and families are suffering. It does not, therefore, illuminate sufficiently the implementation of specific policies.

Two privation levels are usually identified: poverty and abject poverty. This latter is also called extreme poverty. The threshold of extreme poverty is usually established at an income level below which individuals cannot meet their minimum food needs. That is to say, people at this level of poverty are individuals or families whose total

incomes are insufficient to obtain the minimum necessary for the maintenance of mere physical efficiency. In other words, poor households are those homes whose income is below the one U.S. dollar per day per person threshold.

A second threshold is poverty. The income of the people in this category is below the total value of the basket of goods and services used as reference. In other words, it falls below the value that would allow the group to satisfy basic necessities (food, clothing, housing, etc.). This second threshold is equivalent to two U.S. dollars per person per day. It is generally used in the works on this issue concerning Latin America.

A series of adjustments has been carried out to determine the set of goods and basic non-food services. One such adjustment is to assume that food represents a certain percentage of the total basket. Usually in urban areas that percentage ranges around 50%. Finally, the on-poor have incomes above the poverty line. These are over twice the value of the food basket.

— The approach of unsatisfied basic necessities

From the point of view of satisfaction of basic necessities, the following are regarded as pertinent variables: housing, domestic equipment, sanitary infrastructure, health, access to education and capacity of subsistence of the home. To measure the degree of satisfaction of these necessities critical points have been established. The indicator on incorporation of minors to the educational system is very important. Since primary schools are free and since school attendance is easier in the urban context, school absenteeism seems to be present in the homes gravely affected by poverty. Its presence in some homes besides evidencing privation in the moment of the survey, shows the scarce possibilities of a better future for the children. The indicator of capacity of subsistence complements the information on incomes. It is assumed that a household head with dependent people and low schooling has fewer possibilities to obtain sufficient income.

All the chosen indicators in Ksztman's⁴¹ work can easily be obtained from census information. Yet, another

global indicator of the degree of satisfaction of the basic necessities classifies households in two categories:

- Households with satisfied basic necessities: these are households that do not present any kind of privation type in the respective indicators.
- Households with unsatisfied basic necessities: these are households that suffer the lack of at least one of the respective indicators.

b. The composite poverty indicator

The situation of the poverty of households seen from the perspectives of unsatisfied basic necessities, on the one hand, and of income, on the other, do not always coincide. The income households have depends upon structural factors or upon family or individual types. Periods of economic crisis or boom lead to drastic changes in the income of a population. Likewise the loss of a job, the incorporation of other household members into the economic activity, the abandonment of one of them, etc. also causes important changes in the family budget.

On the other hand, the conditions of life of the household as reflected in the indicators of basic necessities that have been considered have a more or less permanent nature since they cannot change radically in the short term. In this way adverse situations do not always affect negatively the dimensions that have been considered to measure the quality of life of the population. Thus, for example, a sudden contraction of the household income does not have an immediate effect on the quality of the housing that its members occupy nor children dropping out of the school system, especially if the parents value education.

In the same way, a substantial improvement in the income of a household with unsatisfied basic necessities is not reflected immediately in less precarious housing, in high levels of the head of the household's schooling, etc., not only because some changes will require saving money – and this implies time – but also because time is required for people to change their behaviour patterns.

Schematising these reflections on the relationship basic

income – family necessities and calling on Kaztman again, he identifies four situations in the following matrix.

- Households in situations of chronic poverty are those that present, in addition to some critical lack, an income below the poverty line.
- Households that do not present any lack from the point of view of basic necessities, but whose income locates them below the poverty line. These are homes in a situation of recent poverty.
- Households with inertial lacks. They are characterised by at least one critical lack but their average income is above the poverty line.
- Finally, non-poor households are those that do not suffer critical lacks and who earn an income above the poverty line.

c. The Multi-dimensional Face of Poverty, Vulnerability and Social Exclusion

In the framework of deep transformations in the Latin American countries in general, and in Bolivia in particular, the processes of globalisation and economic restructuring, the reformations of the State, the opening of the financial markets, the increment of the tertiary sector, poverty, vulnerability and social exclusion among others make it difficult to approach them simultaneously and dynamically to seek an explanation of factors causing these problems. Therefore, it is not possible to imagine solutions that offer a comprehensive treatment and propose guidelines for change. The investigations in the 90's reflect these anomalies through various indicators.

Unfortunately these were observed in a segmented or sectorial way and so do not contribute to the search for structural, long-term solutions. On the contrary, one sees the proliferation of many welfare and specific-problem solving interventions. These again, do not overcome deep inequities and dissatisfactions, the rupture of social knots, or the loss of social cohesion particularly in societies with integration deficits and persistent loss of hope for the future.

It is, therefore, interesting to identify the family groups and the people who are subjected to a persistent risk of

falling into poverty, vulnerability and social exclusion. The elements that help to identify them are membership of certain social groups, the material conditions of life in which their existence unfolds, the position they hold in the life cycle and the threats and risks that affect them. Such recognition is an important antecedent to noting the factors that have incidence in the multi-dimensional face of poverty and vulnerability⁴².

I have chosen to take up the challenge in this research. I have put together a systematised proposal, a methodological framework that enables an empirical analysis of the multi-dimensional face of poverty, exclusion and social vulnerability. I plan to do so through the use of various sources of data and an appropriate translation of the concepts into-variables and indicators and utilising multivariate tool, the Generalised Canonical Analysis Model. This allows identification of the simultaneous impact of those elements that lead to inequality, poverty, social exclusion, insecurity and risks that affect the life of citizens and that have been deepened by the structural reforms. The outcome constitutes the main input for the construction of a comprehensive plan of urban development. I think it will be feasible only if a deep change takes place in conduct of those in charge of local development policies. It will be up to them to correct distortions and lacks, in a democratic, participatory consensus-seeking process.

1.2 Research Proposal: Problem Statement, Spatial Model and Hypotheses

In order to specify the way the object of study has been conceived, I refer to the central question of this research, the elements of hypothetical character, the objectives pursued, the analysis units and its methodological framework.

Since the objective to be explored is complex, I limit the scope of the problem to three senses. I first analyse the interpretation at national level of the current pattern of urbanisation in the Bolivian territory, seeking to detect its range of variation, then study the characteristics of the new model of urban development in the main cities in Bolivia, those making up the National Economic

Corridor. Thus, I study their urbanisation processes and their consequences in their urban structure. Thirdly, I consider, in a simultaneous way, the elements that intervene in the causal chain of the process of poverty, deprivation, life cycle, social exclusion and vulnerability, using the City of Cochabamba as case study. I conclude with a proposal for a comprehensive plan of sustainable development for the City of Cochabamba.

Whilst keeping in mind the scope mentioned, it is necessary to point out that the object of study configures a problem in a double sense. Firstly, in the sense of social assessment people make of social exclusion, especially of the marginal urban periphery, as well as in terms of the conviction that it is possible to reduce the alarming gap. In other words, it is a problem that lies in the socio-political realm. Secondly, in the sense that a city is not a homogeneous whole regarding social processes (more specifically) demographic processes. While it is true that this is universally accepted, it is rarely analysed. It becomes then a problem located in the methodological sphere.

1. *The central research question is:*

What have been the characteristics of urbanisation, poverty and socio-spatial development in Cochabamba in the period of the seventies to the nineties and what are their possible implications for sustainable urban development?

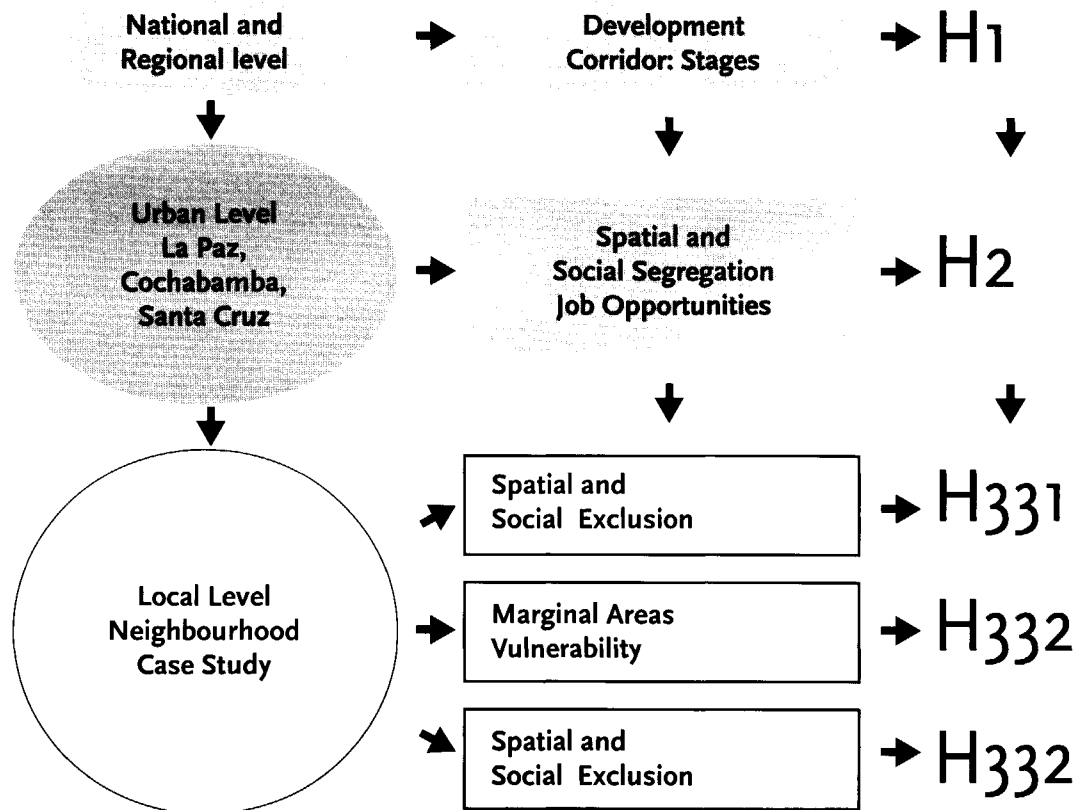
2. *Spatial Model*

This research will inquire how the urban space is organised and which processes are taking place giving special attention to marginal areas. To explain what is happening, the spatial model needs to take into account four levels of integration:

— *The National and Regional Level* (Development Corridor): The rôle of the three main cities of Bolivia in the nation's economy, the nature and intensity of its inter-actions with its regional surroundings (hinterland) and the ties they have with the rest of the urban system (See hypothesis 3.1.)

— *The Urban Level* (Cities): The relationship between the present urban structure and the division of labour. Inequalities are expressed in different land use patterns,

Figure 1.2
Spatial Model and Hypotheses



which affect the behaviour of people (See hypothesis 3.2).

— *The Local Level (Neighbourhood)*: Different social groups have different uses for and different ways of appropriating the space. This contributes to the heterogeneity of the internal urban structure and to the social and residential segregation (See hypothesis 3.3.1 and 3.3.2).

— *The Policy Level* The provision and distribution of public goods and services contributes to increase or reduce the inequality of the different groups. Public policy is an important instrument for social and spatial changes (See hypothesis 3.3(3)).

The differences between the spatial models of the three cities may explain socio-residential segregation in the functioning of their productive activities, the social institutions and the local ideological currents and leaderships. Different work styles and organisation, different technologies, judicial-political norms and cultural values amongst others have effects upon the use and appropriation of space.

3. Hypotheses

3.1. Development Corridor: Stages

- (1) The function of each city in the Development Corridor of the Bolivian national economy has gone through different stages.
- (2) Public investments, and flows, of both products (industrial, service, financial, etc) as well as population are concentrated in the national economic development corridor (La Paz, Cochabamba, and Santa Cruz).
- (3) There are strong economic imbalances in the productive structure, which also define the continuous spatial re-distribution of the population and tend to cause migration of the Bolivian population towards the corridor La Paz, Cochabamba, and Santa Cruz.

3.2. Cities: Spatial and Social Segregation and Job Opportunities

- (1) During the last twenty years, there have been important changes in the residential spaces in the Cities. The gap between poor and rich neighbourhoods has deepened.

(2) Inequities have increased between residential areas and marginal neighbourhoods, generating a marked process of segregation and social exclusion of the last ones.

(3) The productive structure of the cities of the economic corridor is essentially tertiary.

(4) Retail, traditional activities, and a set of informal services are the main economical activities.

(5) New and specialised financial services and technologies are an emerging job market in some essential locations with preferential transport and communications potential, but they offer opportunities of employment only to those with university education and increasing the spatial and social exclusion.

These conditions (3, 4 and 5) have a decisive influence on the formation of the socio-economic groups and spheres with different levels of poverty and job opportunities of the population.

3.3. *Neighbourhoods: Spatial and Social Exclusion*

(1) Urban neighbourhoods are differentiated according to socio-economic groups and uneven environmental conditions (segregation). Therefore, they differ in standards of living, especially in their access to basic services.

(2) Particularly, the highest level of vulnerability occurs in the marginal urban areas of recent occupation, and in the degraded inner areas.

(3) The contradictory relationship between political institutions, public actions and social movements contribute to the increase or reduction of the differences in access to basic services between the different residential areas of the city.

Case Study: Cochabamba Sustainable city

To imagine a hypothetical scenery for the construction of a sustainable city for and by the people of Cochabamba.

To define a strategic vision as a comprehensive model of sustainable urban development.

To identify the guidelines, objectives and strategic programs that could contribute to the construction of a comprehensive model of urban development.

To define indicators for diagnosis, aiming at designing

specific strategies and monitoring results of concrete interventions according to different levels of information available.

To define and detail urban planning, administration and management procedures, as well as defining the institutional framework that could begin this proposal.

To develop new methodologies for urban poverty assessment. Conventional social surveys, focus groups, interviews and observations have contributed greatly to understanding of urban municipalities as objects.

The processes of change raise important questions concerning Urban Planning which need an answer: What are the scenarios for the analysis of the supply of public utility services? Should the privatisation process include the public infrastructure responsible for the structuring of the main regional and urban systems? What has been the effect of inner city de-densification on the maintenance and improvement of infrastructure and services? What are the relationships between housing and population densities, urban layout and the costs of infrastructure and services deliveries in low-income peripheral settlements? To what extent would a policy of urban intensification increase or diminish patterns of social and spatial segregation? How feasible are sustainable city policies in relation to public perceptions and values, community participation, grass roots environmental and democratic movements and local and urban institutional capacity for implementation?

1.3 The Objectives

1.3.1 The General Objective

The general objective of this research is to study the relationship between spatial-temporal urban development processes and social changes during the period of the seventies to the nineties. The aim is the identification of the patterns of land use and the spatial distribution of urban poverty, to apply this knowledge on the Urban Planning of a Sustainable City in Cochabamba (Case Study).

1.3.2 The Specific Objectives

— Analyse and evaluate the spatial-temporal urban development process of the national economic corridor. Especially where (space) and when (time) specific types

of unplanned housing and neighbourhoods have been created.

— To explore the levels of social and economic differentiation in the intra- and inter-urban environments according to both social groups and areas of residence of the population, considering that global economic processes have increased social exclusion. Specifically the thesis leads to identify – socially and spatially- groups with varying degrees of exposure to the risks of economic and social vulnerability and poverty. Analyse and evaluate the spatial-temporal land value change.

— To provide a theoretical explanation of the conditions that has led to differentiation between the various groups that live in Cochabamba and differential level of vulnerability as a spatially localised problem.

— To reflect upon the spatial and social actions intended to reduce poverty and vulnerability of target groups. It is not the intention to design a new social

policy, but to discuss and elaborate referential elements as result of the forme analysis in order to achieve the given objectives.

To identify and analyse land use scenarios with regard to their potential for implementation in the Urban Planning in Cochabamba.

1.4 Research Methodology

Working with a theoretical and empirical research strategy, the study will follow four basic steps: data research, data processing, analysis, and explanation (Figure 1.3).

1.4.1. Analytical Units

I can now proceed to identify, for analytic purposes, particular spaces and specific variables that give each of the above their own personality. This must be so because of the intervening multiple dimensions that constitute the history that engendered the social formation in which they are inserted. Thus, I highlight

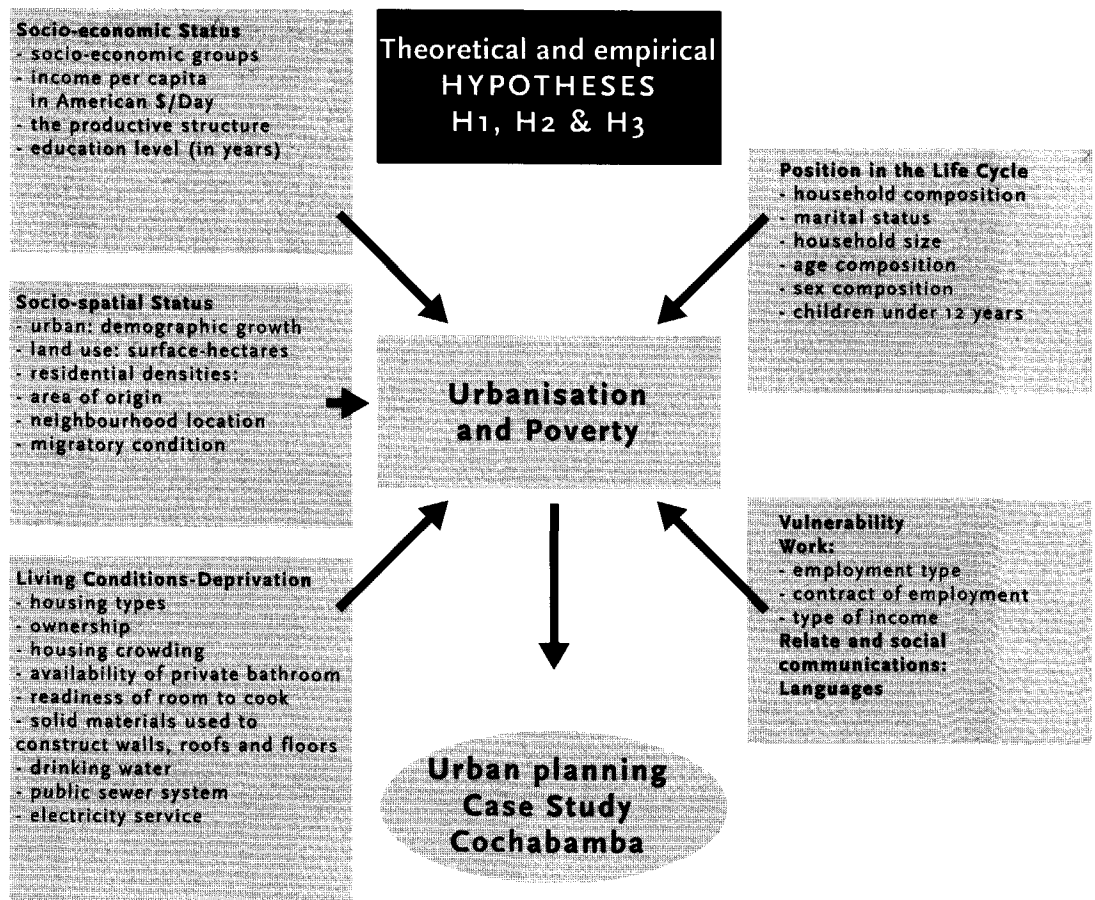


Figure 1.3
Research Design

the socio-economic, quality of life, demographic and vulnerability variables as we attempt to perceive their manifestations in the urban environment. More specifically I try to study the incidence of accelerated urbanisation and its repercussions in the multidimensional face of poverty and vulnerability inside the City of Cochabamba.

The field of study chosen has required that one makes an empirical cut in a social reality of great complexity, yet it should be useful in the generation of knowledge needed to identify the sub-sets of the population that are exposed to diverse risks of poverty and vulnerability. This requirement will become valid in so far as the will exists to act on a phenomenon that is socially not desirable. In other words, the study is a pre-proposal for the design of a comprehensive plan of sustainable development for the City of Cochabamba.

(a) The Household as a Unit of Analysis

Conditions of life, levels of poverty and people's vulnerability are not a direct and immediate result of the individual's characteristics and personal attributes or of the individual's insertion in the economic structure, but rather of the general conditions making up their home. Moreover, many of the personal attributes acquired throughout life are mediated by the membership of a certain family nucleus.

Consequently, the unit of analysis the study of poverty, vulnerability and the conditions of life cannot be constituted by isolated individuals, but by family groups. Thus, the person's schooling, their professional formation, their membership of one or another social sector, the decisions on whether they will participate in the economic activity, the concrete modalities of their insertion in the social productive apparatus, the income they have to meet their basic necessities and, in short, the conditions of life they live with, depend, to a great extent, on the characteristics of the family structure to which they belong, of the requirements the family has and of the decisions its components make to optimise the conditions of their living conditions. All of this because they are all united by a common destination.

The decision to choose families as the units of analysis, that is, the groups of individuals that are related to each

other by blood, adoption and/or marriage, implies facing a series of methodological and operational difficulties since a family can embrace relationships beyond a residential nucleus. In fact, the relationships among relatives are usually deep and highly significant even when people live in different residential units, while, in other cases, the family can integrate a smaller number of members in a residential unit when this is shared by tenants, and friends, among others. (see the methodological annex for technical details)

An alternative concept is that of the household. This involves one person or a group of people who share a house and the expenses. The people here may or may not be related. Between the concepts of family and accidental home there are some basic differences; that is, while the basic defining element for a family is kinship, the criterion to define a household is the residential unit. Thus, it is possible to find inside a household more than a family or a family together with other people they may have blood ties with or not.

Although frequently in practice one finds a family and a household coinciding, it is advisable to use the latter concept, especially when working with information coming from censuses or surveys, as in this research. Thus, the concept of household is unequivocal while the concept of family is a set of complex inter-relations that should be comprehended through multiple procedures.

In view of the above, this research work uses a unit of analysis: the household. Listed below are various types of households depending on the degree of complexity of their organisation.

1. One-person household constituted by a single person.
2. Complete nuclear household formed by a couple and, if applicable, by unmarried children.
3. Incomplete nuclear household where only one of the spouses and one or more unmarried children live.
4. Extended household constituting one or more nuclear families (complete or incomplete) and by some other relatives (grandparents, uncles, grandchildren, etc.).
5. Composite household where one finds one or more nuclear families' homes and other person(s) not related to the family members.

In some cases, nuclear, extended and composite households are considered separately if it is likely that their members have an independent management of their income and expenses.

(b) Space and spatial units

The uneven development of Bolivian cities, due to the great heterogeneity of the productive structure and the deep imbalances in the distribution of incomes is reflected in concrete spatial features. This research aims at the definition of a model of spatial restructuring. The census information will be used to operationalise the variables in space. A first approach will identify relatively homogeneous zones⁴³. The criteria for classification will be:

- Areas with similar urban configuration according to historical conditions and tendencies. Descriptive and empirical information will be used.
- Areas with similar typologies of poverty according to certain combinations of alpha-numeric and physical information. Geographical Information Systems GIS will be used.
- Areas differentiated according to a defined standard or "quality of urban habitat".

These criteria will allow observation of the spatial dynamic of the urban configuration, the way in which urban space is organised and the tendencies, describing the specific characteristics of each of the studied zones. Geographical Information Systems (GIS) will be used in order to visualise the different typologies of poverty existing in the three cities selected for the purpose of the research. The crossing of alpha-numerical and graphical information according to established criteria will help to define a "the quality of the urban habitat."

(c) Socio-economic Units

To identify homogeneous socio-economic groups, variables will be selected relating to occupation group: productive structures, employment categories, branch of activities, income per capita and average family income. Socio-occupational heterogeneity will be reduced to the variable 'occupation group', which will be codified in such a way that it reflects the productive

structure characteristics and will permit the construction of a reduced number of types. After a detailed analysis of the available data, the different types of occupation will be defined. Groups and subgroups will correspond to those identified by the International Classification of Occupation.

1.4.2. Research Tools: Data Reduction, Multi-variate Approach And Software

Canonical Correlation Analysis (OVERALS): The purpose of the OVERALS method is to determine to what extent the various groups of variables are essentially the same. OVERALS is based on developing linear combinations of the variables of each set such that the sum of the correlations between the sets (i.e. the weighted sums) is maximised. OVERALS uses the alternating least squares method to alternate between solving the canonical correlation problem and solving an optimal scaling problem, which takes the measurement qualities of the variables into account. This means that the data are allowed to be categorical⁴⁴.

Cluster Analysis: Cluster Analysis is a multivariate analysis technique that seeks to organise information about variables so that relatively homogeneous groups, or "clusters," can be formed (Drewe and Hulsbergen, 1983 and 1987).

Geographic Information System (G.I.S.): The MapInfo Geographical Information Systems will be the tool for the organisation of geographical and alphanumeric information. I will prepare the maps in Socrates GIS-1 course, Utrecht University Faculty of Geographical Science, Dr. Stan Geertman, 1999.

1.4.3. Data Sources

The empirical data comes from the National Populations and Housing Census of September 1976 and June 1992, two collections of information. The data concerned: the urban population characteristics, the occupational situation of the family members, the characteristics of the employed and inactive population, levels and tendencies of infant and juvenile mortality, the fertility level, characteristics of housing, urban infrastructure and health. Data also comes from the National Demographic and Health survey of 1998 (ENDSA) and the latest National Labour Sample of

1996. This data consists of the urban information on Socio-demographics and Health, on Productive Structure, Economic development and the occupational situation of the population and income workers and family income in the cities and neighbourhoods.

In the Case Study it will be indispensable for the successful completion of the study choose representative samples will be drawn from qualitative random questionnaires carried out and interviewed with the operators and beneficiaries respectively. The empirical information to be used is:

- Project 'Migration, Urbanisation, and Employment in the Micro region of Cochabamba (BOL/87/PO3)'. Centro de Estudios de población – Universidad Mayor de San Simón, United Nations Population Fund (UNFPA) – International Labour Organisation (ILO) – Regional Development Program in Latin America (PREALC), 1991, Cochabamba, Bolivia.
- Original database Master Plan concerning the Drinking Water for the city of Cochabamba, CONSORCIO SEURECA/BRGM/SOGREAH/CGL, 1993.
- Quantities of Distribution of drinking water according to type of user, from 1992 until 1997, Municipal Services of Drinkable Water (SEMAPA) Cochabamba.
- National Labour Sample, 1996, INE, La Paz, Bolivia.
- Urban lands register (cadastre) of the city of Cochabamba, 1996.
- IKONOS Satellite Image of the City of Cochabamba, IKONOS II, 4 April 2000, © Space Imaging LLC. IKONOS II have been processed to evaluate urban development in the city of Cochabamba, under the user licence of the International Institute for Aerospace Survey and Earth Sciences (ITC), Enschede, The Netherlands (see the methodological annex for technical details).
- Geographic Information Technology in the Municipal organisation, 1997-2000.

Once concluded the collection of the data will transcribed, and the information from the surveys filed in a composite database. The elaboration of this data and the application to the theoretical framework of the research project will follow six specific steps: organising

databases; inspection of data; selection of variables; elaboration, construction or manipulation of new files; testing hypotheses with the aid of a multi-variate approach; integrated multi-variate results with a geographical information system; and writing conclusions. The conclusions will focus upon identifying the main variables at various spatial scales (metropolitan areas, cities and neighbourhoods) that influence sustainable urban planning. Emphasis will be on the development of a framework to identify critical variables, and to elaborate processes and methodologies to integrate considerations of spatial scale with the concept of sustainable urban development.

1.4.4. Contribution

This research will contribute to the understanding of the spatial and social changes in Bolivia, which have occurred since the nineteen-seventies.

In relation to the urban corridor, this study will contribute to the understanding of global and local aspects of Bolivia's urbanisation of poverty.

Concerning the cities, it will offer models and instruments for the identification of areas of urban poverty. This will be achieved by using empirical research and Geographical Information Systems that will also contribute to the improvement of the knowledge about neighbourhoods.

These models and instruments will help in the future decision-making for the formulation, organisation, and implementation of new residential and land-use programs as well as in urban management projects

a) Scientific Relevance

The expected results include: exploring and testing hypotheses; developing new ideas; critically examining existing ideas; and showing and identifying cases for future research.

In a global perspective, the magnitude and originality of the problem demands a revision of theories, tools and urban and socio-economic procedures, as well as a search for more adequate alternatives.

The project proposes making this search by means of design and research opinions, using these as a validation tool. In concrete terms, the study's contributions will be:

— To present the spatial dynamic of the territorial configuration, the tendencies, and the way in which the space is organised. To determine the specific characteristics of each of the studied areas, make maps and graphics for policy making aimed at overcoming the population's problems and allow an improvement in the quality of their living conditions.

— To demonstrate economic, social and demographic imbalances in the studied population. To offer current and reliable information concerning basic aspects of the behaviour of population groups and households.

— To show the presence of neighbourhoods with high indices of lack of basic services, infrastructure, and basic facilities (drinking water, sewage connections, electric provision, etc.).

— To use the information obtained instruments by advanced studies to formulate and execute plans and programs that will promote development and pay particular attention to the requirements of the population.

b) Social Relevance

Criteria will be developed to select urban tools and

instruments concerning poverty reduction, employment, and long-term sustainability in the specific studied locations will be tested. The identification of tools to reduce inequity inequality and the enhancement of capabilities of access to opportunities, especially for poor neighbourhoods.

Strengthening the links between urbanisation, economic growth and human development through household activities, government policies, an action by various institutions of the civil society. United Nations in the Global Urban Observatory places attention on the poorest countries, with discussion about urban indicators and best practices. It is possible to link with this Observatory in the future, because La Paz, Cochabamba and Santa Cruz they are within the program. See <http://www.urbanobservatory.org>.

1.5 Organisation of the Book

Given the complexity of the urbanisation of poverty in Bolivia, in general, and specifically in Cochabamba, I have organised the book into seven chapters. Each is

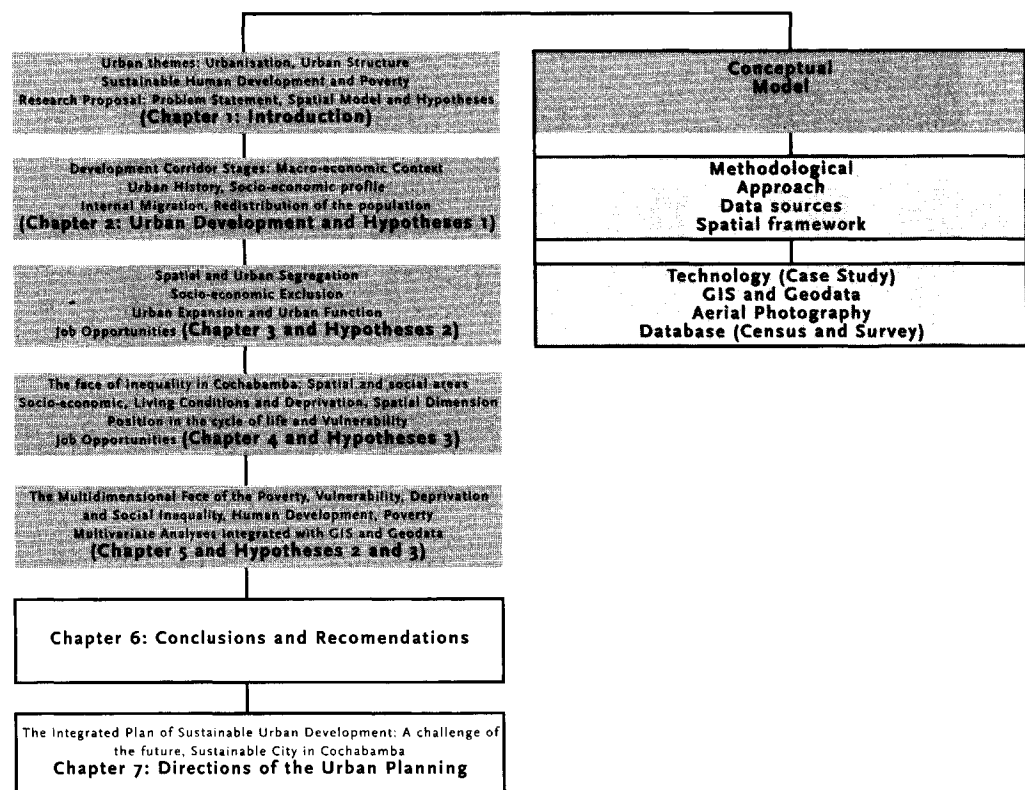


Figure 1.4
Flow chart of the research

like a link that helps to account for and shed light on the complexity of the research topic from a multi-dimensional and systematic perspective aimed at imagining scenarios and applicable interventions

Chapter One sets the conceptual elements, the analytic framework and methodological aspects. These become the fundamental tools for the research. Here I also submit a consideration of the most relevant theories on urbanisation, internal migration, development and poverty. To conclude the chapter I propose the problem, hypothesis and goals I seek to achieve throughout the research work.

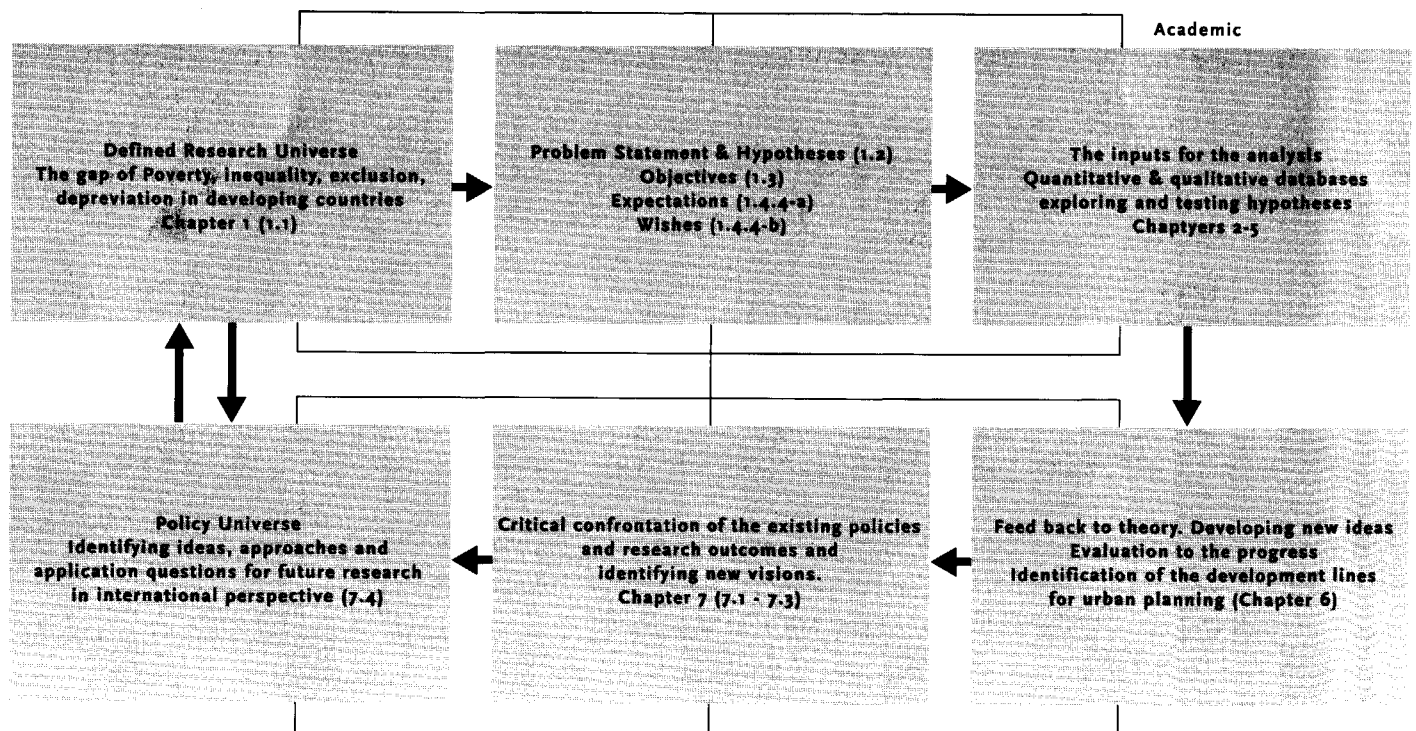
Chapter Two synthesises the historic changes in process of urbanisation worldwide and in Latin America. I make an analysis of the rôle played by national and international migration flows. As part of that process I consider the prevailing poverty, segregation, ethnic diversity and social exclusion indicators in urban areas. I demonstrate the presence of a new paradigm of urban development that has contributed to deepen the process of 'urbanisation of poverty'. The City of Cochabamba turns out to be an interesting case study to be explored

given the accelerated rate of its urban growth, accompanied by acute inequality and segregation in its development.

Chapter Three studies the issues related to the labour market, the productive structure and the incomes of the workers in the National Economic Corridor. I include elements that contribute to understanding the present spatial organisation of the population in each of the cities in the Corridor. I show that marginalisation and social segregation are on the increase and happening within the serious shortcomings in urban city planning. Given the size and complexity of the subject I deepen the study in just one city, Cochabamba. This I chose to do on account of its strategic position at the centre of the country, its rôle in the history of the development of the nation and the rate of its urbanisation process.

Chapter Four explores step-by-step the various dimensions, in terms of time and space. These are the socio-economic, socio spatial, material living conditions, deprivation, position in the life cycle and vulnerability indicators. These reveal, in turn, the existence of a multi-variate range of problems. On analysis these are

Figure 1.5 General Methodological frameworks



found to be segmented findings that turn the reading of any system into an unenviable task. They do not, therefore, contribute to simultaneously shedding light and accounting for the complex inter-actions of the various problems and likely ways of dealing with them.

The Fifth Chapter synthesises the challenge of undertaking a simultaneous reading of the problems detected. I demonstrate the multiple dimensions of poverty, deprivation, vulnerability and social exclusion in Cochabamba. This is achieved by applying a multi-variate, data reduction model called the Generalised Canonical Correlation Analysis. This reflects quite faithfully the pathetic, simultaneous inter-action of problems and hence, allows us to imagine on scientific bases, hypothetical scenarios for change. In order to validate the findings, I apply other analytical methodologies. The favoured methodologies have been those centring on calculating poverty and human development. This proves that the GCCA findings are robust. Having established a suitable and robust diagnosis I compare the findings with the actual interventions of the Municipality in the City Districts. This shows that the main part of the budget is spent on the better-off and consolidated districts. This contributes to furthering the segregation of the city. I also submit a brief description of the rôle civil society plays through the Urban Social Movements. This is one more element in the creation of hypothetical scenarios for the solution of the multivariate range of problems.

Chapter Six submits the general conclusions and recommendations of this research. Here I comment on the urgent need to implement the urban poverty alleviation programs as part of a sustainable, comprehensive plan for urban development. This will contribute to a global analysis in such a way that the all the competent institutions may face the problems by means of the design and formulation of suitable policies and programs in employment, housing, basic services, health and education in the sub-urban zones of the City of Cochabamba. I demonstrate in an emphatic way the need to carry out the progressive process from a multi-variate and multi-dimensional perspective. The perspective must be so because of the complexity of the phenomenon and the complex inter-actions between

urbanisation and development. In any case, these two can only be worked out from a multi-variate perspective. I also submit a correspondence between the data obtained as a result of the research and the hypotheses posed at the beginning of the work. I also refer to the achievement of the goals proposed and some remarks on the lessons learned from this gradual progressive process to a large-scale issue in both the social sciences and in the Bolivian Society.

Finally, Chapter Seven pictures the hypothetical directions of the urban planning and the scenarios for the construction of Cochabamba as a sustainable city. Given that the problems identified are multi-dimensional in nature it is necessary to undertake a structural, long-term transformation through comprehensive interventions that promote the human development of its inhabitants. I propose a 'social cohesion' strategy that permits facing the multi-dimensional faces of poverty and vulnerability. This will only happen if there is co-ordination and consensus among the various political, economic and social actors in the process of reconstructing citizens' hope. Given the distances between the legal (planned) city and the many marginal settlements (illegal city), it is imperative that guidelines regulate urban growth in a comprehensive and balanced way. This becomes the challenge that the urban planning department must face towards the construction of a better tomorrow.

Notes

1. Jelin, Elizabeth, 2000, page 3.

2. I can only refer here to the contributions of, among others, Quijano and Singer; 1976, p.22 and 42.

3. Coraggio José Luis and Ziccardi Alicia, 2000, page 1

4. Drewe Paul and Hulsbergen Edward D., 1987, page 202.

5. Touraine Alain, 1998, page 1.

6. Calderón Fernando, 1999, page 25.

7. Borja Jordi and Castells M. (1997), Page 1.

8. Borja, Jordi, 1998, page. 2.

9. Coraggio, José Luis, 2001, page. 6.

10. Castells, Manuel, 1977, page 474.

11. Castells, Manuel, 1977, page 310

12. Lojkin, Jean, (1981) page 57.

13. Castells, Manuel, 1977, page. 312.

14. Castells, Manuel, 1977, page 204
15. Jelin Elizabeth, 2000, page 2.
16. Castells, Manuel, 1977, page 475.
17. In the model of Latin American cities, the square, as an encounter point and a ceremonial place, is the node around which a lot of social topography materialises: the distances regarding here and the extension of the predial fronts are used as manifestations (or ostentation) of the concentrated power in their proprietors' hands.
18. Such frequently happens when the differentiation urban – rural is emphasised and also when one mentions internally to the cities with homogeneous categories.
19. Jaramillo, Samuel, (1983), pp.144-166; Frey, J.P., (1980), pp. 63-98; Stchteingart, Martha, (1979); Topatov, Christian, (1979).
20. Germani Gino, 1975, page 63.
21. Germani Gino, 1965, pp 158-177.
22. Singer, P. I. 1972.
23. Singer, P. I. 1972, page. 105
24. Singer, P. I., 1972, page. 46
25. Singer, P. I., 1972, page. 61
26. Singer, P. I., 1972, page 63.
27. This focus has had a strong influence on the work of: José Nun, 1969.
28. Yáñez César, 2001, pp. 299-324.
29. United Nations Development Programme (UNDP) 1990-2000, Oxford University Press. I can only refer here to the contributions of, among others, Sudhir Anand and Amartya K. Sen, 1994 and 1995.
30. Coraggio, José Luis, 2001, page 6.
31. Prats i Català Joan, 2000, page 20.
32. Coraggio, José Luis, 2001, page 8
33. European Union, 1993, Grupo de Expertos del Medio Ambiente Urbano, Dirección General XI, PROYECTO CIUDADES SOSTENIBLES (SUSTAINABLE CITIES PROJECT).
34. Borja Jordi and Muxi Zaida, 2001, page 11.
35. Coraggio, José Luis, 2001, page 3
36. Altimir, Oscar, 1979, page 5
37. Graciarena, Jorge, 1982. page 94
38. Altimir, Oscar, 1979, pages 1-2.
39. Calamita, Roberto, 1995, Page. 15.
40. Psacharopoulos, George, 1997: page 62.
41. KAZTMAN, Rubén, 1989.
42. Moser (1997) page 53; 'Vulnerability is not the same as poverty. It means not lack or want, but defencelessness, insecurity and exposure to risk, shocks and stress ... vulnerability has remained curiously neglected in analysis and policy, perhaps because of its confusion with poverty. Yet vulnerability and its opposite security, stand out as recurrent concerns of poor people which professional definitions of poverty overlook'. Hulsbergen Edward (1992: 37) 'Vulnerability can be defined as different manifestations of dependency'. Main variables that are often not available in the social research, and which are indispensable to find those groups/households are: origin and location (Drewe, Hulsbergen, 1983) define deprivation as: shortages in the physical space to provide for one's household.
43. Ledo, Carmen, 1986 and Ledo Carmen, Escobar, P. (1991).
44. Van der Burg Eeke, 1988, pages 12 – 15, and Verdegaal Renee: 1986, page. 28.

2. Urban development: a new paradigm

2.1 Introduction

The urbanisation of the planet is the most concrete sign of the changes in world settlement patterns. The increase of migration flows in every direction –national and international–helps us to understand the speed of urban growth and explains the great ethnical diversity that prevails in the cities of the 21st century.

The purpose of this Chapter is to clarify the first hypothesis, which indicates the changes during the 20th century in territorial organisation patterns and urban development models with the cities involved. In this new Corridor public investment, money flows, productive activity and population are all focused, associating the economic imbalance of the productive structure as a cause of migration behaviours and territorial re-distribution of population in Bolivia.

The accelerated process of world urbanisation is discussed in section 2.2 where it is classified under regions and by city sizes. The effects of such a process on the Latin-American region, the rôles which the national and international migration flows assume and the growth of poverty in the urban zones are all studied in section 2.3. In section 2.4 I analyse the changes in the patterns of urban development and in the establishment of the National Economic Corridor, and its relation to the different models of economical social development in Bolivian society.

These models describe the passing from a North-South model of urban primacy established in the occidental region of Bolivia towards a new model of East-West urban National Economic Corridor that involves three cities. The structural factors are identified and show that the regional imbalances have determined a greater territorial mobility of the population and have contributed to the deepening of the process of “poverty urbanisation”.

After studying the changes in the urbanisation process, I submit conclusions in section 2.5. It is evident that the rapid urbanisation is within a context of larger changes, even though the form which this process assumes, as will be seen in the later development of this Chapter, reflects the specific characteristics of the historic structural heterogeneity which prevails in Bolivia.

2.2 The world urban development

The world population increased by 2.4 times during the second half of the 20th century. In 1950, 2.52 billion inhabitants were registered and in the year 2000 this increased to 6.06 billion⁴⁵. According to approximations from the United Nations Population Fund (UNFPA)⁴⁶ it is foreseen that around the year 2012 the world will have a population of about 7 billion, the 1 billion growth will happen mostly in the urban areas and more than 85% of this increase will take place in the least developed areas of the world.

In 1900 only 14% of the population lived in any urban context, fifty years later this had risen to 29% or around 750 million people. This process accelerated notably towards the year 2000, at which time 47% of world population lived in an urban centre and added to a total of 2845 million people.

This process is well established in the first world, in 1950 more than half the population inhabited urban spaces (55%) and by the end of the 20th century three quarters of the population lived in urban zones. In strict terms, they barely doubled their demographic size over the last 50 years.

Urbanisation accelerated after World War II in the cities of the third world; these regions concentrate nowadays 72% of all world urban population. The urban growth has been remarkable both in strict and relative terms; it increased by six times in the second half of the 20th century (Table 2.1). Latin America has urban rates comparable to those shown by countries of the so-called first world.

Latin-American urban growth between 1950 and 1975 was the highest one in recorded history (4,3% annual), due to the combined effect of greater vegetative growth and of intense migratory flow toward urban centres. The highest vegetative⁴⁷ growth happened after World War II, due to a reduction in the mortality rate, caused by the improvement of environmental health services, advances in medical technology and massive campaigns for the extermination of contagious diseases. In addition, birth rates have remained positive in many developing countries, yet there has been an important fall from six children in 1950 to approximately three in the year 2000, but it has not been able to upset the positive balance between births and deaths.

AREA	ABSOLUTE VALUES				RATE OF GROWTH			RELATIVE DISTRIBUTION		
	1950	1975	2000	2030	1950-1975	1975-2000	1950	1975	2000	2030
More developed regions*	732	941	1069	1105	1.0	0.5	29.0	23.1	17.7	13.6
Urban	405	650	805	916	1.9	0.9	55.3	69.1	75.3	82.9
Rural	327	291	264	189	-0.5	-0.4	44.7	30.9	24.7	17.1
Africa & Asia **	1622	2812	4467	6283	2.2	1.9	64.3	69.0	73.8	77.4
Urban	276	696	1649	3371	3.8	3.5	17.0	24.8	36.9	53.7
Rural	1346	2116	2818	2912	1.8	1.2	83.0	75.2	63.1	46.3
Latin America & Caribbean	167	322	519	726	2.7	1.9	6.6	7.9	8.6	8.9
Urban	69	197	391	604	4.3	2.8	41.3	61.2	75.3	83.2
Rural	98	125	128	122	1.0	0.1	58.7	38.8	24.7	16.8
Less developed regions **	1789	3134	4986	7009	2.3	1.9	71.0	76.9	82.3	86.4
Urban	345	893	2040	3975	3.9	3.4	19.3	28.5	40.9	56.7
Rural	1444	2241	2946	3034	1.8	1.1	80.7	71.5	59.1	43.3
Total	2521	4075	6055	8114	1.9	1.6	100.0	100.0	100.0	100.0
Urban	750	1543	2845	4891	2.9	2.5	29.8	37.9	47.0	60.3
Rural	1771	2532	3210	3223	1.4	1.0	70.2	62.1	53.0	39.7

* More-developed regions comprise North America, Japan, Europe and Australia-New Zealand.

** Less-developed regions comprise all regions of Africa and Asia (excluding Japan), and Melanesia, Micronesia and Polynesia.

Source: United Nations Population Division, World Urbanisation Prospects: The 1999 Revision (Table 2). <http://www.undp.org/popin/wdtrends/urbanization.pdf>

Table 2.1

Distribution of World Population of Major Areas by Urban or Rural Place of Residence According to Rate of Demographic Growth, 1950 - 2030 (In Millions)

Migration is one of the factors which explains the changes in population patterns of urban settlement. Moving in space is one of the responses which the population makes to decreasing qualities of life and work. Some of the cities of the so called third world reflect an increase of poverty produced by a process of segregation of people from formal economy, labour "flexibility" and lack of opportunities for incomes. All of this is generating development trends which are geographically unequal and exclusive, produced by global economy trends which points towards competitive markets, strengthening of property rights and the weakening, in fact, of work, social and environmental rights. The consequences of the process of change in the patterns of world settlement are becoming evident in the formation of two city typologies: the big (global) city and the intermediate and small cities.

2.2.1 The global cities

Cities with more than one million inhabitants accounted for forty per-cent of world population in the year 2000 (Table 2.2). Their growth has been enormous during the 20th century. In 1900 only sixteen cities had such a size, but by the year 2000 there were already 364. In the beginning of the 20th century most of these cities were in the developed countries, though by the end of this century most are now found in the relatively less developed countries.

The predominance of populous cities in less developed countries started in 1975. From a total of 195 cities with more than a million inhabitants, 110 were found in these areas. A greater predominance is observed toward the year 2000, when from a total of 364 cities – 250 were situated in the third world⁴⁸. It is within this context that a new model of urban primacy has appeared, where the trend for big cities to include larger territories has grown, integrating socially and economically other nearby urban centres⁴⁹ (metropolitan areas). The biggest cities in the world, the 'Global Cities', have also had a continuous dynamic. In 1950 only two cities had over 8 million people: New York and London; by

URBAN AREA/RANGE (75-00)	1975	2000	2015	1975	2000	2015	RATE
More developed regions*	734	902	968	48%	32%	25%	0.8
1 million or more (Number of Cities)	243 (85)	331 (114)	370 (138)	16%	12%	10%	1.2
Less than 1 million	491	571	598	32%	20%	16%	0.6
Less developed regions**	810	1942	2850	52%	68%	75%	3.6
1 million or more (Number of Cities)	279 (110)	790 (250)	1259 (425)	18%	28%	33%	4.3
Less than 1 million	531	1152	1591	34%	41%	42%	3.1
Total population	1544	2844	3818	100%	100%	100%	2.5
1 million or more	522	1121	1629	34%	39%	43%	3.1
Less than 1 million	1022	1723	2189	66%	61%	57%	2.1

* More-developed regions comprise North America, Japan, Europe and Australia-New Zealand.

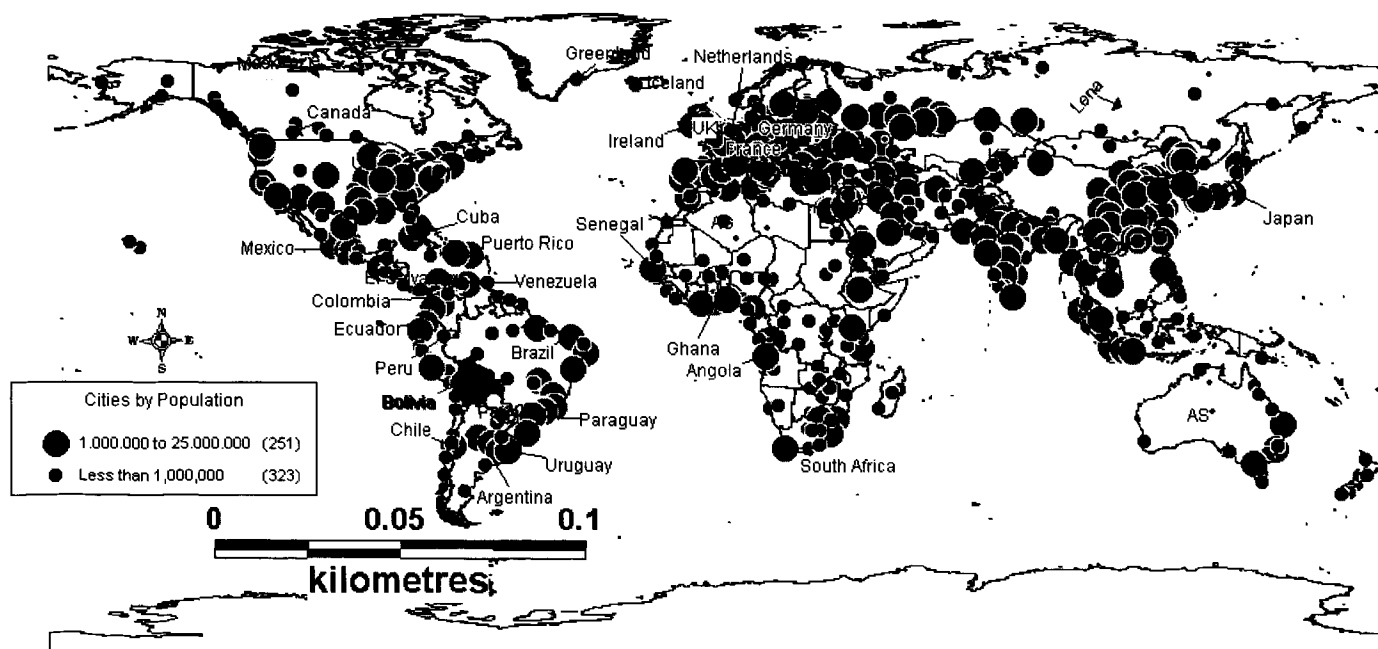
**Less-developed regions comprise all regions of Africa and Asia (excluding Japan), and Melanesia, Micronesia and Polynesia.

Source: United Nations Population Division, World Urbanisation Prospects: The 1999 Revision (Table 3). <http://www.unpd.org/popin/wdtrends/urbanization.pdf>

Table 2.2
Distribution of the World Urban Population for more and less developed regions and Size of the Cities according to Rate of Demographic Growth, 1975 - 2000 (In millions)

1970 there were already eleven, five of them in the so-called third world, three in Latin-America and two in Asia. Finally by the year 2000 there were 24, fifteen of which were found in Asia and Africa, and five in Latin America. In demographic terms, these are cities in continuous urban expansion, even though their rate of demographic growth in latter years has been slower, a product of their advanced stage of demographic transition and lower rates of net migration⁵⁰, nevertheless the magnitude of their size continues to reflect a demographic primacy.

Map 2.1 World Population of major Cities, 1990
(Map based on Arc-View and MapInfo GIS package)



The 'Global Cities' are impressive not only because of their continual growth, but also for their complex multiculturalism. Within them are found deep contradictions of differentiation and social exclusion, because of their demographic dimension and economic importance which changes their historical sense and bring into crisis all tentative definitions of them.

2.2.2 The small and intermediate cities

The group of small and intermediate cities includes all the populated centres that have between 50.000 and 1 million people. This is an extremely heterogeneous classification that hides enormous internal differences; nevertheless, it is useful to observe that more than 60% of world urban population lives in cities of this size (Table 2.2).

These cities have kept a remarkable demographic dynamism for the last 25 years. It is possible that the lack of symmetry between demographic growth, land productivity and the deterioration of living conditions has generated migration flows in different directions causing a traffic dynamic between rural zones and small and intermediate cities, which has produced an economic diversification of the population. Economic and inter-sector transaction chain relationships have been generated and so have a variety of goods and services which are more or less specialised, all of which have become a dynamic mechanism of rural economical life where intermediate cities have a rôle which becomes more important each day in sustaining the activities of the environment.

Such phenomena has many meanings according to the advancement and progress of productive forces, but the fundamental aspect of this process is the dynamic growth of some cities, the restructuring of the productive functions of certain places and the halting or diminishing growth of certain populations or rural towns.

In terms of development, these cities grow thanks to the process of diversification and gradual differentiation of the productive tissue which they develop, stimulated not only by the links they establish with their rural surroundings, but, and this is more important, due to the

increase in their size through the hierarchical linking that they establish with other urban centres. It is possible that these characteristics reflect in this type of city a greater potential for achieving a sustainable⁵¹ urban development, however, for this they require an urban management that makes a break with the mistakes of larger cities.

2.3 The Urban process in Latin-America

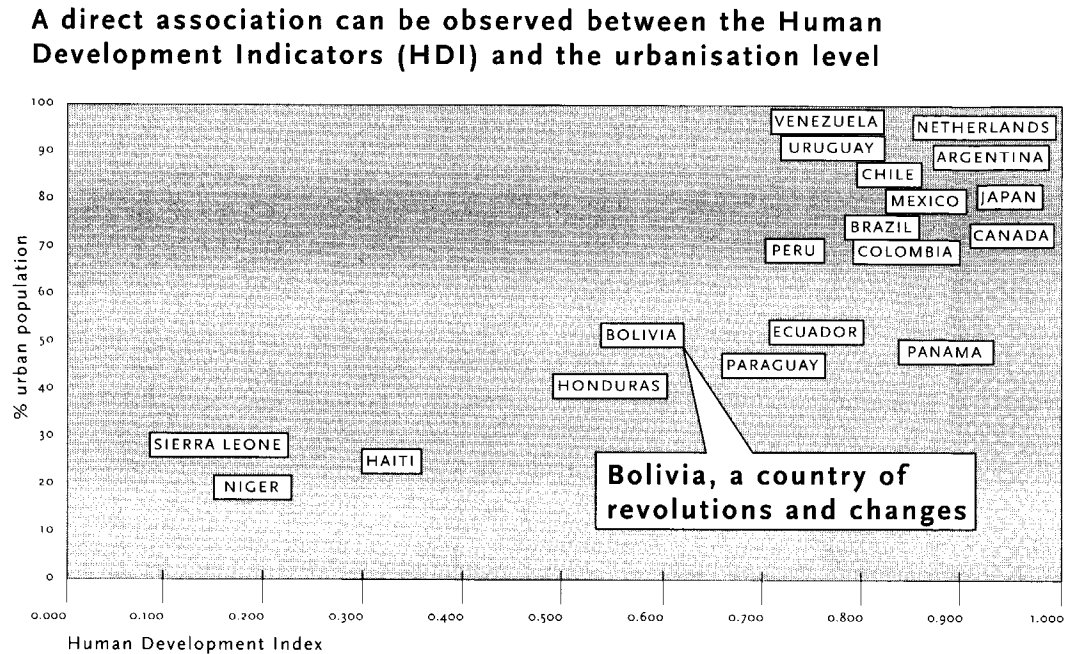
2.3.1 Rapid urbanisation

During the 20th century, the Latin-American urban population increased by nine times. Conversely, rural zones were not even able to double their population. There was a turnabout, from a rural pre-dominance to an urban primacy. Even though multiple urbanisation patterns throughout Latin America can be recognised, it is possible to see as a common denominator a sustained and generalised increase in the proportions of the urban populations. Before 1930, only three countries (Uruguay, Argentina and Cuba) had an urban majority, sixty years later there were seventeen. In 1930 there were sixteen populations, which had an urbanisation level lower than 40%⁵², by the year 2000, only Guatemala and Haiti held this low level (Table 2.3a).

When the 21st century began 75% of Latin Americans lived in cities (380 million people and 127 million lived in rural areas). While, in Asia and Africa only 37% of inhabitants live in any urban context. The existing urbanisation levels near the year 2000 in Latin America, make it the most urbanised region of the 'developing' world. It is estimated that this process will continue and that in the year 2015 80% of Latin Americans will live in cities.

On the other side, it has been shown that a positive association exists between urbanisation and human development achievements (Figure 2.1). Within the first group of countries with high levels of urbanisation and of human development are the republics of Uruguay, Argentina, Venezuela and Chile, their economies are the most advanced in the developing world, and they are also countries which are characterised by the "age" of their urbanisation, where, approaching the year 2000 more than four out of five people lived in urban zones (Table 2.3a).

Figure 2.1
Human Development Index
and levels of Urbanisation in
1995 (UNDP 1998)



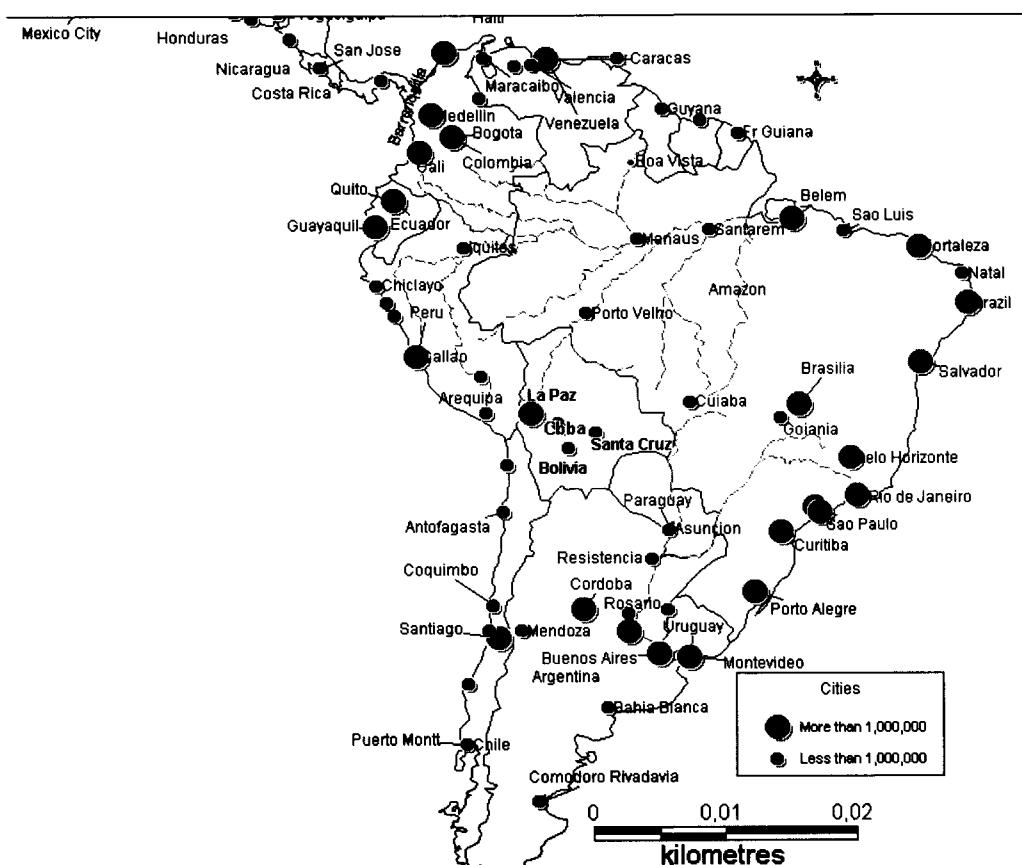
In contrast to previous comments, three countries; Honduras, Guatemala and Haiti have together the greatest under-development in terms of human development and low urban rate (less than 50%). The common denominator of these countries is that in recent years the rural population has continued to increase, they are countries that have deficiencies in educational issues, high birth rates, low life expectancies, bad service availability and very high poverty levels.

The presence of a strong historical cultural heterogeneity is evident in the patterns of urbanisation in Latin America. Heterogeneity here is related to an essentially historical character of its process. The origins of urbanisation in Latin America go back to the time before the colonies. The dominant native cultures had an urban vocation, which expressed itself in huge cities of the market and fortress type where the Spanish were amazed by the complexity and size of the temples they found. These settings and urban way of life defined the characteristics of territorial placement, which were born after the demographic transformation provoked by Spanish domination⁵³.

It is possible that the trend towards urbanisation in public policies has contributed to the acceleration of the urbanisation process in Latin America. During the first seventy years of the 20th century there was a clear

tendency to country-city confrontation. The countryside was defined as a place of community and primary relations, different from the city: defined as the space of associated relations of secondary type, where there was higher rôle segmentation and a multiplicity of loyalties. Researchers like Gino Germani developed this focus in studies about Latin America, especially on Argentina. This author described the city as the nucleus of modernity, the place where it would be possible to avoid mandatory loyalties, and thus avoid intense contacts of personal, family and neighbourhood type, typical of small towns, and so pass from this to the anonymous effective relations, where roles are segmented, which he considered on the basis of his specific functionalist⁵⁴ inheritance.

The strategic development options chosen in Latin America over the last fifty years have also helped in the acceleration and strengthening of urbanisation. The first stage was composed of the strategy of imports substitution (internal development) which was characterised by protectionism and expansion of State activities, definition of policies of stimulation and protection of the secondary sector with a marked industrial tendency, these configured an urban morphology where the territorial placement of the economical units and of the public sector were the causes for the increase of migratory currents to and from different cities⁵⁵. The second stage, neo-liberal and of structural adjustment which



**Map 2.2 Latin American:
Population of major Cities, 1995
(Map based on Arc-View and
MapInfo GIS package)**

started in the eighties (external development) produced marked changes in the rôle of the State and in the productive structure; the strengthening of agriculture did not constitute a force capable of stopping the urbanisation process; the opening of markets generated and stimulated the formation of areas with strong product and population flows and with an increase of injustice, poverty and social exclusion.

Table 2.3. Latin America, Urbanisation, Indicators of demographic Growth, educational achievement, Gross Domestic Product per capita (PPP \$) and Human Development Index, 1930-2000

URBAN DEGREE	% URBAN POPULATION a/			NUMBER OF CASES b/	PRIMACY INDEX c/		RATE OF GROWTH b/		LIFE EXPECTANCY AT BIRTH d/	TOTAL FERTILITY RATE e/	ADULT LITERACY RATE (15+) d/	GDP PER CAPITA (PPP US\$) d/	HDI 1998 d/
	1930	1950	2000		1970	1995	1990-1995	1995-2000					
Group 1	49	61	89	70418	3.3	3.8	1.8	1.6	73.7	2.6	95.4	8808	0.815
Group 2	32	42	76	269960	2.3	2.1	2.2	1.9	70.9	2.6	90.4	5717	0.763
Group 3	25	32	58	31458	3.5	2.8	3.5	3.2	70.0	3.6	85.4	3947	0.716
Group 4	14	18	42	10794	3.3	5.5	3.9	3.8	62.7	4.7	62.8	2440	0.571
Latin America	32	42	75	382630	3.1	3.6	2.9	2.6	69.3	3.4	83.5	5228	0.716

Source: Table 2.3a of the statistical annex

There are marked changes in the last fifty years of Latin-American urbanisation, there has been a combination of population patterns settling in systems of city networks (metropolisation), and expansion processes towards the so called 'empty' spaces. This duality has meant, in many cases, a "slow transformation of the historical centres of population", and the axis of demographic concentration has been formed leaving behind zones of former populations, where the most part of the rural populations were once found and these were predominant until a few years ago in most of the countries in the region⁵⁶.

The acceleration of the metropolisation process, the ter-

territorial re-distribution of the population and of economic activities are a possible explanation for the urban primacy city model, which stopped being an applicable pattern to all the region as a set, but is present in highly urban areas (Argentina, Chile, Uruguay and Peru) as in others with low levels of urbanisation (Costa Rica, Guatemala, Panama, Paraguay)⁵⁷. It is useful to observe that there are several countries where I can start to perceive a more dense urban network: in Ecuador, Quito and Guayaquil; in Brazil, Rio de Janeiro – Sao Paulo – Porto Alegre and Belo Horizonte; in Mexico, Mexico City, Guadalajara, Monterrey y Puebla; Caracas, Maracaibo y Valencia in Venezuela, Bogota, Medellin, Barranquilla and Cali in Colombia and in Bolivia the cities of La Paz, Cochabamba and Santa Cruz. Consequently, there must have been a change in the model of urban primacy which was in use until the seventies for a more complex model which includes a network of urban centres of diverse type and magnitude (Table 2.3 and Map 2.2).

The formation of huge urban centres happens particularly within the system of cities, both because of the demographic characteristics as for its importance in economical, socio-cultural and political terms. Even though the roots of the capitalist phenomena might be found in the big temple-cities of the pre-Hispanic cultures, it is clear that during the current century these traits have increased⁵⁸. It should be noted that in 1950, only the Buenos Aires complex formed part of the list of biggest cities in the world. Nowadays, things have changed and there are six cities that are found among the seven biggest metropolitan complexes in the world (Buenos Aires, Bogota, Lima, Mexico City, Rio de Janeiro, Santiago de Chile and Sao Paulo).

The combined effect of urban primacy processes and/or metropolisation with different urban characteristics keeps the Latin-American city as a relevant inter-connected space linked to networks through productive, financial, labour and natural resources exploitation flows. The placement of economic activities continues to determine the specialisation and location of the cities, in the same manner in which it has operated historically. In the latter years different types of cities have been created to meet the demands of the global economy. Among these one can find decision and exchange cities, services cities, industrial cities and other types.

It is common that productive processes are found near natural resources, from this comes the fact that the placement of the new cities has a strong correlation with the strategic points related to export production. Within all these changes and permutations, cities have been characterised by their explosive growth, and so have suffered from a complete lack of urban planning and territorial organisation, which affects their sustainability negatively.

In Latin America the dynamic of cities with more than a million people is something that is immediately noticeable. Only 18 cities had this rank in 1970, 33 in the beginning of the nineties and by the year 2000, there were 52. When the characteristics of each country are observed, it can be seen that the tendency for urban systems with ever more diversity permits placement of the territory as an element which articulates and complements urban development⁵⁹. It is noteworthy that there is a constitution of new urbanisation parameters for urban networks and also that intermediate cities have re-appeared some of which have experienced a growth even greater than the big metropolitan cities. Argentina, Bolivia, Brazil, Colombia, Chile, Ecuador, Mexico, Uruguay and Venezuela have adjusted to the same trend⁶⁰. In these cities the greatest growth rates happened beginning in the eighties due to the crisis and collapse of alternative industry, lack of public employment, lack of investment and the almost complete forfeiting of urban planning⁶¹.

Beyond the remarkable growth of urbanisation in Latin-America, account has to be taken of the fact that city planning, where basic rules are established for urban expansion and the satisfaction of basic needs (as it happened in almost all European cities) is not the same as the spontaneous and chaotic growth which is based upon need, random horizontal expansion, land, water and air contamination (very usual in Latin-America). Even though it is clear that these urban problems can be caused by new “urban ways of life” that go beyond regional characteristics and happen throughout the planet, nevertheless, governing and running cities is one of the great challenges of the 21st⁶² century.

2.3.2 The urbanisation of poverty:

New challenge to solve

Estimates of the evolution of urban poverty use the

Region	Africa of the North and Middle East	Latin America	South of Asia	Asian southeast	Oriental Europe	OECD and countries with high income
20% Lower (Poorest)	6,90	4,52	8,76	6,84	8,83	6,26
20% (2nd)	10,91	8,70	12,91	11,30	13,36	12,15
40% (3rd & 4th)	36,84	33,84	38,42	37,53	40,01	41,80
20% Highest (Richest)	45,35	52,94	39,91	44,33	37,80	39,79

Source: Kliksberg, Bernardo (1999): *Desigualdad y desarrollo en América Latina: el debate postergado*, Table 1 (Pág. 9), Webpage: <http://www.clad.org.ve/rev14/Kliksber.html>

Table 2.4. World population, Share of Income by fifths according to developed regions, 1990

poverty lines approach. This refers to the per capita income for each home. As far as the data available permits observation, it is evident that what has happened in Latin America has been the phenomenon of "the urbanisation of poverty". The number of poor has risen from 63 million in 1980 to 126 million in 1997. It has, in fact, doubled. This is a relatively new phenomenon for even by the end of the eighties the biggest proportion of the poor lived in rural spaces. It was in the second quarter of the eighties that poverty became dominant in the cities – reaching 62% by 1997.

Table 2.5. Latin America: Evolution of Poverty according to urban and rural area of residence, 1970 – 1997 (Value Absolute per thousands and percentages)

AREA	1970	1980	1990	1994	1997
POOR POPULATION					
Total	119.800	135.900	200.200	201.500	204.000
Urban	44.200	62.900	121.700	125.900	125.800
Rural	75.600	73.000	78.500	75.600	78.200
% URBAN	36.9%	46.3%	60.8%	62.5%	61.7%
% POOR HOUSEHOLD					
HOUSEHOLD	45%	35	41	38	36
Urban	29%	25%	35	32	30
Rural	67%	54%	58	56	54
POLARIZATION OF THE INCOME a/					
1% Poorer	\$ 112	\$184	\$193	\$180	\$159
1% Richer	\$40711	\$43685	\$54929	\$64948	\$66363
Gap	363	237	285	361	417

Source: Arriagada, Camilo: 2000, *Pobreza en América Latina. Nuevos escenarios y desafíos de políticas para el hábitat urbano*, Serie 27, Medio Ambiente y Desarrollo (LC/L.1429-P) ISBN: 92-1-321659-9, CEPAL, Santiago – Chile, P. 8 Table 1.

a/ It is yearly of the purchasing power parities (PPP) adjusted by the gross national product per capita, obtained values of the study of Kliksberg, Bernardo (1999): *Inequality and development in Latin America: the deferred debate*, Table 2 (P. 10), Webpage: <http://www.clad.org.ve/rev14/Kliksber.html> See Londoño y Szekely, "Persistent poverty and excess inequality: Latin America, 1970-1995." BID, 357 Working Paper Series, 1997

Latin America is the only region on the planet with the worst wealth distribution (In this research 'wealth distribution' is taken reference to 'income distribution'). Over half the income is held by the wealthiest 20% of this population. It is, in fact, a higher proportion than what is observed both in South Asia and Africa. It is also interesting to observe that the poorest 20% have access to only 4.5% of income (Table 2.4).

A high level of historical and structural heterogeneity, as well as the diverse styles applied in Latin America partially explains the dramatic trend in the uneven distribution of income. The gap between rich and poor has increased drastically. In the eighties a slight improvement in the first years was followed in the nineties by a widening gap. Note that toward 1997 the purchasing capability of the highest 1% was 417 times that of the poorest 1% (Table 2.5). In consequence, more

than a third of the income was absorbed by the richest 10% whereas the poorest 40% were not able to enjoy 20% of the income. The differences are plain, putting in evidence the unequal and socially unjust characteristic dominant in Latin-American development. This determines the existence of a small group of very rich people together with an abundant population that finds itself in an extremely poor situation.

The relative drop of poverty in 1997, seen in relative terms, happened nonetheless 30 years later – the proportion of the urban poor presents values similar to those found in the nineteen-seventies (30%). The increase occurred in the second half of the eighties and it matches the period when the structural adjustment policies were applied to both the first and second-generation reforms. These reforms are the cause of those severe, worrisome and damaging patterns; the cost of the application of adjustment measures was too high for the greatest number of Latin-American citizens.

This sombre scenario has not been modified, even though there was an increase in the GNP during the nineties. Working conditions have not improved: on the contrary, unemployment rates are around 9%, a value near its modal value. The region has historically hidden open unemployment using the under-employment rate. What is worrying about these new indicators is the increment of open unemployment that does not modify the level of under-employment in the labour market.

The implementation of Adjustment Programs during the last twenty years, has produced deep transformations in the productive structure due to strategies which have exceeded the possibilities of substitution industry, which has been allowed by an industrial production effort with material increments in the occupation developed by the independent economical activity⁶³. The third sector of economy has also been polarised, on one side, it gives opportunities of work in services related to the areas of distribution and production, mostly concerning the activities which deal with information technology, communication and finances, only to human groups which are highly qualified. On the other hand, those that are excluded from modernity (old people and newcomers in the labour market) insert themselves in

low productivity occupations, frequently in jobs of temporary characteristics and work without a contract or social security system. A large number of workers work in the informal sector, as the only way to guarantee survival incomes.

In the overview of the year 2000 published by the World Labour Organisation it indicates that in Latin America for each 100 new jobs, 83 are generated in the services area, which diminishes the number of jobs provided by the production sector. The informal sector increased its participation from 43% to 46% of the total employment force, and contributes 60 of every 100 new jobs. Lastly, 55 of each hundred new positions with salary generated in the last decade lack social protection⁶⁴. It is this information which confirms the growth of the third sector of the economy, the growth of the informal sector and the general lack of formal employment.

In summary, the unequal economic, political and cultural exchanges have increased at the same time that, due to ideological pre-dominance of the so called “neo-liberalism” all aspects of social life have been commercialised in terms of internationalisation – trans-nationalisation – globalisation, specially because of the appearing and development of big trans-national corporations, which do not know any other aim than world wide profits. On the other hand, this long historical process has brought changes in the international division of labour, a slow, but constant articulation and inter-dependence (unequal) of nations in the modern world capitalist system⁶⁵. As consequence of this, starting in the nineties the population affected by poverty concentrated itself in urban zones, which does not imply that the magnitude of rural poverty does not continue to be alarming.

2.3.3 The rôle of migration in urban growth

During the first half of the 20th century, there was a pre-dominance of country – city migration, which was a characteristic of movements of people in Latin America and the Caribbean. Nowadays, there is a different pattern, which includes the migratory current between urban spaces, immigration from urban zones to rural zones, migration inside and between cities, new expressions of rural migration and a noteworthy increment in international migration, which reached very low levels starting in the seventies.

	1970	1975	1980	1985	1990	1995	2000	2005
Costa Rica	0	2.9	2.9	3.5	9.1	5.3	2.4	0.9
Argentina	2.3	-1.6	0.6	0.8	0.7	0.7	0.6	0.4
Brazil	0	0	0	0	0	0	0	0
Colombia	-2.4	-2.1	-1.8	-1.5	-1.1	0	0	0
Ecuador	0	0	0	0	0	0	0	0
Honduras	-3.2	-0.3	-1.6	-1.8	-1.5	-0.7	0	0
Paraguay	-3.2	3.5	-1.5	1.3	-1.1	0	0	0
Venezuela	5.8	5.5	-1.1	0.5	0	0	0	0
Peru	0	-0.4	-1.1	-2.6	-3.3	-1.1	-0.4	-0.2
Chile	-1.6	-1.5	-1	-0.6	0	-0.7	-0.6	-0.6
Uruguay	-9.7	-4.2	-2	-2	-1.3	-1	-0.6	-0.6
Nicaragua	-2.2	-3.3	-4.7	-7.2	-3.4	-3	-0.7	-0.7
Bolivia	-1.8	-1.4	-5.5	-3.3	-1.4	-0.9	-0.8	-0.7
Panama	-1.2	-0.1	-1.8	-1.6	-1.1	-1	-0.9	-0.9
El Salvador	-4.6	-7.4	-14.8	-8.9	-2.1	-1.3	-1.2	-1.1
Cuba	-2.5	-2.7	-1.6	-0.8	-1.9	-1.8	-1.4	-1.1
Guatemala	-3.6	-7	-6.9	-6.1	-4.3	-2.8	-1.6	-0.7
Haiti	-3.9	-3.9	-3.7	-2.8	-2.9	-2.6	-2.4	-2.2
Dominican Rep.	-2.5	-2.3	-2.2	-2.3	-2.3	-2.3	-2.4	-2.4
México	-2.7	-2.7	-3.4	-4.1	-3.7	-3.3	-2.9	-2.7

Source: Boletín demográfico N° 62: América Latina, proyecciones de población 1970 – 2050, tabla 8, Pág. 20, Santiago – Chile

Table 2.6. Latin America: Rates of Net Migration *according to countries, 1970 – 2005

* This indicator is defined as the contribution of migration to overall population growth; the volume of net migration is measured as the mean annual difference between immigration and emigration.

The process of territorial re-distribution of population has an explanation in the conditions of the labour market. The movement of workers for agricultural jobs in periods of sowing, reaping, mining, construction activities and some services configure networks of territorial movements.

Account must be taken of the fact that the territorial movements of the Latin American population go back to historical periods and correspond to one of the main characteristics of the region. In some cases they are typified as iterative, cyclic or seasonal movements, all of which help us understand the current complexity of the phenomena. However, all seems to point to the fact that the current urbanisation process cannot be understood except within the frame of this huge territorial movement. It is for this reason that in different studies

done in twenty Latin-American cities in 1980, it was indicated that the contribution of net migration to city growth was around 60%⁶⁶.

In most of the Latin-American countries (with the exception of Venezuela and Costa Rica in the years 1975-80, and Argentina until the middle of the seventies) the net migratory balance was negative, which makes Latin America as a whole a region of demographic expulsion (Table 2.6). This situation is not casual, it is a manifestation of the effects of the economic crisis and of the application of structural adjustment measures, of the new rôle of National States, of new operation conditions for labour markets due to world-wide globalisation, of exportation diversification, of transportation systems advances and the revolution of information and communication technologies. In fact, Bolivians had not finished absorbing the strong costs of the reform process, social re-adaptation and opening up to the international environment, when they expected to pick the fruits promised for the efforts done to modernise the economies, make everything private, restrict the game of state bureaucracies, increment competitiveness even to

the point of incrementing unemployment and underemployment. It was then when a new crisis exploded which postponed the good moment: firstly, the general rehearsal done by the “tequila effect” of 1994, more recently the financial crisis in Southeast Asia, extended later to Russia, Latin-America and all emerging economies.

The dynamic of intermediate cities, which was mentioned in the previous paragraphs, is explained by the intensification of the migratory flows toward these cities, which have a rôle of exchange functions between the cities of greater size and their surroundings, they became a type of regional centre. In most of the countries the magnitude and dynamics of migrations has changed, the traditional immigration from the countryside toward the city has decreased, while there seems to be a bigger flow between cities, likewise there is a great flow inside the cities⁶⁷. The recent growth has also been related with the new parameters of space and economy re-organisation. This is true for Brazil, Venezuela, Mexico, Chile, Argentina and Bolivia. As has been suggested in the previous paragraph, the inter-city movements are today the main migration flow. As can be seen in the case of Mexico, almost half of all the movements among states were originated and had as a destination other cities. In Brazil, this situation was also clearly verified in the decade of the eighties. In Bolivia this phenomena was detected around 1988, more than 75% of the migration to the biggest cities in Bolivia had an urban origin. At the same time, the inter-city movement was also considerable during the decade from 1990, making the territorial, demographic and socio-economic growth in big cities proportional to the fact that many wealthy groups of people concentrated in certain sectors which have all the urban services, while the poorest had to establish in places with a lower level of quality⁶⁸, as will be seen in the last section of Chapter 3.

2.3.4 International migration

As an answer to the uneven model of development In Latin America international migration was a growing phenomenon during the second half of the 20th century and has suffered from important changes in its history. Before World War II the Latin-American region was a place of high migratory flow and there has been strong immigration from overseas. In the second half of the 20th century it turned into a region of mainly demo-

graphic expulsion. Between 1950 and 1964, the region as a whole had a net balance for migration of + 1.8 million people, while in 1976 and 1985, the balance was negative: – 1.6 million; between 1985-1995 the decrease was – 1,2 million, and, finally, between 1995 and 2000 it was – 0.9 millions⁶⁹. The complexity of the phenomena enables counting on only one typology due to the fact that the migratory flows move in distinct spaces in, and through, regions and likewise have an accelerated long distance emigration that in many cases is trans-national.

a. The period of high migratory reception

During the 19th century and at the beginning of the 20th century, an important flow of immigrants arrived from the southern part of Europe and had a key importance in the configuration of Latin-American societies⁷⁰. The European immigration was closely related with the exploitation of mineral and other natural resources, phenomena explained by the favourable conditions of the international economic circles. The over exploiting of the minerals and the depletion of these reserves decreased these activities and thus reduced their intensity. Other than this, the crisis of mineral prices in international markets determined a systematic reduction of the immigration flow.

It should be noted that in the sixties there was a strong reduction in international immigration, its magnitude reduced from four million immigrants registered in 1970, to less than two and a half million in 1990 (Table 2.7). This decreasing tendency suggests that the attraction of Latin-America for the population of other countries started to show signs of wearing out in the second half of the 20th century. Nevertheless, it is interesting to notice that this flow still constitutes 51% of the origin of immigration in Latin America.

b. Period of Expulsion Migration (short and long distance)

b1. Intra-regional migration (boundaries, and/or short distance):

The intra-regional migration is well established and more recently it was fed by the nature of unequal development because of structural factors. Due to the deep contrast in economic and social development and the situation of contextual adversity which contributed

ORIGIN	CENSUSES DATE B/			RATE OF GROWTH	
	1970	1980	1990	1970-1980	1980-1990
Countries of the Rest of the world (overseas Immigration)	3873420	3411426	2350441	-1.27	-3.68
Percentage	76.1	63.1	51.2		
Latin America and the Caribbean (migration Intra-regional *)	1218990	1995149	2242268	4.83	1.17
Percentage	23.9	36.9	48.8		
Total	5092410	5406575	4592709	0.6	-1.63
Percentage	100	100	100		

Source: Villa Miguel, Marínez Pizarro Jorge, 2000, Tendencias y patrones de la migración internacional en América Latina y el Caribe, San José de Costa Rica, Simposio sobre Migración Internacional en las Américas, Table 1.

* See Table 2.7 ff statistics annex

a/: The number of considered countries is of 16 in 1970; 14 in 1980 and 13 in 1990.

b/: The dates correspond to the year to were carried out the national censuses.

Table 2.7. Latin America: Immigrant Population According to Origin and Rate of Demographic Growth, 1970-1990 a/

to generate human groups with migration potential. In strict terms the intra-regional immigrants have duplicated between the seventies and nineties, getting to the point of representing 49% of the total immigration flow and with a positive growth rate which is over the regional media. (Table 2.7).

There are four countries that account for three quarters of the intra-regional Latin-American immigration: Argentina, Venezuela, Paraguay and Brazil. In the first case Argentina has been the traditional destination of Paraguayans, Chileans, Bolivians and Uruguayans. All of whom were attracted by the labour opportunities in agriculture, manufacturing, construction and services. This immigration flow became more noteworthy while the European immigration decreased. The second case is Venezuela, which benefited from the boost of its economy stimulated by the oil bonanza and had a migration flow in the seventies mainly from Colombia, followed by other flows which came from the southern part of the continent. In third place is Paraguay where there are many people from Argentina and Brazil, and finally in Brazil where there is a large number of immigrants who come from Paraguay, Argentina and Uruguay (Table 2.7a).

Towards 1990, Colombia was the country with the highest intra-regional emigration (27%) something more than 595 thousand Colombians were shown in the census of three countries of Latin-America (89% in

Venezuela). The emigrants from Chile, Argentina and Paraguay, with a total of about 560 thousand, shared the second place among the emigrants (77% from Chile and 92% of Paraguay in Argentina).

The Latin-American immigration movements in this part of the century generally come from other Latin-American countries. For example, in Uruguay in 1991, from the total amount of foreigners resident, 40% were from Argentina, 29% from Brazil and 11% from Chile. The biggest foreign population is in Venezuela (7,2%), followed by Argentina (6,8%). Some of these movements culminate in a return to the country of origin, and others are done in stages, which include stop-over points as part of a movement process to a destination outside of the region. 8% of Bolivian immigrants are of this type who are mostly to be found in Argentina.

b2. Long distance migration:

There has been a growing tendency to long distance emigration over the last 30 years and there have been different destinations. One can see a Latin presence in Australia, their numbers have increased in Australia, and in some countries in Europe and Asia, but most of them are found in the United States. It is a north-south emigration pattern, according to the official data of the Census Bureau of the United States, the number of Latin American and Caribbean immigrants increased by more than eight times between 1970 and the year 2000. Note that the growth rate of South American immigrants is higher than the levels of Caribbean people and Central

Americans, an aspect which ratifies the importance that this phenomena assumes in the nineties.

After World War II, there was a huge demand for immigrant workers in the United States; especially workers with high levels of qualification: technicians, professionals and scientists. The mechanisms for direct recruitment in nearby countries were run by private and public companies. The only requirement for United States' acceptance of these immigrants was that they should have a certificate, granted by the Labour Department of the USA, through which it was assured that the activity of the immigrant would not affect negatively the working conditions in the USA. — i.e. that the work could not be done by a U.S. citizen.

The number of Latin Americans and people from the Caribbean in the United States increased threefold between 1980 and the year 2000, reaching a total of nearly 15 million people, which represented 50% of the foreign population according to the census of the year 2000. Two-thirds came from Central America with a majority of Mexican origin, around a fifth came from the Caribbean (mainly Cuba, Jamaica and the Dominican Republic) and 13% from South America (Table 2.8). The presence of Mexicans and Cubans in the United States is well established, however, the strong growth latter years of people who came from Central and South America reflect the diversity of the origins of immigrants.

A quarter of the migration flow which was evidenced by the 1990 census was from Mexico (a little over 4 million Mexicans). In second place come Canadians and Cubans, each with more or less 750 thousand immigrants, in third place are people from El Salvador with 470 thousand persons, a number increased five times since the eighties. No less considerable is the relative increase in other Central Americans, immigrants from Nicaragua and Guatemala tripled, while those from Honduras grew by a factor of 2.8. There was a similar increase among Peruvians and people from Guyana⁷¹.

Border movements have an important rôle in international migration. This is the so for the Mexican flow to the United States and the Latin-American case of Bolivians and Chileans to Argentina. The characteristics of the demographic profile of this flow are illuminating. There are several differences in the education and gender level in frontier migration flows. In the flow that goes to Argentina, there is an higher number of immigrants with low levels of education and they are mainly men. This is logical considering the type of work which they do in that country, they correspond to workers required for agricultural and construction activities which is mainly work for men. The Central Americans who go to the United States reproduce this pattern of the Andean zone migrations. It is generally a masculine flow with low levels of education

Instead, the flow of South Americans and people from

Table 2.8. United States: Latin American and Caribbean Foreign-Born Population by Rate of Demographic Growth, 1970-2000

ORIGIN	CENSUSES DATE				RATE OF GROWTH (%)		
	1970(1)	1980(1)	1990(1)	2000(2)	1970-1980	1980-1990	1990-2000
America of the South	234233	493950	871678	1876000			
Percentage	13.6	11.3	10.4	12.9	7.13	5.53	7.97
Central America	873624	2530440	5391943	9789000			
Percentage	50.6	57.7	64.4	67.6	9.73	7.22	6.14
Caribbean and others	617551	1358610	2107181	2813000			
Percentage	35.8	31	25.2	19.5	7.5	4.32	2.93
Total	1725408	4383000	8370802	14477000			
Percentage	100	100	100	100	8.7	6.25	5.63

Source: (1) Villa Miguel, Marínez Pizarro Jorge, 2000, *Tendencias y patrones de la migración internacional en América Latina y el Caribe*, San José de Costa Rica, Simposio sobre Migración Internacional en las Américas. Table 2 pag. 12

(2) U.S. Census Bureau, Current Population Survey, March 2000 Ethnic and Hispanic Statistics Branch, Population Division, Table 4.1. Website:

<http://www.census.gov/population/socdemo/foreign/p20-534/tab0401.txt>

EDUCATIONAL ATTAINMENT	LATIN AMERICA		CENTRAL AMERICA		CARIBBEAN		SOUTH AMERICA	
	NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%
Total	10896	100	7092	100	2343	100	1460	100
Less than high school diploma	5492	50.4	4448	62.8	747	31.9	297	20.4
High school graduate or more	5402	49.6	2644	37.2	1597	68.1	1163	79.6
Male	5411	100	3701	100	1045	100	666	100
Less than high school diploma	2763	51.1	2306	62.3	331	31.8	126	18.9
High school graduate or more	2648	48.9	1394	37.7	713	68.3	540	81.1
Female	5485	100	3391	100	1298	100	794	100
Less than high school diploma	2729	49.8	2142	63.2	416	32.0	171	21.5
High school graduate or more	2754	50.2	1250	36.9	884	68.1	623	78.5

Source: U.S. Census Bureau, Current Population Survey, March 2000 Ethnic and Hispanic Statistics Branch, Population Division, Table 4.5. Website:

<http://www.census.gov/population/socdemo/foreign/p20-534/tabo405.txt>

Table 2.9. United States: Educational Attainment of Latin American Foreign-Born Population by Sex and Region of Birth, 2000

the Caribbean to the United States, and of Colombian in Venezuela or Paraguayans to Argentina are distinguished for having a majority of women, which is understandable due to their insertion in the areas of services, including the ones of domestic type, where the female presence is predominant (Table 2.9).

Traditionally, the better qualified immigrants tend to go to more distant countries, while the migration flows established in border countries include persons with lower levels of education, this is the case for Bolivians in Argentina (Ledo: 1985). This difference is evident in the flow of South American residents in the United States with high levels of instruction. The migration currents, which originate in Argentina, Venezuela, Bolivia, Chile and Paraguay include a percentage of the active population which has finished postgraduate studies, which corresponds to a higher level than the media of foreign population.

Pellegrino analyses the foreign population in the United States and concludes that countries which figure as important sources of professionals and technicians include some, like Bolivia, which have a low rate of professionals and technicians in their own active population and also others that do have a high proportion of them in their population, e.g. Argentina. This shows that the emigration of professionals and technicians is not necessarily related with the "excess of

supply". Rather, the explanation must refer both to specific factors of each country and to opportunities which target countries offer as well as the types of networks which are established amongst immigrants which enable a continuous migration⁷².

The aspects that were discussed in the previous sections testify to the strong process of urbanisation that is dominant in the Latin-American region. This aspect has been produced by a wide range of positive and negative actions, which have caused a massive process of territorial mobility of the population, with the corresponding territorial social segregation and the urbanisation of poverty. These aspects constitute the source that will help to extend the complexity of such a process in Bolivian social formation. There will be an exhaustive analysis of this in the coming paragraphs.

2.4 The Urban Process in Bolivia

Since the colonial period, the origin of Bolivian cities was related to the Inca patterns of economic space and with the existence of market-place or fortress cities that were its main distinctive trait. Within the historical characteristics, the process of urbanisation has caused an increase in the technical and social division between country and city. Likewise, there has been an augmentation among the differences between and within the regions. The process of demographic change has occurred in Bolivia with a lack of co-ordination between time and space.

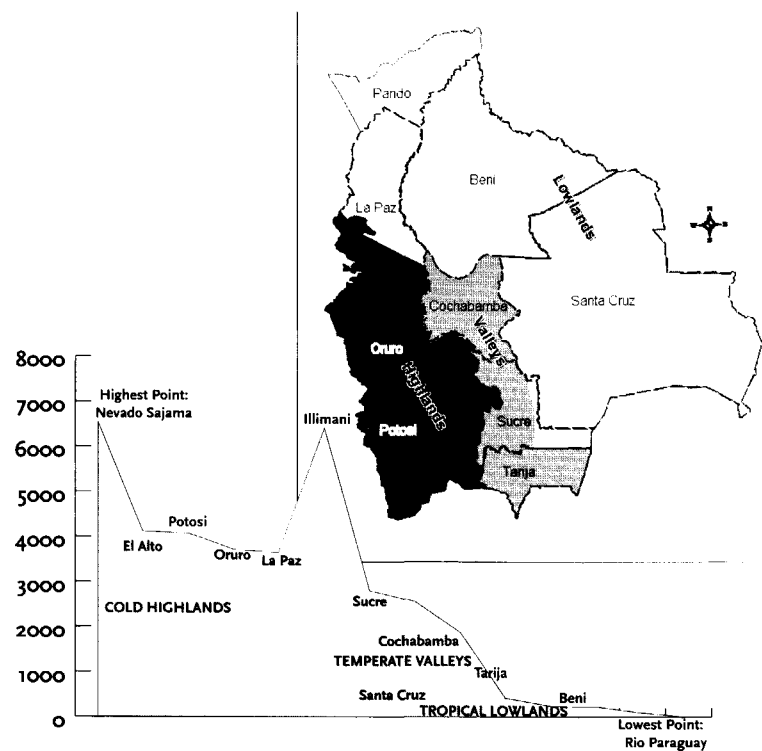
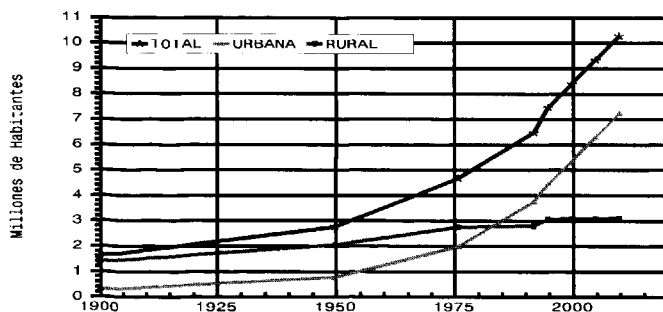


Map 2.3: Latin America and Bolivia with rivers, altitude above sea level and administrative boundaries, location of main departments and regions (highlands, valleys and lowlands)

During the 20th century, the population has had a systematic change from a million and a half inhabitants up to more than 8 million by the year 2000. In strict terms, the urban zones during the 20th century have increased their demographic importance by more than 24 times the original, coming to the point of concentrating two thirds of the population by the year 2000 (Figure 2.2 and Table 2.10).

Urban growth was not uniform inside Bolivian territory, an aspect explained by the modifications in the development patterns and due to the great ethnical, cultural and ecological diversity, which contributed to a differentiated growth. This diversity becomes significant when the

Figure 2.2
Bolivia: Demographic Evolution by Area of Residence, 1900 – 2010



output of each ecological context is analysed. In the Bolivian highlands the steady change of importance decline of mining activity explains the decreasing growth. Urban population has decreased its relative importance by 21 percentage points during the second half of the 20th century. In the lowlands, there has been an accelerated urban growth where the population has passed from 12% of Bolivia in 1900 to 32% towards the year 2000, all this is due to the boom in agricultural activities, the oil bonanza and the concentration of public investment amongst others matters. The demographic growth rate is around an annual 7%, very much over the national median for urban growth. Instead in the valleys one sees a more balanced growth, although its growth rate is high, over 4% (Table 2.10). It is here that 25% of Bolivian urban population has resided throughout the 20th century.

In the second half of the 20th century, in Bolivia there has been a rapid annual urban growth of around 4% and with a strong process of urban concentration of three-quarters of Bolivian population in 8 cities of more than 100 thousand people each. In this process internal migration had an important impact that has generated and accelerated the processes of territorial re-distribution and especially an urban growth concentrated in a

REGION	RELATIVE DISTRIBUTION					CASES					GROWTH INTERCENSAL		
	1900	1950	1976	1992	2000	1900	1950	1976	1992	2000*	00-50	50-76	76-92
Highlands (Altiplane)	51.3%	57.5%	52.7%	45.0%	42.8%	798135	1554895	2431307	2889356	3568096	1.34	1.73	1.11
Highlands (Altiplane)-Urban	57.0%	63.3%	54.2%	44.2%	41.7%	128604	437906	1045852	1632674	2213976	2.47	3.39	2.88
La Paz-city	24.2%	38.6%	32.9%	30.3%	29.6%	54513	267000	635283	1118870	1573359	3.22	3.37	3.68
VALLEYS	36.2%	30.2%	27.5%	28.9%	30.2%	563206	816658	1268709	1855609	2511322	0.74	1.70	2.45
Valleys-Urban	30.5%	25.1%	21.9%	24.0%	26.0%	68814	173519	422355	887027	1382364	1.86	3.46	4.85
Cbba – City	12.4%	10.8%	10.6%	11.0%	11.6%	27886	74819	204684	407825	616022	1.99	3.93	4.49
Lowlands	12.5%	12.3%	19.8%	26.1%	27.0%	194477	332612	913470	1675827	2249282	1.08	3.94	3.95
Lowlands-Urban	12.5%	11.6%	23.9%	31.8%	32.2%	28203	80552	459922	1175146	1711298	2.12	6.90	6.17
Sta. Cruz –city	7.0%	6.1%	13.2%	18.9%	19.5%	15874	42461	254682	697278	1034070	1.98	7.10	6.63
National Economic Corridor	43.6%	55.5%	56.8%	60.2%	60.7%	98273	384280	1094649	2223973	3223451	2.76	4.09	4.62
TOTAL	100.0	100.0	100.0	100.0	100.0	1555818	2704165	4613486	6420792	8328700	1.11	2.07	2.13
Urban population	15%	26%	42%	58%	64%	225621	691977	1928129	3694847	5307638	2.26	4.00	4.24
Rural population	85%	74%	58%	42%	36%	1330197	2012188	2685357	2725945	3021062	0.83	1.11	0.10

Source: elaborated on own account from: Year 1900: reference is made to the "census population"; the report of the census estimates an omission of 5% and adds the totals of the "not censured" and "not submitted" populations. Year 1950, 1976 y 1992: National censuses of Population and Housing Vol.2, 3 and 7; last results, May 1993, INE. Year 2000, population's projections, INE, Website: <http://www.ine.gob.bo/iwdo202.htm>. HIGHLANDS (ALTIPLANE): La Paz, Oruro, Potosi; VALLEYS: Cochabamba, Chuquisaca, Tarija; LOWLANDS: Santa Cruz, Beni, Pando. National Economic Corridor = (La Paz- Cbba – Sta.Cruz)

Table 2.10. Bolivia, Distribution of the Population according to Regions, Area and City of Residence, 1900-2000

few major cities. This aspect is strongly associated with the deep economic, social and political transformations of the 20th century, as we shall see in the next section.

2.4.1 Modifications in the Pattern of urban growth

a. Mining enclave economy and urban primacy

The National Economical Articulation during the first half of the 20th century, was associated with the economy of the mining enclave and with an urban network of cities found in the occidental region of Bolivia. The predominance of mining economy, other than the growth of agriculture, which contained most part of the working population and determined the character of the mostly rural Bolivian population⁷³, where in 1950 three quarters of Bolivians lived in some rural context. This situation continued up to the end of the seventies (Table 2.10).

Among the main characteristic of the mining articulation is the urban hierarchy in the city of La Paz (Urban Predominance), together with a network of mining cities (Oruro and Potosi) which were directly related to the activity of mining. Under State sponsor-

ship there was a strong concentration of structures and goods for collective consumption connected with the mining industry (transport network, communications, professional instruction centres, basic sanitary services), which assisted the continuous movement of products and workers to that region. Incorporated to this articulation the city of Cochabamba was second in the national urban hierarchy. There are several factors that explain its presence, but among the most important are the indirect support it gave to mining activity, and others like the provision of agricultural products and workers for the development of the mining industry. The demographic growth inside Cochabamba can be explained by an industrial development which began in the forties, and, due to the urban settlements of landowners and miners who promoted an important town planning which was not present in other cities in the country, including Oruro and Potosi, whose population growth followed the dynamics of the mining activities.

The growth of the urban population in the city of La Paz was relatively rapid, in the beginning of the 20th century around one quarter (24%) of the urban residents in Bolivian lived here, and, in 1950 it had around 40%, demonstrating its urban primacy. Its size was four times larger than the second city, Cochabamba, and around six

times larger than the fifth city Santa Cruz (Table 2.10). The urban primacy of the city of La Paz is due to several historical factors – the most important is that the seat of the Government is there, which has exercised an attraction on the migration flows that were expelled from the west because of several historical events. For example, the massive immigration of miners was a response to the crisis of 1929; the situation which occurred as a consequence of the Chaco War were another aspect which moved people toward La Paz from diverse points of the country, many of whom did not return to their homeland after the war, but settled in La Paz, and, finally, the land estates crisis which happened in the valleys. The size of the population increased quickly between 1928 and 1935, from 135,762 to 215,700 inhabitants. This growth implied the increase of the marginalized mass, which does not imply a structural crisis, but, nevertheless, was an important contradiction to the system, which later developed and acquired new forms⁷⁴. All these factors contributed to granting a demographic uniqueness to the city of La Paz in the national urban structure (Map 2.4). In synthesis, the initial stage of the Bolivian urbanisation process was characterised by the demographic concentration in the capital city alone – La Paz (Urban Predominance). The distribution of the population in the highland regions was not uniform, a feature implicit in the Enclave form, which the mineral mining process acquired. Due to the loss of importance of the mining industry and the international crisis in mineral prices, the characteristic enclave of this exploitation produced a declining trend of the major activities and functions of mining. For this reason it was the city of La Paz, which faced deep economic instability in the western regions, receiving large numbers of immigrants from the highlands and other regions of the country. Meanwhile, backed up by the actions of the central power and an evident trend toward the development of the Bolivian lowlands, a new model of territorial organisation and very marked changes were generated by the economic activities and movements of the population within the national territory. This aspect will be considered in the following paragraph.

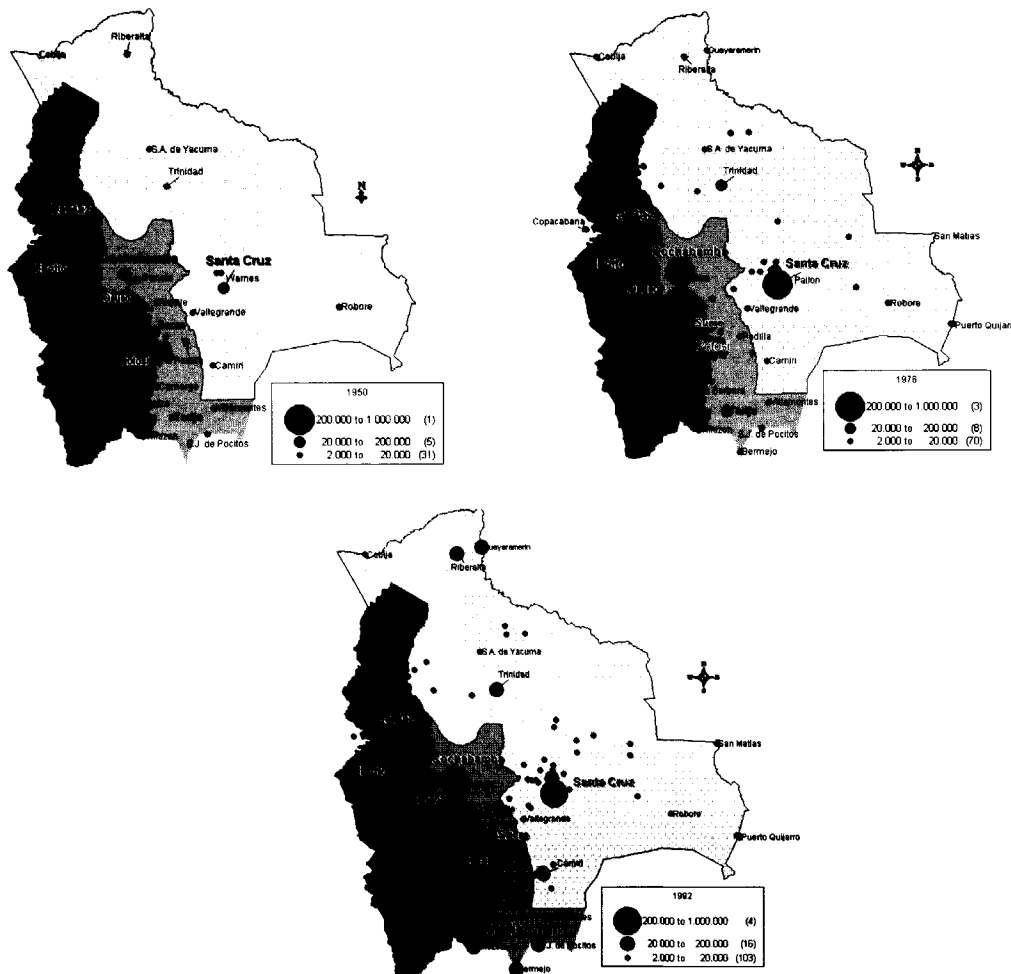
b. National Economic Corridor: Model of Urban Concentration

The impact of the social reforms, which were implemented during the period of the National

Revolution of 1952, contributed to the modification of the urbanisation pattern and generated the territorial re-distribution of the population in Bolivia. The results of such a process were only perceivable towards the nineties, a period in which the rural pre-dominance had reverted to a greater urban presence in Bolivia (Table 2.10). It is significant that the country as a whole entered the 21st century with an urban primacy (64%). The changes in matters of economic politics and structural reforms are the factors that explain the acceleration in urbanisation. Nevertheless, the impact of greater importance was remained from the 1980 period during which the Bolivian society and economy was confronted by the biggest crisis in its history with economic, social and political dimensions. The accelerated drop in the growth indices in the main activities of production configured progressively a situation of economic stalemate. This process was a result of the combination of internal and external factors with international recession and hyper-inflation amongst others. The intensification of the crisis and the political measures which were implemented to combat it have deepened the regional economic contrasts and have added to the territorial re-distribution of population⁷⁵.

Consequently, the constant reforms which were implemented by the State have contributed to the acceleration of the process of urbanisation in the second half of the 20th century, among the most important one can mention: Land Reform, Urban Reform, the development of the State Structures, the efforts for industrialisation, the march towards the East, the crisis with the model which originated in 1952 and the structural reforms which were implemented in Bolivia from the introduction of the New Political Economy in August 1985 and the Structural Adjustment Program, which is still in use.

These economic and political measures had a deep impact on the permutation processes between East and West, likewise they have contributed to the urban growth of an extremely concentrated area through a New Corridor of around 1000 km in length which goes from the West (city of La Paz) to the East (city of Santa Cruz). In this Corridor one finds concentrated population, State



Map 2.4
Distribution of the population of
major cities, 1950 – 1992

investment, consumer goods offers, services and aid from international co-operation. The creation of this Corridor has an international and national impact. At the international level it is the strategic location making an inter-oceanic connection between the Atlantic and the Pacific, which, at the same time, permits the connection between the Republics of Brazil, Peru and Chile through Bolivia.

Nationally this new urban model involves a system of cities and has permitted the constitution of a wide urban network within each ecological context, reproducing the urban primacy model.

One should notice that in the Altiplane the primacy of La Paz is absolute since it houses 71% of urban inhabitants and is seven times the size of the second city, Oruro, and eleven times larger than the third city, Potosi. In the Valleys, the city of Cochabamba contains half the urban inhabitants (45%). The difference between the second (Sucre) and the third (Tarija) is not greater than 4%.

This reflects the constitution of a network of urban centres that are small and intermediate leading to a more balanced type. Finally, Santa Cruz de la Sierra which has a concentration of 60% of the urban population of the eastern region of the country and is thirteen times larger than the second biggest city, the capital of Beni province, and seventeen times greater than the third city, also found in Beni. All this reflects a process of primacy within its ecological area that has a greater magnitude than that produced in the Bolivian Highlands.

The numeric changes in the cities by ecological regions is something which also comes to the fore. In West Bolivia in 1950 there were seventeen out of 41 cities in a national context while in the lowlands there were only nine cities. It can be noted that in 1976 when in the country there were around a hundred cities, 42 of them were found in the highlands, more than half of them (60 cities) were found in the valleys and lowlands. In 1992 there was a drastic change, out of 123 Bolivian cities, 55

were found in East Bolivia, 30 in the valleys and only 38 in the Altiplane (See Map 2.4).

While the demographic growth of the cities in East Bolivia continues to increase, many cities were connected by the older road network of the western part of the country have disappeared and new cities have appeared which are related to the new highways, these being linked to new rôles which enhance the heterogeneity of the society which is currently present in Bolivia. This complex situation was set within the politico-economic measures and was reflected in the public policies which were put to practice, the road works construction played a major rôle in the appearance and disappearance of new urban centres, an aspect which is clearly observable in Eastern Bolivia and which is associated with the policies of colonisation on the new routes of road communications between the east and west, offering opportunities for many workers to find in migration the only answer to their dissatisfaction with prospects for work.

In the valleys another factor which contributed to the demographic re-distribution of the population was the process of the inheritance of ever-smaller family plots, survival agriculture and high levels of poverty among the farmers after the agricultural reform in 1952. All of these acted as contributing factors for population export and, thus, favoured the colonisation process of the tropical agricultural lands and the urbanisation of the population. When the sources of non-agricultural

employment closed down due to the crisis in the mining industry and the opening of the country to imports, it is possible that in the future this will assist the acceleration of an even more serious process of polarisation of rural property due to the characteristic of survival that the farming economy has.

The distinctive aspects that have been mentioned above have ratified the strong process of changes in the territorial distribution of the Bolivian population. The model of urban primacy which had been in use until the fifties was replaced by the model of West-East "central axis of development", which has currently deepened. This model is reflected in a strong economic, political, social and even demographic concentration in the cities of the National Economic Corridor, in contrast to a marked unjust process of lack of opportunities for the rest of Bolivian territory.

The use of land in Bolivia combines both concentration and scattering simultaneously. The extremes of scattering are found in the small cities and rural zones, found in West Bolivia, with dangerous tendencies towards extinction. In contrast to this a strong concentration is happening in the biggest cities of the National Economic Corridor.

If one observes the growth trends of city sizes, it can be seen up to which point data permits to observation that from 1976 in the valley and lowland regions a tendency of conforming to a system of intermediate cities began to develop. Moreover, it happens that these cities grow at a faster rate than that detected for the big cities, the appearance of intermediate cities is remarkable, which is one of the most notable aspects of the new urban dynamic. It may also be seen that a more balanced

Table 2.11
Bolivia: Distribution of Total Population according to Degree of Urbanisation, for number of cities, Demographic Rate of Growth and Ecological Regions, 1976 – 1992

DEGREE OF URBANISATION	NUMBER OF CITIES		RATE OF DEMOGRAPHIC GROWTH 76-92				POPULATION		
	1976	1992	HIGHLANDS (ALTIPLANE)	VALLEYS	LOWLANDS	TOTAL	1976	1992	2000
National Economic Corridor (1)	3	3	3,83	4,69	6,81	4,79	1068387	2223973	3223451
Intermediate Cities	7	16	2,42	9,93	9,12	6,26	370267	958156	1525873
Small Cities	92	104	0,39	-0,86	3,07	1,06	434545	512717	558314
Rural			-0,85	0,65	0,77	0,25	2620350	2725946	3021062
Total	102	123	1,65	1,95	4,04	2,30	4495525	6422784	8328700

(1) Highlands (Altiplane)= La Paz city, Valleys=Cochabamba city and Lowlands=Santa Cruz City.

Source: elaborated on own account from the reprocessed database of the National Census of the Population and Housing 1976 and 1992, INE, La Paz, Bolivia.

system of cities is developing in the valleys, this aspect could be seen for the purposes of construction of a program of long-term urban sustainable development. All these aspects will better explained in the following paragraphs (Table 2.11).

2.4.2 Urbanisation degree and internal urban structure

The current degree of urbanisation in Bolivia reflects toward the year 2000 the presence of an urban structure that is concentrated in three major urban centres, sixteen intermediate cities and 102 smaller cities. The cities of the National Economic Corridor have a strong economic, social, political and cultural predominance, which also has a strong influence on the development of the urban centres, which are found within it. It is from that point of view that it is established that in Bolivia there exist new urban structures which make a difference between the main cities and the rest of the human settlements, as I try to explain below.

1. Cities of the Bolivian Economic Corridor

Bolivia comes into the 21st century with an urban system, which involves three large strategic regions where 61% of all urban inhabitants reside and all of the efforts of national development are concentrated. The cities of the Bolivian Economic Corridor have generated a balanced network and each one of them is a type of metropolis, which integrates in an unequal manner the towns extant in their surroundings. Its quantitative importance is relatively recent, as it has been shown in the system of cities which was in use up to the seventies, this included the cities of Oruro and Potosi, both found in the region of the Altiplane. Cochabamba was part of this system due to the historic rôle it had during the development of mining activities in West Bolivia.

In the first half of the century (between the censuses of 1900 and 1950) the population of the city of Cochabamba had an annual growth rate of 2.6% which was higher than the rate shown by the global urban set (2.3%) and by the city of Santa Cruz (2%), the only one being higher has La Paz (3.5%). A different situation is seen in the following quarter century (between the censuses of 1950 and 1976). Even though the growth rate of the city of Cochabamba was greater than that in the previous period it was higher than La Paz in the

previous period. The growth rate of Santa Cruz was the highest, and, thus, Cochabamba went from the second to the third place in the urban hierarchy.

It cannot be doubted that the new pattern of territorial settlement which began in 1952 determined that Cochabamba placed itself between La Paz and the new dynamic economical pole, Santa Cruz, which constantly assumed more important functions of services, transport, and commercialisation, rather than the traditional ones of production of agricultural products and a labour force, establishing itself as a type of nucleus for the internal market⁷⁶ and thus forming part of the new Corridor.

The potential for this new territorial configuration and its internal dynamics are very great, since it includes a city of each ecological context: Altiplane (City of La Paz), valleys (Cochabamba) and lowlands (Santa Cruz) and since 1976 it has continued this trend.

Notice, that other than the ecological diversity of each city, the functions of each of these cities are well defined. In the Altiplane the city of La Paz is seat of the government and of the State bureaucratic apparatus. By the year 2000 it had a population of around a million and a half, it is a city which has a dynamic of its own and in it are concentrated the greatest number of jobs in public administration, Government positions, diplomatic representation, embassies, business and is the first ranking and largest industrial centre in the country characterised by great wealth and ecological diversity.

East Bolivia has the modern city of Santa Cruz, which has as its main characteristic a strong urban growth, during the 20th century it grew to 65 times its original size, and entered the 21st century with around a million inhabitants. This city has an excellent transport and communication system. It is for this reason that it has become an important link for international commerce with the neighbouring countries of Brazil and Argentina, and also for commercial relations with the ports of the Atlantic and the Pacific.

The modern history of Santa Cruz dates from 1952, when, thanks to the benefit of the structural reforms – economic, social and political – which became a

powerful instrument for agricultural growth of a capitalist type. Under intense promotion on the part of the State the whole agricultural industry in the East was formed, with technical and financial aid both national and international. There were important factors in this process such as the investment by the State of profits produced by the mining zones of the Altiplane, the increased value of the shares in the petroleum making profits due to the increase in production and rising prices during the international energy crisis, the flow of resources obtained through external debt creation, the agricultural industrial development of Santa Cruz favoured by the Banzer Government and the favourable international situation for cotton prices amongst others. All of these have determined that the east today exists thanks to the contribution of the West.

In the region of the valleys is Cochabamba, the third city of the Economic Corridor, an important urban centre in an agricultural valley. It is historically, and this is a difference it has from the other two cities, a city, which has generated a system of more balanced cities in the area. The metropolitan area includes six other municipalities: *Quillacollo*, *Sipe Sipe*, *Tiquipaya*, *Vinto*, *Colcapirhua* and *Sacaba* and it has a concentration of around a million inhabitants. The region of Cochabamba is characterised by an ecological variety that does not only include valleys and mountain ranges of different characteristics, but also tropical zones. These latter are present in half of its total area (47%)⁷⁷, only 5% of the territory of the Department is a valley, and in this "small space" live 85% of the urban population of that Department, it is here where the city of Cochabamba is sited.

consequence, Cochabamba has a double rôle, which integrates its regional context and also links the cities of La Paz and Santa Cruz, and which gives it an important role in the national urban system. It is for this reason that Cochabamba has turned into an intermediate space, of integration, co-ordination and gathering of the national whole, and it is also an average space where the contrasts of the country are summarised. In many senses Cochabamba is a synthesis of Bolivia.

cities of the National Economic Corridor are characterised by being capitals of Departments, and for

a concentration of two thirds of the urban inhabitants of Bolivia, having an annual demographic growth of 5%, which has tripled in only five years. They are cities that have a metropolitan population of more than a million inhabitants. Only three big urban centres exist in Bolivia, since the fourth largest city does not exceed 200 thousand inhabitants, as seen in the following paragraphs.

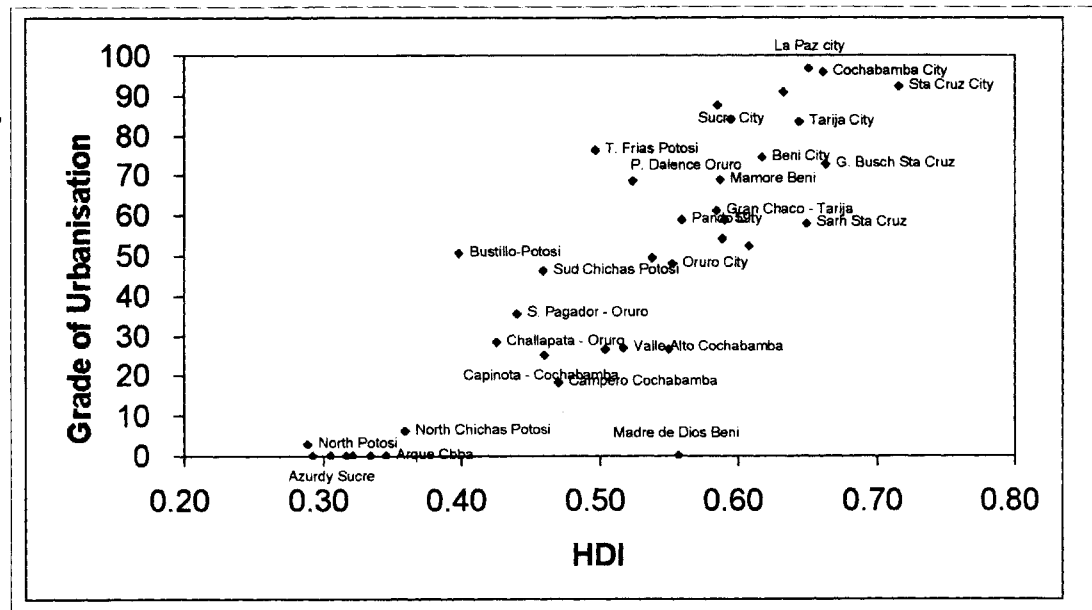
2. *Towns, small and intermediate cities*

In the year 2000 a million and a half Bolivians lived in sixteen cities of intermediate size, the growth of which has been quite rapid, in only twenty-five years they have increased by four times their original population, and now contain 30% of the urban population of Bolivia. There have also been changes in the number of cities of this size. It is interesting to note that in 1976 there were only seven cities of this intermediate size⁷⁸ from a total of around a hundred cities in Bolivia. By 1992 there were already sixteen cities of this size, and it was in these cities where the most remarkable growth has taken place since 1976 (Table 2.11).

These cities grow, on the average, with a rhythm greater than that of the biggest cities, and even than the national average growth, which is specifically evident in the regions of the valleys and lowlands. This phenomenon is explained by the inclusion in this type of five Departmental capitals (*Oruro*, *Potosi*, *Sucre*, *Tarija* and *Trinidad* in the Beni), Cobija is excluded – Pando due to the fact that it only counted ten thousand inhabitants in the 1992 census. In these cities the activities of the government are concentrated represented by the Prefect's office and the justice courts and other units of service and public administration with a Departmental jurisdiction. This is a situation which gave them a political, economic and social predominance over the rest of their regions and the sub-system of cities of which they are part. In this group are found cities with high dynamism in the valleys and in the lowlands. Such cities are Quillacollo and Sacaba, which both belong to the Metropolis of Cochabamba, *Montero* and *Camiri* in Santa Cruz, *Riberalta* and *Guayaramerin* in the Beni, *Yacuiba* and *Bermejo* in Tarija, *Tupiza*, *Villazon* and *Llallagua* in Potosi. All these cities have important functions in diverse areas. Thus, most of them are near the Provincial and/or Departmental capital and, further-

Figure 2.3
Bolivia: Human Development
Index and Degree of Urbanisation,
1998

Source: Table 2.18a of the statistical annex.



more, many of them are border cities such as *Guayaramerin*, city on the border with Brazil; *Yacuiba* and *Puerto Suarez* on the border with Argentina and Brazil, *Villazon* with Argentina and *Patacamaya* with Chile.

When one sees the figures for each city, some aspects are immediately apparent, such as the importance which Quillacollo and Sacaba have (both found within a radius of less than fifteen kms. from the city of Cochabamba). These have grown at a rate higher than an annual 8% between 1976 and 1992. Both cities form part of the great metropolis of Cochabamba, they also constitute strategic linking areas with the west (Oruro and La Paz) through the Blanco Galindo Avenue and with the populations of the Central Valley which provide vegetables and fruit for development in the city and its population. On the other hand, Sacaba is a link point with the East part of Bolivia through the inter-departmental highway to Santa Cruz. It should be noted that the demographic growth in the region of the valley was around 10% and in quantitative terms the number of inhabitants has multiplied by five between 1976 and 1992. A similar situation occurs in the valley regions and the intermediate cities of the ecological region of the lowlands, which increased their settlement by at least four times.

Rather, in the small cities one can see extremes of demographic dispersion, around 1992 only half a million persons lived in 104 towns with low urbanisation levels

(two thousand to twenty thousand residents) and around three million people lived in the rural zones. At this time the growth profile was negative in the Altiplane and only in the lowland regions I saw a relative dynamism where I now see a positive growth that is over the national media.

2.4.3 Lack of equality in development and poverty urbanisation

The structural historical differences that are a feature in Bolivia can be perceived through different indicators; i.e. differentiation trends, social exclusion and poverty are observable in different planes. It becomes evident when observing national achievements with the indicator of human development. One can see that Santa Cruz, Cochabamba and La Paz count with the highest levels of the HDI, its value more than doubles the levels of the poorest provinces in North Potosi. The highest value of the HDI is found in the city of Santa Cruz, followed by the city of Cochabamba, even though it has educational achievements that are higher than those of La Paz and Santa Cruz. While it has a GNP per capita which is lower than that for La Paz, if this was only ordered by level of income it would find itself in tenth place, which means that in Cochabamba there are difficulties to interpret income availability in social wealth (Figure 2.3).

In the third place comes La Paz, the seat of the Government, this position is explained due to very low achievements in educational issues, other than high

child death rates. This situation is better understood if one sees the strong rural immigration into this city, which happened at the end of the 20th century. It can be seen that the strong immigration current was the rural one to the city of El Alto, as previously said the city of La Paz has had to become the shelter for immigrants who come from the poorest areas of west Bolivia. They move later to the regions of the valleys, lowlands and/or outside the country. This city, in consequence, becomes a place of transition which co-ordinates movements of different types and magnitudes.

Even though some problems have been detected in the human development state, only the three cities of the Corridor have achieved important improvements in the quality of life of their population and thus increase of opportunities for the construction of a more sustainable development. Nevertheless, these global values hide internal differences that are now found in the suburban areas and with which the inter-urban differences have become an area where problems of poverty and social exclusion are occurring.

The circle of poverty is clearly reflected when observing the low levels of Human Development especially those found in the rural zones of west Bolivia, in the marginal urban areas of the bigger cities and intermediate cities. One can also see in these cities the highest proportion of extreme poverty, mostly affecting native populations and this shows at the same time a very extreme cultural segregation which increases misery and excludes an important element of Bolivians⁷⁹.

The figure 2.3 shows in a dramatic way the unfair state of Bolivian development, and thus shows the existence of deep gaps and differences that are evident when one compares the degree of urbanisation and the levels of human development. In first place, the separation between east and west becomes evident. Secondly, only the cities of the Corridor are the ones which count having the highest levels of human development. The rest of the country is within a deep social exclusion process, from where one can say that Bolivia has one foot in Africa (west) and another in Latin-America (big cities and east).

Before discussing the descriptive results which were obtained by measuring poverty, it is important to make it clear that I do not pretend to debate the use or non-use of the concept of poverty in the sense of the current debate about it. Neither do I wish to give a personal opinion on this phenomenon; it is only intended to estimate the proportion of the population is unable to satisfy, or is deficient in, the needs which arising from their everyday life. I am using this indication to make a first approximation of the problems of poverty increase and injustice that exists within Bolivia. These types of indicators exclude individual and structural multi-dimensional factors that are important: such things as risk analysis and life expectancy that will be considered in more depth in Chapters 4 and 5 of this research⁸⁰.

The current lifestyle and income of the population resident in Bolivia up to the end of the nineties reflects the evolution of the national economic structure in response to structural adjustment politics, natural disasters and current economic re-activation within the country. Around the nineties, seven out of ten people were in a situation of poverty (Table 2.12), which means that income was not enough to buy food that permitted the minimum levels of basic needs⁸¹.

In the Corridor there are six out of ten homes, which are under conditions of poverty. Two out of three homes in the city of La Paz do not have enough income due to lack of work, this situation can be better understood by considering the situation of the city of El Alto where 77% of homes are in conditions of poverty. The inhabitants of these homes, be they women, children or adults, even if they used their total incomes on food this would not cover their food requirements adequately.

The city of Santa Cruz is the only one that has a poverty level that is less than 55% and has a small number of homes that are under the poverty line (20%). In the city of La Paz around a third of the urban population is under the poverty line and in Cochabamba some 26% are also in this situation.

Toward the year 1996, many homes under the poverty level in Bolivia were to be found in the urban areas. Out of 987 thousand homes that gave information on their

Table 2.12. Bolivia: Poverty Condition of the household according to Degree of urbanisation, sex of the headed of the household, number of members and daily income, 1996

AREA	CRITICAL (< 1 \$us)	MODERATE (1 – 2 \$us)	TOTAL POVERTY	NOT POOR	TOTAL	CASES
LA PAZ – CITY	35%	29%	64%	36%	100%	293451
Cochabamba – City	26%	35%	61%	39%	100%	115507
Santa Cruz – City	20%	33%	53%	47%	100%	192639
National Economic Corridor	29%	31%	60%	40%	100%	601597
Intermediate Cities	39%	32%	71%	29%	100%	201670
Small Cities	45%	29%	75%	25%	100%	184026
Total Urban	34%	31%	65%	35%	100%	987293
Rural	82%	11%	93%	7%	100%	677183
Total General	54%	23%	77%	23%	100%	1664476
Female headed Household	57%	22%	40%	21%	100%	1368415
Male headed household	53%	23%	38%	24%	100%	296061
Income pc dollar/day	0.4	1.4	0.9	4.8	1.7	
Number of members	4.7	4.6	4.7	3.7	4.5	

Source: Own elaboration, 1996, Encuesta Nacional de Empleo, utilizando la línea de pobreza propuesta por George Psacharopoulos: World Bank technical paper Nffl 351, page 62, Poverty and Income Distribution in Latin America: The story of the 1980s.

Table 2.13. National Economic Corridor: Number of Households in Conditions of Poverty, 89–96

NATIONAL ECONOMIC CORRIDOR	1989 *	1991*	1996 Y< 2\$/DAY	DEFERENCE 91 – 96	TOTAL 96
LA PAZ Y EL ALTO	160909	168500	189262	20762	293451
COCHABAMBA	48767	55668	71530	15862	115507
SANTA CRUZ	71140	85900	101944	16044	192639
TOTAL	280816	310068	362736	52668	601597

Source: Own elaboration, – * CEDLA, EPH (INE, 1990) and EIH (INE, 1989 – 1991) y 1996, Encuesta Nacional de Empleo, La Paz – Bolivia.

Table 2.14

Bolivia: Income Distribution of the Household according to Degree of urbanisation and index of income inequality (GINI), 1996.

% HOUSEHOLD	LA PAZ	COCHABAMBA	SANTA CRUZ	NATIONAL ECONOMIC CORRIDOR	INTERMEDIATE CITIES	SMALL CITIES	RURAL	BOLIVIA
20% Lower (Poorest)	3.88	3.80	4.56	3.99	4.19	2.87	1.89	1.37
20% (2nd)	7.57	8.41	8.53	8.02	9.16	8.70	4.43	5.10
20% (3rd)	11.20	13.28	12.59	11.99	13.91	14.35	8.70	11.48
20% (4th)	18.64	21.02	19.89	20.14	21.61	22.85	18.94	20.63
20% Highest (Richest)	58.72	53.49	54.43	55.86	51.14	51.23	66.04	61.42
GINI Index	0.52	0.47	0.47	0.49	0.45	0.47	0.61	0.58
Average Income pc/day	2.55	2.49	2.97	2.67	1.88	1.74	0.73	1.68

Source: Own elaboration 1996, Encuesta Nacional de Empleo. Poverty lines had been estimates according to the proposal of George Psacharopoulos: World Bank Technical Paper Nffl 351, page 62, Poverty and Income Distribution in Latin America: The story of the 1980s. (Poverty incidence less than 2 dollars per capita day)

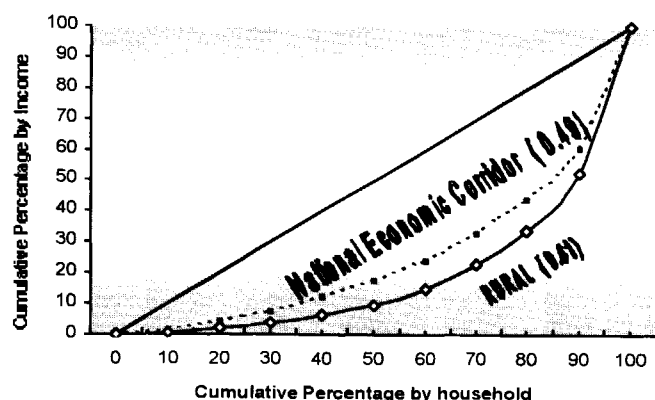


Figure 2.4. Bolivia: Share of Income distribution by tenths, according to cities of the National Economic Corridor and Rural Area, 1996 (Lorenz Curves)
Source: Table 2.14.

incomes, 644,000 homes were found to be under the poverty line (Table 2.12).

When one analyses the information relating to the cities of the Corridor, it is seen that Santa Cruz and Cochabamba were those with the greatest growth of population between 1989 and 1991. Indeed, between 1991 and 1996 it was the seat of government, La Paz, which occupied the first place. (Table 2.13).

More than fifty thousand homes in a poverty situation have been identified between 1991 and 1996, all these are in the cities of La Paz and Santa Cruz where one finds the most noteworthy increases. This situation can be partly explained by the stop in growth of the intensive sectors and by the measures taken by companies to increase their productivity⁸². If one considers the inequality from the point of view of the concentration

index of Gini, one can show that the worst wealth distribution in Bolivia happened in 1996, and was especially evident in the rural areas. (Figure 2.4 and Table 2.14).

A way to understand the phenomena of poverty urbanisation is to observe the second place in the uneven income distribution in the National Economic Corridor. One can see that the contrasts existing in La Paz are particularly strong, even though the cities of Cochabamba and Santa Cruz have injustice and social exclusion gaps that are quite evident.

From this point one sees that in 1996 the poorest 20% of the National Economic Corridor had access to only a maximum of 4% of the total urban incomes, the richest 20% achieved 56% of the income totals. In the rural areas not only incomes are lower, but they are also distributed in a less even manner. This is shown when one observes that the GINI co-efficient is 0.61, which explains the deep patchiness in the distribution of rural incomes.

The top fifth of the cities in the Corridor have an income fourteen times higher than the lowest fifth, whose average income is nevertheless higher than 80% (the first four fifths) of the rural homes. While in the lower extreme are 20% of the homes with only 1.9% of the incomes, the highest fifth control 66.04% of the total rural income, which represents an income 35 times higher than the lowest extreme. The unequal pattern in the income distribution of the rural zones of Bolivia is alarming and challenges the nation. The differences are absolute (Table 2.15).

Table 2.15. Bolivia: The unequal pattern in the income distribution of Households according to Degree of urbanisation, 1996

% HOUSEHOLD	LA PAZ	COCHABAMBA	SANTA CRUZ	NATIONAL ECONOMIC CORRIDOR	INTERMEDIATE CITIES	SMALL CITIES	RURAL	BOLIVIA
20% Lower (Poorest)	585.1	721.4	865.6	665.6	495.3	287.3	72.5	138.0
20% (2nd)	1143.7	1480.5	1658.8	1325.9	1071.7	870.1	174.5	511.9
20% (3rd)	1715.0	2288.5	2444.5	2015.7	1652.8	1448.0	326.4	1153.7
20% (4th)	2819.2	3566.7	3631.9	3217.9	2509.7	2274.4	728.7	2076.0
20% Highest (Richest)	8967.6	8666.6	10277.3	9185.8	5992.8	5124.2	2550.1	6140.1
Total	1515.8	1745.0	1897.0	1646.2	1174.4	1002.3	386.3	1005.3
Gap	15.3	12.0	11.9	13.8	12.1	17.8	35.2	44.5

Source: Own elaboration, Encuesta Nacional de Empleo 1996, INE, La Paz.

2.4.4 The internal migration and its impact on urban growth

In 1976 the Bolivian population over five years old had changed residence at least once during their lifetime. This means around one million people (28,6% of the population over five years old). In 1992 the number of immigrants almost doubled that number; that is, around two million people declared that they had immigration experiences, which represented more than a third of the Bolivian population over 5 (Table 2.16). The territorial movement of the population explains two thirds of demographic growth. This happens due to the fact that migration flows are caused by the existence of important economic unevenness among the various regions of the country. In the context of societies like the Bolivia, the territorial movement of the population turns into a process that implicates massive movements of the population. This process became more intense due to the structural problems of Bolivian economy in the 80s.

The large numbers of immigrants who move to the cities produce an accelerated urban growth with the consequent demand for services and pressure on the use of urban land. As in the case of the work market, the needs for minimum shelters have also increased with the population growth. All this adds up to accumulated unsatisfied demands.

Towards 1992 one notes a greater presence of established immigrants. 67% of these had spent over

five years living in places where the census found them (1.309.431 persons). Nevertheless, the number of recent immigrants, in strict terms, speaks for itself (638 thousand recent immigrants in 1992 versus 337 thousand registered in 1976 under the same conditions). In consequence it can be said that it was the structural, economic, social and political reforms which favoured the increase in internal migration and in consequence were the causes which produced the territorial re-distribution of the population.

As it has been shown, the territorial re-distribution process of the population was very much related to the changes in the development patterns. As already indicated, the long period of political and economic centrality in the west came about as a result of the predominance of the mining industries, first of silver and then of tin. It contributed to the concentration of both economic and demographic forces in the Altiplane where, due to the ease of transport, the non-farming population tended to concentrate in the mining camps and urban administrative centres. The fall of the mining industry was brought about by the progressive exhaustion of the ores together with a decreasing international demand and thus a fall in the prices. It led to a crisis which forced the Bolivian administration to close most of the ore mines and thus dismiss more than 90% of the state mining personnel in 1985-86. More than twenty thousand mine workers were dismissed (this situation was termed "repositioning") together with thousands of workers who had to leave their jobs in other public sectors. All this provoked important changes in the sector and geographical distribution of the work force in the second half of the eighties.

Table 2.16. Bolivia: Immigrant population according to Degree of Urbanisation for Migratory Condition and Rate of Demographic Growth, 1976-1992

DEGREE OF URBANISATION	RECENT MIGRANT			MIGRANT BEFORE			TOTAL MIGRANT		
	71-76	87-92	RATE 76-92	< 1971	< 1987	RATE 76-92	1976	1992	RATE 76-92
National Economic Corridor	39%	37%	3.91%	42%	41%	3.94%	41%	40%	3.93%
Intermediate Cities	12%	21%	7.54%	12%	18%	7.07%	12%	19%	7.24%
Small Cities	13%	12%	3.41%	13%	9%	1.93%	13%	10%	2.46%
Rural	36%	31%	3.07%	34%	32%	3.93%	34%	32%	3.65%
Total	100%	100%	4.15%	100%	100%	4.17%	100%	100%	4.16%
Cases	337594	638442		690528	1309431		1028122	1947873	

Source: elaborated on own account from the re-processed database of the National Census of the Population and Housing 1976 and 1992, INE, La Paz, Bolivia.

The massive emigration of the population of the Altiplane is explained by a problem of structural type in the Bolivian economy during the decade of the eighties. Between 1987 and 1992 more than 100,000 people came out of the mining regions of occidental Bolivia, the biggest flow of immigrants originated in the mining regions. This outflow was scarcely compensated for by the inflow. This had an immediate economic and social impact.

Many towns and cities in the highlands saw their population decrease abruptly, sometimes in such an absolute way that they turned into ghost towns. Meanwhile large numbers of ex-miners walked around the city of La Paz trying to receive the compensation money from the State and to find a new job. This transition process extended in some cases up to the end of the eighties and in some regions continues at the present time. Some of the miners that were dismissed remained in the mining areas, trying to become independent miners or gathered in co-operatives, while others migrated to the largest urban centres like La Paz, Cochabamba or Santa Cruz, and yet others tried to settle in the tropics (a very daring feat for those who were born and had always lived in the Altiplane).

There has been a strong concentration of migration flow in the cities of the National Economic Corridor; four out of ten immigrants went to live in the cities of the Corridor. A third settled in a rural zone and less than a fifth went to intermediate cities.

Table 2.17. Bolivia: Immigrant population according to Degree of Urbanisation for Index of Masculinity and Place of Habitual Residence by Ecological Contexts, 1992

DEGREE OF URBANISATION	INDEX OF MASCULINITY (# MALES/# FEMALES*100)				PLACE OF HABITUAL RESIDENCE			
	HIGHLANDS (ALTIPLANE)	VALLEYS	LOWLANDS	TOTAL	HIGHLANDS (ALTIPLANE)	VALLEYS	LOWLANDS	TOTAL
National Economic Corridor	91	89	92	91	359598	160446	280336	800380
Intermediate Cities	89	90	95	91	137891	161441	84179	383511
Small Cities	98	97	104	101	65499	35920	104381	205800
Rural	87	105	128	105	233672	210106	234676	678454
TOTAL	90	95	105	96	796660	567913	703572	2068145

Source: elaborated on own account from the re-processed database of the National Census of the Population and Housing 1992, INE, La Paz, Bolivia.

With respect to the immigrant demographic growth one can also see clearly that both the old immigration flow and the recent ones grew with an accelerated rhythm over the national average and similar to the national urban growth. This explains its importance in the accelerated process of demographic re-distribution and in the growth of certain Bolivian cities. The demographic growth of the immigrants of intermediate cities is remarkable since they grew at a rate of over 7%. Its magnitude has increased three times between 1976 and 1992 (Table 2.16).

The Index of Masculinity in Table 2.17 shows that the female immigration flow concentrated mainly in the urbanised areas (91 men versus 100 women immigrants). This can be accounted for by the possibilities that this area provides for incorporation into work for intermediate and services activities. Instead the more rural the movement is, the greater the male migration flow is (105 men versus 100 women immigrants). The only exception is the migration flow of residents in the Altiplane that exhibits female pre-dominance regardless of the degree of urbanisation of the origin of their immigrants.

The territorial re-distribution of the population according to the territorial contexts is not uniform, from the 797,000 immigrants who went to the Altiplane 45% went to the city of La Paz and 17% went to the secondary cities. In the lowlands the concentration of immigrants that went to the city of Santa Cruz is 40% – and 33% of the immigrants went to a rural town. In the valley zone three migration flows become important: a third of the immigrants settled in the rural area, a quarter went to

PLACE OF HABITUAL RESIDENCE/ MIGRATORY CONDITION	ECOLOGICAL REGION FROM BIRTH			TOTAL IMMIGRANTS
	HIGHLANDS (ALTIPLANE)	VALLEYS	LOWLANDS	
Highlands (Altiplane)	658368	58769	19621	736758
The residence in 1987 (Highlands)	446733	42608	11843	501184
Recent (the residence in 1987 in another place)	211635	16161	7778	235574
Valleys	215567	271135	33452	520154
The residence in 1987 (Valleys)	142523	181631	20056	344210
Recent (the residence in 1987 in another place)	73044	89504	13396	175944
Lowlands	118458	147573	366641	632672
The residence in 1987 (Lowlands)	75897	104063	246685	426645
Recent (the residence in 1987 in another place)	42561	43510	119956	206027
Emigrants	992393	477477	419714	1889584

Source: elaborated on own account from the re-processed database of the National Census of the Population and Housing 1992, INE, La Paz, Bolivia.

the capital city and a similar proportion (28%) settled in some centre of intermediate size.

In 1992, the biggest movement of population was found within the Altiplane, this situation helps to confirm the presence of an economic unbalance in this zone, which has a specially strong flow to La Paz, which is the city that concentrates most of the immigration surplus. It is an area that receives great numbers who come from its own Departmental surroundings and from Oruro and Potosi. This high level of internal flows in the Altiplane has been favoured by the existence of an extensive road system, which is used for the entire occidental mining spectrum and as an important commercial inter-connection between border zones⁸³.

Consequently the city of La Paz has a double rôle: on one side it is an attractive city for immigrants of its own ecological context and on the other hand it exports population towards the valleys and lowlands in order of importance respectively.

It should be noticed that most of the million immigrants born in the Altiplane, some 66%, moved to the urban zones of the same region, especially to La Paz. But, the intermediate cities also absorbed almost half a million people. The 34% of the remaining population born in the Altiplane went to the valleys, especially to Cochabamba and the lowlands. (Table 2.18).

The importance of the economy of Santa Cruz helped to

Table 2.18

Bolivia: Immigrants according to Place of Habitual Residence and Migratory Condition for Ecological Region from birth, 1992

attract and concentrate important numbers of people from its own ecological context and also from the valleys and the Altiplane. In the region of the valleys there is a higher level of internal movement, around 87% of immigrants born in the lowlands moved only within the same territory. The accumulation model crisis, the urban economic recession, the orientation of the political economy and the long droughts in the central zone of the country were the facts which have determined that in the second half of the eighties the migration flows intensified and the migration pattern grew once more.

The immigration flow from the Altiplane deployed more toward the valleys and the lowland population and had more of an intra-ecological movement. It is noteworthy that there exists a greater movement from the valleys to the lowlands, completing a cycle of changes in the use of territory. Among the people born in the valleys, around 57% moved within its ecological region, a 31% settled in the lowlands region and only 12% went to the Altiplane. An aspect that must be highlighted is that something that differs from the immigrant profile of the seventies is that a change has happened regarding the origin of the immigrants. Thus 75% of the immigrants declared that they came from some urban centre. Nevertheless, when one analyses the information according to cities, only the city of La Paz does not fit into the scheme. This is

because the flow of immigrants of rural origin is still the biggest flow and is due to the fact that the immigrant flow from the Altiplane goes to the city of El Alto. Around 48% of these immigrants come from a rural zone, which reflects a very peculiar migration profile that is composed of immigrants that come from the poorest zones of Bolivia (intra-ecological-rural migration flow).

It is interesting to show that in the valleys, where the city of Cochabamba lies, about half of the immigrants come from the Altiplane, which means that in a sense Cochabamba has become an Altiplanic city. In contrast, most of the immigrants in Santa Cruz come from some region in the lowlands. This shows a marked and important ecological re-distribution of population. Only 25% of the immigrants into Santa Cruz have declared that they come from a region of the Altiplane and a third of them came from a region of the valleys.

A great number of the Altiplane population found in migration an answer to difficulties and dissatisfactions with life and work. Different strategies have appeared, which reflect the suffering of the population, many of whom lost all their resources and did not have any other option but to return to their origins after negative experiences in their destination points. This can be illustrated by showing that close to 90,000 persons arrived in the city of La Paz between 1987 and 1992, but 60,000 people left, more than 10 thousand people annually (Table 2.19).

When one analyses the information according to cities, one sees that in El Alto the population volume of

immigration is increasing, but also decreasing due to emigration. The people that leave again go to the cities of Santa Cruz, Cochabamba and to the areas near the region of the valleys. There is a high immigrant presence in the zone of the tropics of Cochabamba since in that zone the indirect activities related to the coca-cocaine industries offer some possibilities for work. This is an aspect that calls for a plan to prevent unmanageable situations⁸⁴.

There is no doubt that the reason for the explosive urban growth is to be found in the immigration flows towards the cities of La Paz, Santa Cruz and Cochabamba from other regions of the country. The data from the last census ratifies that the total migration rate of Santa Cruz (East, like the one of Cochabamba (Valleys) is positive, due to the existence of high immigration rates which are above the levels of emigration of population.

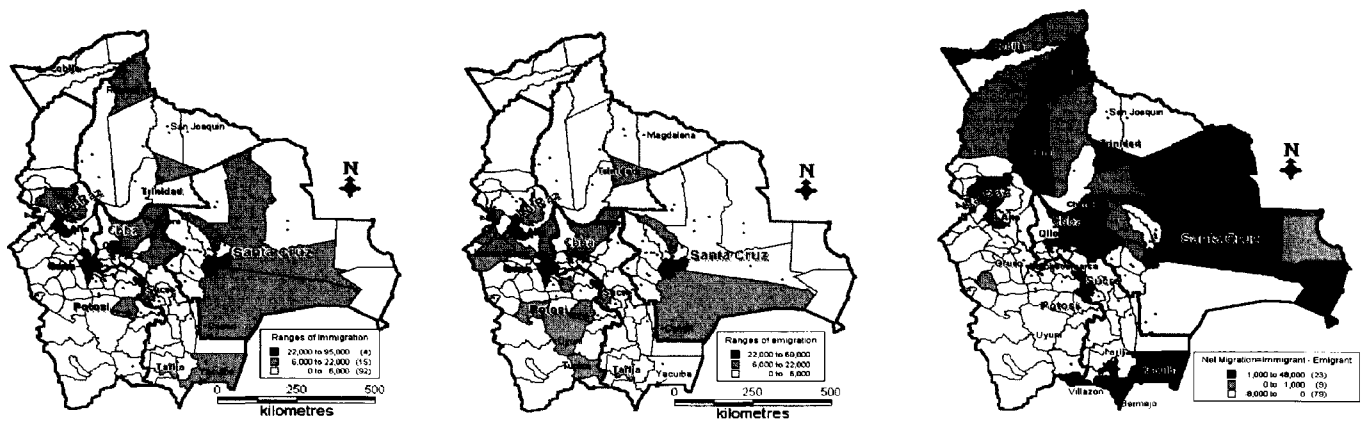
When one considers migration as a social event one can expect the population to condition its departure in the search of better life and work opportunities. In some way this is present as a frustrated hope in their home places and thus they want to achieve these conditions in bigger cities, even though once they arrive they go through a series of abuses and difficult situations. Many of these immigrants cannot find a steady or decent job and thus must work for themselves.

It is evident that the changes in the patterns of territorial movements of Bolivian population during the 20th century have had a direct impact on urbanisation and territorial occupation. In this process of changes in the direction of migration flows, these become an indirect indicator of the actions of political economy and/or the appearance of possibilities of work, as in the following summary:

Table 2.19. National Economic Corridor: Recent Migratory Condition and area of origin of immigration, 1992

NATIONAL ECONOMIC CORRIDOR	RECENT MIGRATORY CONDITION			AREA OF ORIGIN	
	IMMIGRANT	EMIGRANT	DIFFERENCE	RURAL	URBAN
A. IBAÑEZ-STA CRUZ	68634	35582	33052	22%	78%
CERCADO-CBBA	47068	32578	14490	25%	75%
EL ALTO-LA PAZ	43937	3570	40367	48%	52%
MURILLO-LA PAZ	42942	56944	-14002	37%	63%
TOTAL	202581	128674	73907		

Source: elaborated on own account from the re-processed database of the National Census of the Population and Housing 1992, INE, La Paz, Bolivia.



Map 2.5

Migratory Condition according to Ecological Contexts and Departments, 1992

— The first movement was related with the urban primacy of the city of La Paz, which received significant amounts of people from all parts of the country (Before 1950).

— A second one, related to the processes of direct colonisation which was in use since 1960, on an axis which goes from San Julian in Santa Cruz, going through Chapare in Cochabamba, through the department of Beni and up to the department of La Paz.

— A third change happened between 1950 and 1980 with the development of agricultural commercial industries of medium and larger size, oriented to the agro-industrial production in the East. The dynamism of industrial activity is an important factor for migrational attraction. The poultry industry, the production of animal foods, the processing of sugar cane and cotton are all-important sectors, which have had an important rôle in this process. In a first stage the most important flow came from the region of the valleys and the Altiplano, but after the eighties one could even see people who arrived from the Republic of Peru.

— The fourth change in migration direction is given through an international emigration flow especially strong towards neighbouring countries like Argentina, and toward the United States (Starting in the 70's).

— The last change happened in the second quarter of the eighties and still continues. After the application of

the structural adjustment program and due to the conflicts which the process of spontaneous colonisation had as a consequence of the expansion of the activities of the coca/cocaine industry there is a massive process of migration toward the regions directly and indirectly linked to the production of coca leaf. The paradox is that the State, which originated the process after seeing the unusual dynamism of the tropical region and due to the irreversibility of the demographic changes, tries to stop the migrations from the traditional agricultural zones. To achieve this they offered the farmers the construction of structures, especially irrigation systems that were never done and which forced the population to look for their own solutions. It is evident that the drug dealers have had an acceleration rôle in the economic growth and have been a factor in the immigration flow toward the zones of coca production and toward the most related cities (the Chapare is found between the cities of Cocha-bamba and Santa Cruz).

With respect to the migration behaviour during the nineties:

— The existence of continuous and growing migration flows that go to the cities of La Paz, Cochabamba and Santa Cruz. These cities have an area of migration influence that goes far beyond their own departmental context.

— The immigrant population has a predominantly

urban origin. The interpretation of the causes for this is that these immigrants represent a challenge, in the sense that they escape the usual migration stereotype to the city, and have to do with the relations between urban centres and the transformation process of the Bolivian cities in the last decades.

— Both in Santa Cruz and in Cochabamba, a very important proportion of the immigrants come from the Bolivian highlands (Potosí, Oruro and La Paz). The migration from the Altiplano has a growing tendency in all of its historical settings, which in some way can be related to the traditional link of the west with the rest of the country through the flow of products and workers required by the dominant mining activity and the political economical measure, which were established in 1985. These trends have permanently modified the pattern of urban development in Bolivia.

This development model started in 1952 has now completed its cycle. Yet factors such as the broadening the agricultural frontier, the development of livestock industry, the availability of natural resources, the crisis of west mining economy, the urban-industrial stagnation, the activities related with the production and commercialisation of cocaine, to which I add the opening of the highways in the lowland region such as: Santa Cruz -Beni, Puerto Villaroel-Yapacaní and the construction of the highway which joins the tropical area of Cochabamba with the department of Beni and the building of the energetic integration projects with Brazil⁸⁵ makes one foresee that in the coming years the migration flow will increase towards the central zone and the tropics of the country.

2.4.5 The international emigration of Bolivians

In Bolivia the receptive international migration is not significant, but an immigration flow towards the outside (to border countries like Argentina and to farther away countries like the United States) has started to acquire some importance. It was estimated with information, which comes from the population census done in some countries of Latin America, Europe and the United States around 1980, that there existed around 160,000 Bolivian emigrants outside the country. From this volume, 73% corresponds to the migration process

towards Argentina and 9 % goes to the United States of America. Following these with smaller pieces of the “pie” are: Brazil (8%), Chile (4%), Peru (2%) and with “pieces” of around 1 % are Venezuela and Germany, with even smaller “pieces” are Paraguay, Panama, Costa Rica and Guatemala, twelve countries for which there was information⁸⁶.

Using the official information of the National Census of Population and Shelter of Argentina⁸⁷, one can observe that since last century there has been a presence of Bolivians living in that country. In the Population Census of 1869 there were around 6 thousand persons, in 1990 that amount had increased to 143,000 emigrants increasing by more than 24 times its size (Table 2.20).

The increase of the Bolivian flow to Argentina in a good measure is explained by the demand for workers in agricultural activities, particularly in Northern Argentina. This was the origin and maybe one of the most important factors and one can divide it into the following activities: in first place sugar cane growing, then tobacco, fruit crops and activities related to grape harvesting, all these were reasons for an increasing emigration of Bolivians to Argentina⁸⁸. What is unfortunate is that the economic crisis in Argentina has also had effects in the reduction of activities; many of the “bolas” (name given to Bolivians in Argentina) had to emigrate again to North Argentina and to the Great Buenos Aires, a place where in the last years the worst crisis of immigration intolerance toward Bolivians has happened.

Table 2.20. Argentina: Number of Bolivian Emigrants and Rate of Growth, 1869 – 1991

PERIOD	BOLIVIANS	RATE OF GROWTH	TIME
1869	6194		
1895	7361	0,67	26
1914	18256	4,90	19
1947	47774	2,96	33
1960	89155	4,92	13
1970	92300	0,35	10
1980	118141	2,50	10
1991	143306	1,77	11

Source: Own elaboration, using data of the INDEC and Censuses National of population, Buenos Aires – Argentina.

The second country that receives Bolivian emigrants is the United States. According to North American statistics, the Bolivian population in the 1980 census was 14468 and ten years later, in the 1990 census, there were 31303 Bolivian residents in the USA with an annual growth rate⁸⁹ of 7.7%. This figure is higher than the Latin-American migration average to that country which was 6.7% for the same period. This reveals a growing tendency in the Bolivian emigration that in only 10 years doubled its size.

One must highlight that among the Bolivian emigrants to the United States only 13% have less than 12 years of formal education and 87% have professional studies. This is different from the emigrants that go to Argentina where there are only 10% that have professional studies. In the case of emigrants that go to the United States, Bolivia loses a population which has higher levels of education and, which is assimilated in that country. In the second case (Bolivians in Argentina) one finds farmers and workmen who work in low level jobs and in many cases also unstable jobs. It is because of this situation that they are called "seagull peasants" which illustrates the constant movement they have within Argentina. The information provided shows the conditioning that the economic factor has on Bolivian international emigration, it is evident that an important number of Bolivians are productively integrated in the economy of Argentina, as in the USA. Many of these emigrants keep links with Bolivia sending money on a monthly basis, and others invest their money in their new homeland. The emigration to other countries (which is much higher than the immigration which is received from outside) is an indicator that the country does not offer living opportunities to all Bolivians. From that point of view it would be a recommendation to take advantage of all the globalisation processes and of economic sub-regional integration (Andean Pact and MERCOSUR) to guarantee that a good number of Bolivians are productively integrated in the economies of the neighbouring countries and of the USA. In this situation it is necessary that they receive correct pay according to the international agreements on the issue and if this new work permits them to improve their knowledge and abilities (human capital) to save and send money to their families which stay in Bolivia. The objectives of policies in this field,

more than intervening in the work market, will consist of ensuring a fair and just treatment to all, migrants facilitate savings and the sending of money, offer opportunities to all migrants so that they invest their money in Bolivia and facilitate their reintegration if they decide to come back (degree validation, goods import, savings transfers in social security systems, etc.) The embassies and consular agencies should also promote the organisation of Bolivians that are resident in other countries to defend their rights and so preserve their culture alive and thus a sense of nationhood.

2.4.6 The patterns of urban change in Bolivia

The patterns of change in the process of urbanisation worldwide are noticeable in Bolivia in general and in Cochabamba, in particular. There has been a change from the North-South model of Urban Importance that prevailed until the seventies to another east – west city conglomerate with the three largest cities in Bolivia. One also notices that the new Bolivian urban model has become more complex not only because it involves the three largest cities, but also because of the complex inter-actions generated in their surroundings. Thus there has been a process of setting up urban nets and systems in the hinterland of each of the three cities. I have shown that these changes result from the weakening of the economic model based on mining or, the crisis of the Model of the State Economy that ran since the fifties, and from the implementation of structural reforms. The latter basically means the establishment of a free market economy since 1985. In both models Cochabamba has been present, but with different rôles. In the first case as a supplier of workers and food, and secondly as the linking element, the integrating element between east and west.

The main Bolivian cities have experienced an accelerated rate of urbanisation since the eighties, reflecting a country in transition, from being a rural one to one that is becoming predominantly urban. The problems implicit in the spatial re-distribution of the population are compounded by the structural reforms of the State. All this translates into an increasingly urbanised poverty and social segmentation and an even worse off economy. All over Bolivia, but in Cochabamba in particular, people live the extremes of poverty and social

exclusion. I have demonstrated that the deterioration can be accounted for by economic, social, cultural, political and demographic factors. It becomes more urgent, therefore, to face the new paradigm with renewed ideas and instruments, capable of introducing agility into urban planning and management.

When the time comes to carry out a diagnosis, it is important that the job is tackled being fully aware of the complexity of the prevalent pathologies and also from a multi-dimensional and systematic perspective. The need arises to reduce the structural gaps. These have appeared over time, but have become increasingly wider in recent times. Bolivians must all fight to rebuild a cohesive and more equal society. This is possible only through pacts or agreements that take into account the various individual and collective interests. In addition these pacts must evolve in an environment conducive to solutions where people defend and stand for their own decisions.

Chapters 4 and 5 begin the exploration of the multiple dimensions, hypothesising on the scenarios of change and deepening the multi-dimensional interpretation of the Comprehensive Development Plan that is concluded in Chapter 7. The said Plan has not been fully worked out here, but I argue for urgency. This Plan must, as I have insisted throughout, emerge from popular participation and technical know-how working together. The main goal of this plan must be to overcome poverty. This is not just a question of eliminating some embarrassing blight, but rather to remove the channels and means that reproduce poverty and transmit it generation after generation. Finally, although the nation acts to remove a local problem it must not be forgotten that this objective, and therefore, its task, transcends the boundaries not only of the city and the region, but also of the country. Thus when I work on constructing a model of a sustainable city (this case study) I do so thinking of a process of change on a wider and deeper scope.

I am fully aware that the process of change implies long-term interventions and so have tried to identify the factors that would explain the likely impact of the new model of urban growth in the productive structure, the rôle of education in the fight against social exclusion

and at the same time the form segregation takes in the cities making up the National Economic Corridor (Chapter 3).

2.5 Concluding Remarks

Latin America is the most urbanised developing region in the world, if it is compared with Africa and Asia where only a third of their inhabitants live in cities. A new model of urban primacy has arisen during recent years, the trend of large cities to construct roads within in a more and more extended territory has been emphasised integrating socially and economically with other extended nuclei. This procedure was put into force at the beginning of the eighties, at which time a relative attenuation of demographical concentration was produced in the main city (primate model), and more complex models are being strengthened which represent fringes of economic brokers, metropolitan areas, intermediate cities within its urban system.

Integration inside Latin American societies is dangerously weakening, due to the increase in poverty, inequality and social exclusion. Latin America is the unique region on the planet with the worst wealth distribution. It is dramatic to observe that the 20% poorest only obtain 45% of income; where as more than half of all income is appropriated by the 20% wealthiest, which is higher than happens in the South of Asia and Africa. At the end of the 20th century, the process of city disintegration had made great progress. The space segregation of the city is an increasing importance of modernity; the age of information and global communication is also the age of local segregation. The difference between rich and poor is no longer only economic, it is not explained only by space barriers either, but also by the access to sources of information and communication, which produce terrible economic, social, cultural and political consequences which are the outcome of the new international economic order.

Poverty is transferred to urban areas (urbanisation of poverty) and the cities have turned into the scene of inequality and exclusion. The unfair pattern of its development has deepened, income distribution is now more concentrated and unequal than in the seventies.

The cost of application of structural adjustment policies, explains the pronounced damage of living material conditions of Latin American population. During the last fifteen years critical poverty has increased, a strong contraction of labour took place along with loss of the purchasing power of salaries plus high social and political instability. Also a greater urban concentration took place, an income distribution extremely unequal between the different social sectors, with dramatic levels of social exclusion between and inside the regions and countries. Increase of poverty and the inequalities in diverse sides prevents having improvement in the quality of life and obtaining opportunities to reach progress for the 21st century for the sake of social justice and respect for human rights of men and women who work in search of a future less aggressive and fairer. The State will have to face these problems in a planned and organised way so that it must concentrate its activity to provide for everybody to an equal degree, but above all for the poor, basic services of urban infrastructure, health, education, and public security.

In many countries of Latin America and the Caribbean emigration appears to have contributed to alleviating the impact produced by the stress between demographic tendencies and the generation of employment. Emigration came to be considered as an option to search for, outside the countries of birth, labour and professional education opportunities. But, one of the greatest problems is the illegality of many immigrants. In some of the receiving countries there appear negative perceptions of foreigners. Even though they enjoy of the diverse benefits of immigration, such as taking advantage of cheap manual labour and the labour flexibility required to secure the competitiveness of their economies, all of this can be understood as a demonstration of the feasibility of that immigration that for xenophobic feelings, at present is rejected. The worry brought by migration, especially in developed countries, could turn into a inhibitory element for the potentialities for market liberality in order to encourage a more reasonable development on a global scale. The design of policies regarding population mobility is a task still pending, and its priority is made evident by the difficulty of admitting and facing facts that commit the international community.

Policies regarding migration must be seen in the more general context of development strategies. The said task demands the co-operation and joint effort of countries to carry out adequately migratory processes in an extended context of social equity and those considerations must be part of the open regionalism outlines. The policies directed to the international transfers of human resources could turn into a useful method to promote the diffusion and absorption of the technological change (proposing a brain exchange in place of brain drain). This possibility will gain strength if progress is made to determine a common market in relation to science and technology, with the participation of public and private agents.

Bolivian history shows the presence permanent revolutions and changes economic development, in which the human capital and the social capital played different rôles. A first phase is centred around an international competition based upon the exploitation of minerals and labour-force, in which the density of the social capital was very weak and the human capital only was required as "labour-force". First, at the time of silver and later on, at the time of tin, Bolivia reached a high economic growth, which was based on the employment of people with limited levels of education and precarious conditions of health and life.

The result of this modality of development created profound divisions between the Western and Eastern regions in Bolivia, which was characterised by a process of high concentration of income in favour of the powerful groups and low levels of human development of the poor, most of all in the East. In fact, a landscape of deprivation exists in this region, where everywhere ghost villages are situated or are in the process of becoming such, machines, obsolete and oxidised installations and equipment and an army of men and women that roam about the country looking for better opportunities to survive. The footprints of the damage to the environment which were not corrected are clearly visible, and their impact is obvious in the productive results of the lower lands

In Bolivia, the processes of demographic change took place within the framework of the existent social and spatial heterogeneity of the country. A spatially

decentralised urbanisation process should be promoted, strengthening the intermediate cities and the smaller urban centres that inter-connect them, which, together with the creation of better conditions for the human development of the population that living in the cities, would facilitate the access of the rural population to the urban markets and services. In this manner, the rural development would become more dynamic.

The socio-spatial heterogeneity has affected the processes of demographic change and the discriminatory demographic dynamics have contributed to the modification of the socio-spatial structuring of the country. It is illuminating to see that during the present century the urban zones have increased their demographic importance more than seventeen times, whereas the rural zones only doubled it. It is expected that the tendency of growth of the urban zones at the end of the century will not only continue, but will also become stronger. It is estimated that, by the year 2010 the Bolivian population will have reached 10 million inhabitants of which 7 million will live in urban areas, and only about one third of them in the rural areas.

The internal migrations have contributed to giving an image of profound differentiation, displacement of persons and families has taken place from contexts with limited possibilities for their human development towards contexts with better opportunities and where the satisfaction of basic necessities by means of public policies is less expensive. Consequently, the regional economic inequalities and the processes of social differentiation produce changes in the spatial distribution of the population in the predominant productive structure in the Bolivian cities. These changes tend to express the profound deterioration of the conditions of life and social reproduction of the major part of the Bolivian population, in the countryside as well as in the cities.

Bolivia finds itself in an initial stage of demographic transition and in an intermediate stage of urbanisation, its demographic future is not yet clear, is uncertain (and) depends upon the course that economic and social development in the country takes, and also from possible achievements in matters of Human

Development. The size of the population of Bolivia as well as her tendency to grow, can follow significantly different trajectories of change, according to whatever the course of fecundity will be, which will certainly depend in great measure upon the advances that could be made in the keystone components of human development, such as the reduction of poverty, in raising the levels and the improvement of the quality of education, access to the services of health (most of all in the areas of reproductive health and family planning); the reduction of the gaps of gender and the increasing incorporation of women in productive activity.

Notes

45. Haub Carl 1998.

46. UNFPA (United Nations Population Fund) The world population reached 6 billion around October 12, 1999. It has doubled since 1960 and is still increasing rapidly—by 77 million a year—and may grow to 9 billion or more by 2050. Most of the increase will be in the world's poorest and least-prepared countries. <http://www.unfpa.org/modules/6billion/index.htm>

47. The natural growth (v) is equal to the balance between the birth rate (b) and the death rate (d): $v = b - d$.

48. Bellet Carmen and Llop Josep Ma. 2000, Page 335

49. García Canclini, N., 2000.

50. The European continent has a dense network of numerous small and intermediate cities, even though this is less true for Latin America, yet their importance is growing. For more details please see Bellet Carmen and Llop Josep Ma. 2000. Page 339.

51. CEPAL – HABITAT (2000).

52. This trend was already observed by Villa Miguel, and Gerardo González, 1997.

53. Jordán Ricardo y Simioni Daniela, 2000, Page 40.

54. García Canclini, N., 2000, Web page: <http://www.unesco.org/issj/rics153/canclinispa.html>

55. Jordán R. and Simioni D. 2000; Op. Cit. Pages. 40-41

56. Jordán R. and Simioni D. 2000; page 29

57. Jordán R. and Simioni D. 2000; page 42

58. Jordán R. and Simioni D. 2000; page 49

59. CEPAL – HABITAT, 2000, Page. 13

60. Licia Valladares & Magda Prates Coelho, 1999.

61. Jordán Ricardo and Simioni Daniela, 2000; page 60 and 61. The authors indicate that there are three cities which come out of the pattern, the capitals of Chile, Colombia and Panamá, these cities have growth rates which are similar to ones of the intermediate cities.

62. Jordán Ricardo and Simioni Daniela, 2000, page 47.

63. Villa Miguel, 1999, says, "During this period, the control of the agricultural production forces, with respect to their contribution to production and employment was

equalled by the manufacturing impulse and third sector. The social contents of this transformation have been important, the structure of the classes suffered enormous changes, which was expressed in big social and labour movements which was made possible by the transfer of the active population from the less productive branches towards others which have been superior."

64.

OIT, 2000, Page. 18

65.

Sánchez Ruiz, Enrique E., s.f., page 1.

66.

Lattes, Alfredo E, 1983, page 42.

67.

Licia Valladares & Magda Prates Coelho, 1999.

68.

CEPAL – HABITAT, 2000, Page. 14

69.

CELADE, 2001.

70.

Villa Miguel, Marínez Pizarro Jorge, 2000, Page. 5

71.

Villa Miguel, Marínez Pizarro Jorge, 2000, Page 9

72.

Pellegrino, Adela, 2000: page 10

73.

There are elements that make one think that during the second silver boom (1872-1895) the mining businessmen were able to create the conditions to maintain large numbers of workers; in this manner mining towns of importance were formed. The mining/benefit complex of Pulacayo-Huanchaca practically doubled its population between 1870 and 1900, it grew from 2895 to 7635 inhabitants. In this same period the population of Colquechaca would quickly grow and be elevated to the degree of city Cf. MITRE (1981)

74.

Calderón Fernando, 1983, page. 26

75.

The hyper-inflation in Bolivia between 1983 and 1985 and the political measures taken by the UDP government, stimulated commercial and financial speculation thus

damaging productive activities, while the New Political Economy which was in use since August 1985, even though it achieved stability of the monetary system, it did not create the necessary conditions for re-activation of the productive system of the country. For greater details on the issue please see Larrazábal Hernando; 1992, Políticas y Sector Informal Urbano, in Revista Programa de Ajuste Estructural, Serie: Documentos de trabajo N° 1, CEDLA, La Paz.

76.

Laserna, Roberto, 1984.

77.

Plan Regional de Desarrollo de Cochabamba 1984 - 1987, Dirección de Planificación - CORDECO, Cochabamba.

78.

The size of these centres varies between 20,000 and 200,000 people.

79.

PIEB – Tinkazos, 1999, page 46.

80.

Laserna, Roberto, 2000. Laserna presents an interesting reflection: "... the word poverty has a reference to need, but also to an inability and many times we use it to ask for things and we apologise knowing that this label has the weight of self-humiliation and self-hate." This challenge which Laserna poses will be incorporated to the presentation of the multi-varied GCCA of chapter 5, which was built due to the need of having multi-dimensional and systematic indicators.

81.

With the purpose of keeping at least international comparability I used the proposal of George Psacharopoulos: World Bank technical paper N° 351, page 62, Poverty and Income Distribution in Latin America: The story of the 1980's. Which defines the cost of a minimum daily food basket as 1 \$us per person and 2 \$us per person for a basic basket.

82.

CEPAL, 2001.

83.

There exists a migration process toward the frontier –apparently temporary and also toward com-

mercial highland zones like Villa zón (Potosí), Desaguadero (La Paz), Uyuni (Potosí), and others of less importance. This commercial and population movement acquires all the time more importance to the internal national market of foreign products. An easily seen characteristic is that migrants are mainly a population of highland origin, which moves within its own ecological context. Meanwhile, the development of frontier commercial activities in the tropical zone -Puerto Suárez (Santa Cruz), Yacuiba and less for Bermejo (Tarija)-, is, paradoxically, also developed in the most part by merchants from the highlands.

84.

It is illustrative to observe that the difference between the output flow and the immigrants (input flow) the second are much more concentrated, of a total of 158,000 immigrants which came from west Bolivia 80% of the same (127963) went directly to the Departmental capital cities: Murillo-La Paz (93807); Cercado-Oruro (23717) and Frías-Potosí (10439).

85.

The construction of a thermo-electrical plant in the frontier town of Quijarro (Santa Cruz) and the building of the gas pipeline, will increase the energy flow and incomes due to shared profits in the department of Santa Cruz, all this work is being done now.

86.

Ledo, Carmen, 1986.

87.

Maccio Guillermo and Diva Elizalde, 1994.

88.

Alejandro Grimson, 1996. Pages 17 and 18 present interesting details of the migration stages of Bolivian migration to the Republic of Argentina.

89.

Lapham, sf. Table II.6.

**3. The structure of production
and economic activities:
social and spatial segregation**

3.1 Introduction

The aim of this Chapter is to expand the second hypothesis, which states that the present spatial and social segregation has been produced by the way in which individuals place themselves in the labour market. Also to be considered are the opportunities for access to knowledge and education, which determines their entrance to the highly specialised consumer world. All of these eventually lead to marginality⁹⁰ and social exclusion in the use and possession of space, thus creating an even greater internal urban differentiation.

The history of Bolivia shows different phases or types of economic development. In these, human and social elements had different rôles where results were expressed in a deep structural-historical heterogeneity. This is evident in the economic, social, political, environmental, territorial and cultural gaps which exist internally within the country.

In recent years social instability has grown, and older structural problems have become deeper. It has become evident that the cost of structural adjustments fell on the backs of the poorest, who now live in the marginal urban zones and in rural zones. In this context of an informal sector, which is underpaid, insecure, unsteady and with no legal or social benefits, there has been a growth of the poverty population. Together with this situation has come an extremely segregated use and possession of the urban area.

In the first part of this Chapter I present different issues related to the labour market. Among these are those, which deal with the Gross Domestic Product (GDP) as an indicator of development, the productive structure as an estimate of the economical basis for labour processes and workers' income, which is a direct determinant of the poverty status. I incorporate some attributes of the worker; such as migration status, age, sex and the degree of education since this latter is the one, which measures the qualifications and ability which the worker has.

In the second part the form that the spatial organisation of the population assumes in each of the cities of the

Corridor is analysed. It is supposed that the marginalisation and segregation processes in the urban environment have grown due to the growth of poverty in the country. After presenting the urban profiles of the city, I try to reflect in a summary the experience of urban planning and the visions of the future, which are strategic for each of the Corridor cities.

3.2 Economic Profile of the Cities

The crisis model of State Economy and accumulation, which started in 1952, ended leaving Bolivia in a period where the country was on the border of disaster. It was then that a new model of Free Market started to be applied in 1985. This began with a set of measures, the "New Economical Policies (NPE)", wherein the structural adjustment brought deep changes to the Bolivian economic profile. The first generation of changes were issued between 1985 and 1993. The NPE had a double goal – stabilise and make amore flexible macro-economy, a shock stabilisation was used which restricted greatly the monetary and tax policies backed up by an adjustment of the currency to the value of the dollar in the black market. Flexibility was introduced to the prices, which started to be regulated by the free market, with the purpose of reducing the public debt and hyper-inflation.

Between 1993 and 1997 the second generation of reforms were promulgated. The nationalised companies were transferred to the private sector, especially within the areas of fuel, electricity, and basic services. The departure of the State from the productive area, a consequence of the sale of more than 50% of the bonds in public companies to foreign partners, has produced a large increase in unemployment. It has also put the central nucleus of national economy into international hands, and national companies have, unfortunately, become secondary partners. Foreign private investment has become the leader of the total investment. The structural adjustment opened up the national economy much more, and reduced the measures of protectionism for national production. Since 1986 Bolivian imports have a general tax of 10% to which has to be added the high transport costs. Nevertheless, this is not an obstacle to the fact that a continuously growing amount

REGION	FORMAL		INFORMAL		DOMESTIC		TOTAL
	1992	1995	1992	1995	1992	1995	
National							
Economic							
Corridor	36,1	31,3	58,0	63,9	5,9	4,8	100,0
Other places	38,8	31,9	56,3	61,6	5,0	6,5	100,0
Total	36,6	31,6	57,7	62,9	5,8	5,5	100,0

Source: CEDLA, page 59, Informe Social Bolivia, 1996

Table 3.1: Structure of Employment and Organisation of Work

of products which could be produced locally (and which, in fact, were produced) are replaced by imported products.

The result of this process can be seen in an increase of the tertiary structure of the economy; two thirds of Bolivian workers belong to an "informal" urban sector. The activity of this sector is characterised by the development of small activities, with low productivity and managed by people of poor classes. If this definition is applied to the economies of La Paz, Santa Cruz and in Cochabamba, and the rest of the country, most of the workers participate in this "informal" state (Table 3.1).

Three quarters of the Gross Domestic Product (GDP) was generated in the year 1996 in the National

Table 3.2. Bolivian Gross Domestic Product (GDP) and Investment per Department, 1992 - 1996

DEPARTAMENT	GDP	POPULATION	GDP PER	GDP	GDP	PARTICIPATION IN THE GDP		GROWTH ANNUAL	
	THOUSAND		CAPITA	THOUSAND	PER CAPITA	1992 (%)	1996 (%)**	INVESTMENT	
	Bs.		Bs.	\$US. CURRENT *	\$US. CURRENT			AVERAGE PUBLISHES	
CURRENT *		CURRENT *						89-96 (%)**1998 (%)**	
Santa Cruz	7,249,845	1,421,239	5,101	1,856,269	1,306	29.0%	28.8	5.6	16.8
La Paz	7,128,358	2,044,735	3,486	1,825,163	893	28.5%	26.0	4.0	20.3
Cochabamba	4,483,849	1,236,997	3,625	1,148,056	928	17.9%	18.4	3.9	16.1
Oruro	1,152,114	370,414	3,110	294,691	796	4.6%	6.1	5.7	6.4
Potosí	1,179,767	689,610	1,711	302,071	438	4.7%	5.7	2.8	7.1
Chuquisaca	1,429,385	479,455	2,981	365,983	763	5.7%	5.5	0.6	6.4
Tarija	1,105,583	314,152	3,519	283,076	901	4.4%	4.8	4.0	10.5
Beni	1,145,785	289,248	3,961	293,370	1,014	4.6%	3.9	2.2	4.9
Pando	156,990	41,709	3,764	40,196	964	0.6%	0.8	4.9	2.3
TOTAL	25,031,676	6,887,559	3,634	6,408,877	931	100.0%	100%	4.2	9.2

Source: * Laserna Roberto y otros, Sostenibilidad y Desarrollo Humano en Cochabamba, Cuadro 3.1ff, 1995. Exchange rate average 1992 Bs. 3.9056 for American dollar. ** UDAPE, 2000,

BOLIVIA: PROSPECTIVA ECONOMICA Y SOCIAL, Programa de las Naciones Unidas Para el Desarrollo (PNUD), Cuadernos del futuro 10. La Paz, Bolivia. Page. 16.

Economic Corridor. An even more dramatic situation is seen when the per capita GDP is analysed, with the exception that only the Eastern Departments (Santa Cruz, Beni and Pando) are found to be over the national average. The unwarranted and heterogeneous gap is even more evident when one sees Santa Cruz in first place at (U.S.\$ 1306) compared to the last place, the Altiplane where Potosi at (U.S.\$ 438) has an equivalent to 34% of the income of Santa Cruz (Table 3.2).

One must remember that the vision of economic development adopted after the National Revolution of 1952 was based upon the miner-state⁹¹ accumulation pattern. It is this pattern, which not only stimulates the development of tropical agriculture, but also the development of industry oriented toward the substitution of imported direct consumer goods. Over this period import taxes were raised to protect the growing local industry and new regulations were established for imports.

It was thanks to this impulse that expanding industry established itself mainly in the cities of La Paz, Oruro, Cochabamba and Santa Cruz, but there was also action on an international basis. In 1969 Bolivia became a signatory to the Andine Pact, hoping that a common market could be established for the countries in the sub-region. However, these policies had a short and limited success since the internal market was quite small, with little potential for export. The landlocked situation of the

country contributed to increasing transportation costs, which had a negative effect on the variety of products produced, and so prices were not internationally manipulated. Even though there were negative aspects, one can observe that in this period some industrial sectors developed (agro-industry, textiles, certain areas of light metal industry and others) and the industrial sector provided 16% of total employment.

Starting in the sixties and gaining strength in the eighties and nineties, there was a growth of imports (both legal and illegal). These were financed mainly by the illegal funds that came from exports of coca by-products and due to a currency change, which permitted illegal profits. The flooding of the Bolivian market with imports including foods, clothes and others reduced the possibilities for industrial expansion since they were all commercialised through the informal sector. The Free Market Economy model generated a situation of insecurity and lack of satisfaction in most of the Bolivian population, especially among workers.

In the compass of public policies the groups of greater economic power have always been privileged. More than half of the public investment (53%) has been concentrated in the cities of the economical Corridor.

Table 3.3: National Economic Corridor, Gross Domestic Product Structure by Sectors of Economic Activity, 1988 – 1996 (in nominal terms)

GDP SECTORS OF ECONOMIC ACTIVITY	LA PAZ		COCHABAMBA		SANTA CRUZ	
	1988	1996	1988	1996	1988	1996
Agriculture, Forestry, Fishing and Mining	15%	13%	21%	21%	27%	26%
Manufacturing Industry	18%	16%	27%	25%	21%	21%
Electricity, Gas And Water	1%	5%	2%	3%	2%	4%
Construction	4%	4%	4%	4%	3%	3%
Commerce	11%	11%	9%	9%	9%	10%
Transportation And Communication	11%	14%	9%	12%	10%	13%
Financial, Services to the Companies	17%	14%	11%	10%	13%	12%
Communal Serv., Social and Personals	5%	5%	5%	5%	5%	4%
Hotel and Restaurant	4%	3%	3%	3%	4%	3%
Banks Imputed Services	-2%	-4%	-1%	-3%	-2%	-5%
B. Services the Administrations Publish	15%	18%	9%	11%	7%	8%
C. Domestic Service	1%	1%	1%	0%	1%	1%
Value basic (Current Prices)	2,625,377	7,785,616	1,875,192	5,285,090	2,517,588	7,780,517

Source: Own elaboration starting from the database of the INE - Department. of National Accounting, 1988, 1996, La Paz, Bolivia.

The reason for this targeting of economical resources and composition of the GDP is the development of the agro-industrial activities, of non-traditional exports and of fuels. The development of the transformation activities and the sustained growth tendency of the tertiary activities mainly among services in the cities of the Corridor is due to the privilege the State gives to their development (Table 3.2).

The aspects mentioned have generated an effect of replication in the economy of these cities. As a logical consequence there has been increase immigration into the cities of the Corridor, more than 50% of the EAP has had a tendency to migrate, which partially explains that the reason for migration was economic.

Between 1988 and 1996 there have been considerable drops in the productive structures of all sectors. The only sectors, which have grown, have been transport, storage companies and communications. All these are activities, which are indirectly benefited by the globalisation process, using the strategic bonds the country offers (Table 3.3) The Bolivian State has once again invested important amounts of foreign aid in these sectors, which in many cases are State monopolies. In the communication areas there has been important investment and technological improvement, important works have been done by the Empresa Nacional de Telecomunicaciones (ENTEL), the national communications company. There have also been

important investments by part of 'Telefónica Celular' (Telecel), a private cellular company and finally by the local telephone⁹² companies.

When one analyses the behaviour of the productive structure and the degree of participation of the GDP in the area of each of the cities of the Corridor, there are differences. In monetary terms in 1996, Santa Cruz and La Paz had similar contributions of around 7.785 million Bolivians, but in relative terms each one participated with 29% and 26% of the national GDP. According to Table 3.4 Cochabamba participated with a fifth of the national GDP (5,285 million Bolivians).

In La Paz 73% of production is concentrated in the manufacturing industry, commerce, transport, communications, financial establishments and public administration services. The fact La Paz is the seat of the Government partially explains its productive structure profile. On the other hand, this city has entered the international market with manufactures and gold jewellery, putting the City in second place for total exports and for non-traditional exports. La Paz has

benefited by an important part of foreign investment in the manufacturing industry (30%) and almost half (49%) of it was intended for commerce and services. It occupies the first place in taxes, second place in public investment (1988-89 average), and third place in per capita public investment and development credits. Potentially, the development possibilities of La Paz are centred on a better use of its geographical location with respect to the new economic area made up of the North of Chile and the South of Peru. The efforts of the Export Corridors toward Arica and Desaguadero could be translated into wealth production which is related to international⁹³ demands.

Santa Cruz has achieved a wide and solid productive base where 80% of its production originates in agriculture, livestock, manufacturing, financial establishments, transport, communication and commerce. It holds the first place in the manufacturing, agriculture and fuel GDP. In national agricultural production, Santa Cruz has a concentration of 94% of mechanised and integrated agro-industrial production. The financing sources are concentrated upon private banks, but also include development credits from the Central Bank of Bolivia. It has a political and business class who seek innovation and a high degree of productivity. It has also generated a base to attract

Table 3.4. National Economic Corridor: Gross Domestic Product to Current Prices According to Sectors of Economic Activity, 1996 (In thousands of Bolivians)

SECTORS OF THE ECONOMIC ACTIVITY	LA PAZ	CBA	STA CRUZ	GDP CORRIDOR	GDP TOTAL COUNTRY
A. INDUSTRIES	6.320.175	4.679.403	7.095.059	18.094.637	24.599.190
Agriculture, forestry and Fishing	648.800	876.885	1.819.377	3.345.062	4.789.906
Extraction Mines and quarry	419.197	185.772	212.302	817.271	1.944.879
Manufacturing Industry	1.253.760	1.337.731	1.646.341	4.237.832	5.392.740
Electricity, gas and Water	393.593	176.317	331.136	901.046	1.101.563
Construction	293.509	199.006	202.251	694.766	955.007
Commerce	821.205	469.253	765.137	2.055.595	2.713.548
Transportation and Communication	1.055.709	616.753	973.933	2.646.395	3.250.500
Financial Services to the Companies	1.112.173	522.418	971.597	2.606.188	3.177.093
Communal, Social and Personal Services	376.448	257.176	326.656	960.280	1.222.278
Hotel and Restaurant	256.956	173.346	240.181	670.483	929.337
Banks Imputed Services	-311.175	-135.254	-393.854	-840.283	-877.663
B. SERVICES THE					
ADMINISTRATIONS PUBLISH	1.411.932	583.567	613.399	2.608.898	3.585.607
C. DOMESTIC SERVICE	53.509	22.121	72.059	147.689	185.352
TOTAL (Current Prices)	7.785.616	5.285.090	7.780.517	20.851.223	28.370.147

Source: Own elaboration starting from the database of the INE - Department. of National Accounting, 1996, La Paz, Bolivia.

private investment, a good road system, railways and airport and water transport systems are key factors. It has the first place in human development and its index is the highest in Bolivia (0,620), which is twice that of Potosi. All of this makes Santa Cruz a competitive region with great opportunities to have a sustainable future in its development and entry into the new millennium fulfilling the demands and requirements of the world market.

In Cochabamba 84% of the total production comes from activities of the manufacturing, agricultural, transport and communication industries. The transport and commercial activities in Cochabamba are an expression of the degree of commercialisation of economic relations. The dynamics and diversity of wealth generation is oriented toward the internal market and has been favoured by its geographical location and the integration rôle it has between east and west Bolivia. Direct foreign investment is 50% oriented towards commerce and services even though it is directed at 27% to fuels and 21% to industry, keeping a balance in the development of productive functionality. A quarter of the basic prices of the GDP are concentrated in the manufacturing industry. This is characterised by a greater concentration of the direct consumer goods (foods and beverages), textiles, clothes, furniture, leather, shoes, metal works and printing works.

The presence of immigrants who work has augmented

the manufacturing activities such as clothes production and blue jeans workshops; these have been established in the suburbs of Cochabamba. There are also several smaller industries, which produce leather, wool, wood and metal objects. Products are internally distributed through the weekly open markets of the Cancha and the Pampa, the exports go through Yacuiba to North Argentina and to Peru through the Desaguadero zone.

The historical “barn” of the Alto Peru was Cochabamba, so-called because it was characterised by the large agricultural production. However, during the nineties it became the second agricultural producer and went into the energy field, since in the same decade it started to produce a lot of oil. One can guess that over a mid term its main income source will be oil considering that in the nineties it had second place in oil production, and the fourth place in gas production. Cochabamba has an intermediate productive profile, which is in between that of La Paz and Santa Cruz. It is for this reason that it could be a model based on both natural resources and a manufacturing industry⁹⁴.

3.2.1 Economic participation of the Population

The “economically active population” (EAP) includes those people who in the reference time of the poll (the week previous to the same) were working, but also those who even though they had a job were sick or on vacation. Also, parts of the EAP were those who found themselves without a job because they were dismissed and those who were looking for their first job.

In the last population census in 1992 it was determined

Table 3.5. National Economic Corridor. The Population's Economic Structure, Rate of Participation by Gender and Cities – 1992 (In Absolute Values)

ACTIVITY	LA PAZ			COCHABAMBA			SANTA CRUZ			TOTAL
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	CORRIDOR
Children	98241	95424	193665	35974	35045	71019	71774	68910	140684	405368
PAP	443257	478193	921450	158119	177481	335600	265690	288838	554528	1811578
EAP	249285	155796	405081	87055	64913	151968	161315	103165	264480	821529
Employed	229709	149636	379345	81916	62559	144475	153901	100006	253907	777727
Unemployed	10546	2627	13173	3282	1206	4488	4470	1495	5965	23626
Candidate	9030	3533	12563	1857	1148	3005	2944	1664	4608	20176
EIP	193972	322397	516369	71064	112568	183632	104375	185673	290048	990049
TOTAL	541498	573617	1115115	194093	212526	406619	337464	357748	695212	2216946
Rate RP	56.2	32.6	44	55.1	36.6	45.3	60.7	35.7	47.7	45.3

Potentially Active Population: PAP; EAP= Economically Active Population; RP= Refined Rate of Participation $RP=EAP/PAP*100$

Source: elaborated on own account from the reprocessed database of the National Census of the Population and Housing 1992, INE, La Paz, Bolivia.

that the working population – over the age of seven – in the cities of the Corridor reached around two million people, of which 800,000 were incorporated in the EAP. Of these 778,000 were employed, while those unemployed whether they were dismissed or looking for their first job numbered 44802 people (Table 3.5).

The potentially active population reached 82%, within this there was a potential work force population of around 45% (refined rate of participation). The differences by city speak for themselves; in Santa Cruz there is a greater refined rate of economic participation, around 48% compared to the 45% for the cities of Cochabamba and La Paz. Independently of the residence area we can see there is a greater economic participation for men than for women. In fact, more than half the men of working age do work or wish to do so, while only a third of women have this status. This shows that there is an under-estimation of female labour under the current statistics since there is a growing number of a woman in the active economic population.

a. Focus by Type of Activity

With the purpose of analysing in more detail the specific situation of the cities of the Corridor, the data from the EAP has been perused in detail and has been re-grouped into three large sectors. The classification has been done by type and according to the service provided, some of which have quite a few sub-categories (Table 3.6).

The distribution of the economically active population (EAP) among the different types is a result of the evolution and transformation of the productive structure. The changes, which have happened over time, have implicated adaptations and adjustment of the activities in such a way that the dominant sectors work as agents of co-ordination. In the context of an urban society where social relations of pre-capitalist production prevail, the inclusion of the population in the labour market does not necessarily follow the criteria of productive efficiency. Neither does it follow the logic of capitalist accumulation and so the strong impact that domestic economy could have is expressed instead in a large tertiary sector.

In other words, the expansion and control of the

capitalist organisation type in world economy has not directly implied a real decline of the pre-existent form, but has meant its adaptation and subjection. Consequently, the EAP distribution is according to the type of activities and is a partial reflection of the productive structure, which has been historically established. Concurrently, there is a wide range of functions, which the population fulfils within the social process of production.

One sees the social process of production as a set of activities, which do not only include the strict economic sphere, but also include politics and social organisation. It is from these different sources that the population finds the means to survive and reproduce. Consequently, all the EAP is present in the productive process. So also, should the women who work at home and thus sustain their homes? However, the conventional statistical methods exclude them from the concept of activity and thus they are omitted from Table 3.6 (this does not mean that there is an abstraction from the domestic service which forms part of the EAP)⁹⁵. Another fraction of the population, which has been excluded, due to the imprecise information available, is those under fifteen years old⁹⁶.

It can be seen from the previous explanation that the tertiary sector is more than two thirds of the EAP. This situation is even more evident among women; more than 85% of them are working in this sector (even though among men this goes over 50%). This process of tertiary growth is a historical product of the way cities grow in Bolivia. It seems quite clear that the specific social contents of the urbanisation process have permitted a continuous feedback of the tertiary process, since services do not only constitute the main labour source, but also the essence of the reproduction of the growing urban⁹⁷ population.

However, one has to recognise the strong heterogeneity of the tertiary sector, specifically giving these cities a characteristic; the multiple monetary forms it has and the continuous exchange patterns between different commercial investment levels. This phenomenon highlights the uneven functioning of commercial capitalism, in addition to which there is a complete organic system for clients and middlemen⁹⁸.

BRANCHES OF ECONOMIC ACTIVITY	LA PAZ			COCHABAMBA			SANTA CRUZ		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
PRIMARY	4.2	3	3.7	5.4	3	4.4	7.4	2.4	5.6
SECONDARY	36.8	11.5	27.6	37.2	11.8	26.6	36.3	11.3	27.2
Manufacturing Industry	22.3	10.7	18.1	20.8	11.2	16.8	18.2	10.7	15.5
Electricity, gas and Water	0.5	0.1	0.4	1	0.2	0.6	0.6	0.1	0.4
Construction	13.9	0.7	9.1	15.4	0.4	9.1	17.6	0.5	11.3
TERTIARY	59.1	85.5	68.7	57.4	85.3	69.1	56.3	86.3	67.3
Services Linked the Distribution	26.7	22.7	25.3	26.3	16.1	22.1	35.2	26.7	32.1
Trade wholesaler	6.1	1.5	4.4	6.7	1.2	4.4	8.4	1.4	5.9
Trade retailer	8.0	19.7	12.2	5.9	13.5	9.0	11.7	24	16.2
Transportation & Communication	12.7	1.5	8.6	13.7	1.5	8.6	15.1	1.3	10.1
Services Linked the Production	7.6	6	7.1	6.8	5.1	6.1	6.5	5.2	6
Social And Communal Services	22.1	31.8	25.6	22.5	40.3	30	11.6	21.1	15.1
Personal Services	2.6	24.9	10.7	1.8	23.8	11	2.9	33.4	14.1
Hotel and Restaurant	1.9	3.3	2.4	1	2.1	1.5	1.8	3.5	2.4
Domestic Services	0.7	21.6	8.3	0.7	21.6	9.5	1.1	29.9	11.6
TOTAL	100	100	100	100	100	100	100	100	100
Cases	213062	121858	334920	79943	57291	137234	146314	84155	230469

Source: elaborated on own account from the re-processed database of the National Census of the Population and Housing 1992, INE, La Paz, Bolivia.

Table 3.6. National Economic Corridor: Relative Distribution of the Economically Active Population According to Branches of Economic Activity And Gender, 1992.

The information in Table 3.6 shows a differentiated tertiary sector in four service categories. In the case of those, which are related to distribution, there is an evident predominance of commerce as it is seen in the open markets, covered marketplaces and on the streets. In these activities women play a major rôle (in fact, 63% of the active workers in this area are women) while in wholesaling, which is a more capitalist⁹⁹ area; there is a greater masculine presence. The transport industry profile is similar since it does not only orient itself to satisfying the transport needs of people (within cities, surroundings and other regions), but mainly in transporting products from the countryside to the cities. As a whole this distribution category uses a quarter of the work force in La Paz and Cochabamba. In Santa Cruz it is slightly different where it uses around a third (32%) of the work force.

An indicator of the weakness of the productive structure goods transformation is found when one sees the low weighting there is in the indicator of access to labour for

workers who execute tasks in services related to production. This type of activity only absorbed around 6% of the EAP in 1992. In this category fall all the financial establishments (banks, currency houses, accounting offices, insurance offices) where all of these are basically in support of the mechanism, which increases the value of the investment. They also serve as agents of material production and exclusion, since this type of activity is only possible for those groups which have a greater economic power and have higher academic achievements.

The use of social and community services was originally based on State and local institution activities. The type of employment, which characterises the work of the Government's bureaucracy, which was quite common during the time of post nationalist revolution, was a steady job in a sedentary occupation, which was middle class within the social¹⁰⁰ structure. This includes approximately a 30% of the EAP of Cochabamba, 25% in the city of La Paz and 15% in Santa Cruz. One has to highlight that towards 1992 a little over a third of the public employees were women (30% of the feminine EAP), which is associated with their participation in teaching activities.

It is evident that an important part of the State jobs is involved the sphere of violence (police, armed forces, jailers, courts, prefects), the economic sphere (Central Bank, customs, revenue offices and the public treasury) central administration (statistics, ministerial offices, regional planning), communications and transport (ENTEL – National Communication Company, post company, telegraphs, city telephone companies, the national train company, LAB – (Bolivian airlines). But, their direct work in the context of collective consumerism is also important (education at all levels, medical and sanitary services, social security) as, also, is participation in some productive sectors (ENDE – National Electricity Company, YPFB – National Fuel Company, Industrial Milk Plant, Bolivian Cement Corporation, Bolivian Ceramic Plant, and National Smelter Plant). The growth of public employment, even though it was not that important as a source of work, contributed to the creation of a larger labour market in the cities. During the seventies and in the beginning of the eighties these became important as a source of work and could explain a considerable part of the urban employment growth, around 6% of the same, which fell to 1% in 1996¹⁰¹.

Notice that during 1993 and 1997 close to 68 companies had accepted foreign investment. There was also a series of transformations, which changed the relation of the State with Bolivian society, initiated by the execution of de-centralisation and popular participation laws¹⁰². Up to the end of 1996 there were five State companies which were opened to private investment: ENDE, ENTEL, LAB, ENFE and YPFB. In reality these were public companies which were dependant on the development agencies of each Department and which had great efficiency in their activities.

From 1997 onwards the Metallurgical Company Vinto was also opened to private investment, together with the water and sewage companies and electricity distribution. There were very few companies, which stayed under State administration, and, finally, in 1998 a new period of deep reforms began which tried to open the State companies that were left to private investment. Since the Bolivian economy is highly sensitive to the events of the world market, the external shock caused by

the Asiatic financial crisis, a deterioration took place in the prices of export for the main Bolivian products. The main Bolivian products, affected by this crisis, were minerals and those, which are by-products of soy. Likewise, petroleum / oil prices fall and a great surplus of Brazilian coffee created a negative impact on the balance, generating massive numbers of people who have been dismissed by public companies. This has caused the labour market to become quite fragile, increasing unemployment and the number of people who live in poverty and widening the gap of injustice and uneven national development.

Finally, in the fourth service category (Table 3.6) where feminine predominance is evident, one finds personal services and individual consumers. Rather more than 12% of the total EAP and close to 30% of the feminine EAP finds itself in this type of activity. These women work mainly as maids, which reflect the structural heterogeneity of the economy and the city society which inhabits the three cities which constitute the Bolivian economical axis. Due to the abundance of workers, these jobs include heavy jobs, which are frequently paid with goods and services (clothes, food, and, in the best cases, access to education). Normally, these occupations have an almost servant-like condition since those who accept them must live in the homes of those whom they serve (commonly professionals, directors or administrators).

Goods producing activities use 28% of the EAP in all the large cities. The workers in the manufacturing units are mostly men, 37 per cent men and only 11 percent of women fulfil these functions. According to the Manufacturing Industry Poll from the INE, in 1994 around 83% of the economic units had a micro size (from 1 to 4 employees), which absorbed 30% of the employed workforce. The bigger industries, which have more than 50 employees, accounted for around 1.75% of the establishments and they absorbed 44% of the employed workforce. These contributed 79.5% of the Gross Value of the Production, 83.5% of the Aggregate Value and 76.6% of Intermediate Consumption.

The industrial sector has been characterised since its beginning by its weakness, an aspect that charges clarity

Table 3.7. Industry	INDUSTRY	# OF ESTABLISHMENTS	WORKERS	GROSS VALUE OF THE PRODUCTION	ADDED VALUE	INTERMEDIATE CONSUMPTION
Manufacture: Number of establishments, Workers, Remuneration, Gross Value of Production, Added Value and Intermediate Consumption, 1994.	MANUFACTURER					
	1 – 4	82.98	30.33	2.91	2.91	2.90
	5 – 14	12.71	14.98	5.35	3.68	6.55
	15 – 49	2.56	10.72	12.25	9.85	13.98
	50 & +	1.75	43.98	79.50	83.55	76.57
	Total	100.00	100.00	100.00	100.00	100.00
	Cases	10,583	64,444	10,347,270	4,333,435	6,013,835

Source: Second census of economic establishments, INE (National Institute of Statistic) 1994, La Paz – Bolivia.

when evidencing a greater production of dedicated goods, mainly, destined for immediate consumption. These industries also had a pre-dominance in the manual productive techniques and generally reflected the importance of small establishments over larger ones (Table 3.7).

In Cochabamba the tertiary predominance in the labour market and the weakness of the industrial sector characterise an environment in which the self-generation of jobs and the strength of the family ties seem to be the most evident dimensions.

Manufacturing has as predominant characteristics a strong spatial and productive concentration especially in the leather, wood, food and beverages and metal working traditional industries. All of these produce direct consumer goods for basic needs, which use work processes of a simple or a complex type with either low or high technologies. Finally, one can say that these all have as their objective the internal market.

Much of the craftsman activity and a great part of the small industrial establishments absorb a third of the EAP of the secondary sector. They orient themselves to the exploitation of the local raw materials to produce direct consumer goods. In this way the textile production is supported by many wool-producing livestock, ceramics are associated with clay availability and agriculture is related to the orchards in the zone. Even though craftsmanship uses many people it has a marginal rôle within the current productive structure. On the other hand, some traditional sectors of Cochabamba like craftsmanship have suffered the effects of the international market, which through illegal means has introduced products, which have lower prices¹⁰³. So the small craftsmanship companies cover

only a relatively small sector of the internal demand and are not capable of accessing larger markets.

In La Paz pharmaceuticals, chemistry, plastics, textiles, beer and soft drinks represent the most important productive units of the “modern” sector. There are also some important furniture companies, a paper production company, press companies and media studios. This sector is found downtown and in the southern parts of the city, where there are supermarkets and commercial malls of the American type. The informal sector has a dynamic micro-company activity in areas of handicrafts, furniture, and textiles, tailoring and also in the production of food and beverages. This small-scale commerce has great importance. The north-eastern part of the city is a big market which is open 24 hours a day, and is made up of small commerce, mainly operated by women. This market offers a variety of products like clothes, food and beverages, home appliances, bicycles, motorcycles, computers, accessories, etc.

Santa Cruz is slightly different from La Paz and Cochabamba, since it has had an accelerated urbanisation process. One of the causes for this quick growth was the change from an agricultural economy to an agro-industrial one. Nevertheless, today one can say its economical growth is based upon the expansion of the tertiary sector. This fundamental characteristic has not changed in the last twenty years.

The aspects, which have been presented, permit considering the importance which the small companies have as a development potential for the growth of Bolivian cities. One of its greatest advantages is its flexibility to adapt to the changes of the market, beyond

the direct relation it has with the primary sector, which provides it with raw materials. It constitutes a possible alternative for employment for many people who must leave their homes, as in the case of the rural population who can no longer survive on their previous occupation. These small companies have the positive characteristic of absorbing the population which otherwise would be unemployed, and since it is a private element of the economical structure, it may constitute the basis for a strategy against poverty.

b. Worker incomes

In relation to work incomes there exists a strong heterogeneity in the productive structure. Within this framework one can see that the workers in the most modern sectors of the economy acquire the largest incomes. Among these are production services, information technology, communication, finances, large-scale commerce and others. There are few workers who hold the highest educational achievements which enabling them to work in well-paid jobs.

These results clearly reveal the gap between people with higher educational levels and those with a lower level. It

is noticeable that the income in poor homes has been, in general, insufficient to pay for all the basic needs. The growth of the percentage of the population, which had a job, but lost it, is due to the inter-dependency between the transformation of the occupational structure and the continuous spread of poverty. In fact, generally the link between both elements starts with the decrease of the buying value of work incomes and the effect this has upon family conditions. This factor brings into action a compensating mechanism where families increased their participation in the labour market through the occupational insertion of the members who have less labour formative experience and training. The salary this new population receives is generally among the lowest levels of income, increasing in this way the percentage of the unemployed and underpaid.

These conditions of the low development of the productive forces, austerity in consumption, high incidence of poverty, job uncertainty, low incomes, limitations as for the living conditions, peculiar work division patterns (technical, social, sexual and spatial), those that serve as a base to understand the social content of the urban phenomenon of the cities of the Bolivian economic corridor. The social groups and the apparatus of the State know they inter-relate. Also, to create the basis of the internal structure of cities that grow in population, they expand in territory and they are

Table 3.8. National Economic Corridor: Distribution of the Average Income and Years of Formal Education for city according to Branch of Economic Activity, 1996 (In Bolivians / month)

BRANCH OF ECONOMIC ACTIVITY	AVERAGE INCOME				YEARS OF FORMAL EDUCATION			
	LA PAZ	CBA	STA CRUZ	TOTAL	LA PAZ	CBA	STA CRUZ	TOTAL
Agriculture, forestry and Fishing	471	282	889	684	5	6	8	7
Extraction Mines and quarry	4150	1546	2168	2977	16	15	14	15
Manufacturing Industry	511	760	797	633	8	11	9	9
Electricity, gas and Water	847	1265	1988	1462	12	15	13	13
Construction	645	986	814	776	6	9	8	8
Trade wholesaler	978	935	2316	1568	9	12	11	10
Trade retailer	686	519	828	694	7	9	9	8
Hotel and Restaurant	675	522	679	643	8	8	7	8
Transportation and Communication	1264	1349	1495	1355	10	12	11	10
Financial Services to the Companies	2553	1332	1632	1967	15	15	14	15
The public administration	1090	1213	1229	1132	12	14	12	13
Teaching	771	1074	711	836	16	16	15	16
Communal, Social Services	1169	871	1011	1043	13	14	11	13
Personal Services	380	289	386	369	6	7	6	6
Total	844	819	1028	898	9	11	10	10

Source: Own elaboration account from the reprocessed database of the National of Employment Interview, INE, 1996, La Paz – Bolivia

Table 3.9. National Economic Corridor: Migratory condition of Economic Active Population for gender according to age, years of formal education, average of working hours week, Monthly Income, size of the home and number of active members, 1996

GENDER	AGE	EDUCATION	WORKING HOURS WEEK	INCOME MONTH	MEMBERS	# EAP
Non Migrant	31	10	44	873	5.10	2.96
Male	30	11	46	1064	5.12	2.94
Female	31	10	41	630	5.08	2.97
Immigrant	36	9	48	930	4.92	2.68
Male	37	10	51	1160	4.90	2.57
Female	35	8	45	622	4.94	2.79
Total	34	10	46	906	5.00	2.80
Male	34	11	49	1120	5.00	2.74
Female	33	9	43	626	5.00	2.87

Source: Own elaboration account from the reprocessed database of the National of Employment Interview, INE, 1996, La Paz – Bolivia

segregated through accentuation of the unequal rules of social reproduction and of organisation of production.

In synthesis injustice is evident in the income differences of the active population and their achievement in educational terms. Those who offer personal services are found, in general, among the lowest incomes and least academic achievers (Table 3.8). This population does not enjoy a limited number of work hours or social benefits, which by law, is their right. They have a low quality of life, particularly due to irregularities in their hire contracts. It is quite frequently found that the activities of domestic services include several forms of family work, where all or part of the family have specific functions (the father cooks and cleans or watches over land, the woman washes, cleans and cooks, and older children take care of smaller children).

The profile of the EAP, which is reflected in Table 3.9, suggests the presence of a continuous circle. There is a relationship with gender, migration condition, and the working hours per week, educational achievement, age, income amount, home size and the number of members in the family.

The age of EAP is due to the low average age of the native population, and, on average, the immigrant has lower educational achievement, longer working days and smaller families. In all these cases women find themselves in an even more disadvantageous situation since they can access less income than men.

Due to the low-income level, there is a tendency that all of the family members access the labour market.

Families see themselves obliged to combat the low incomes by increasing their participation in the labour market. One can see a specific phenomenon where women participate in the labour market and in this way try to compensate for the low income to cater for the most elementary needs.

This dynamic generally implies lowering the age limit for those who work. Due to this premature introduction into the labour market these family members are able to help with the family budget, but unfortunately this adds risks to the family's ability to change their economic situation since this depends on the professional experience they could receive. In other words, the compensation, which provides for family income through the increase in the number of working members in the family, has contributed to the formation of the so-called "chain of poverty".

One can also say that in the last years there have been family decomposition processes due to the high rates of masculine migration in all directions. This situation is growing worse and is causing women to assume a more active function as head of the family. However, they have great disadvantages due to their low level of experience and so they work in the informal sector.

In recent years the growing feminine workforce has not provided an answer to the aims of the feminine movement. Instead, it has been associated with the decrease of the material conditions in many homes. It is now essential that women participate as an important sector of the workforce. This does not imply that this

Table 3.10. National Economic Corridor: Rate of Literacy of the Population of 15 and older years of age by gender, 1992

CORRIDOR	MALE	FEMALE	TOTAL	CASES
SANTA CRUZ	97,2	92,3	94,7	410333
COCHABAMBA	97,6	89,6	93,3	252384
LA PAZ	96,6	85,8	91,0	697367
Bolivia	88,1	72,2	79,9	3668842

Source: elaborated on own account from the reprocessed database of the National Census of the Population and Housing 1992.

participation in the economic activities has liberated women from their domestic activities. In reality the inclusion has been with unfavourable conditions for women, further contributing to the perpetuation of the cycle of poverty. Women have enhanced their rôles as both mothers and economical sustainers of their homes.

The results, which have been shown so far, confirm the situation of uncertainties and ailing state of work. Among these are labour uncertainties, low and fluctuating incomes, lack of social benefits, as well as high social and politic instability. There are several life strategies, which due to the work instability, low incomes and the fact that the whole family works, decrease the quality of life of the population and especially for women and children. The family tends to share multiple tasks and combine them with productive activities, thus causing them to be away from their home almost constantly. There are also many children,

Table 3.11. National Economic Corridor: Population of more than 25 years old for Level of formal education reached According to Gender, 1992

LEVEL OF FORMAL EDUCATION	LA PAZ		COCHABAMBA		SANTA CRUZ		CORRIDOR	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	TOTAL	IM
0	13.3	26.0	9.1	19.1	8.3	13.9	16.5	46
1 - 5	17.3	24.2	16.7	21.6	20.8	26.3	21.4	66
6 - 8	17.3	13.9	15.2	14.3	20.7	21.5	17.0	98
9 - 12	26.6	17.4	24.7	18.7	29.2	23.2	22.9	123
13 & +	25.4	18.5	34.3	26.4	21.0	15.1	22.2	119
Cases	198842	223636	68483	82493	110270	122338	806062	88
Average	8.68	6.46	9.63	7.75	8.59	7.18	7.81	

IM=Index of Masculinity (male / female) * 100

Source: elaborated on own account from the reprocessed database of the National Census of the Population and Housing 1992.

especially in recent years, who start to beg at a very early age.

3.2.2 The challenge for the educational sector with respect to competitiveness

Sustainable competitiveness is based upon human resources, which have to be trained to face the needs and codes of the modern world. They must have the flexibility of incorporating and spreading technical progress in the productive system of goods and services. The training of human resources is also considered a necessary condition to raise competitiveness and reach an even level of conditions¹⁰⁴.

In the biggest cities in Bolivia, one can see a growth in the availability of education, which expresses itself as a growth in the numbers of students in formal education. Nevertheless, the differences due to gender are still very striking. The clearest evidence of this is seen in the city of La Paz, where there is a gap of 10 points between men and women. Somewhat smaller are the differences in the population of the city of Cochabamba. The level of literacy is highest among the population of Santa Cruz (95%), where 97% of men and 92% of women can read and write according to the last census of 1992 (Table 3.10). While perhaps these relative indicators of the increase of educational availability could give some hope, the real problem is in the quality of education and in their connection with the world of work.

Around 16% of the population, which lives in the cities of the Corridor, has not reached any basic educational level. The highest percentage in this average is the female population (21%) and, in the region of La Paz 26%, in Cochabamba 19%, in the lowlands 14%. In the

city of La Paz there is a social injustice and a marginal situation for more than sixty thousand women. The reader must observe that the relation of men to women in this educational level is spectacular, with only 46 men to every hundred women are in the same situation. When there are more years of study the balance switches to the men's side, reaching its peak among those who finished a technical or university career (123 and 118 consecutively, for every hundred women). The average difference for feminine education is around two years, with the exception of Santa Cruz where there seems to be less exclusion towards women (Table 3.11).

The opportunity to receive a quality education and to go into the labour market in a competitive condition is accessible to only a small number of Bolivians. Those young people from eighteen to twenty-two who have entered the university level have reached in 1992 a total of 70,000 (37,000 men and 33,000 women). These correspond to a quarter of the total university population, which was registered in the census, and they represent 5% of all young people of study age. This number is really small, nevertheless, it is expected that up to the year 2002 there will be around 115,000 persons who will access a higher level of education. One can see in Table 3.12 that the tendency is for this group to grow¹⁰⁵.

There is a decreasing tendency in newcomers for elementary courses (Table 3.13). Nevertheless, the public financial input in education continues to concentrate on elementary education. If there are good reasons to assign greater resources to elementary education it has to be admitted that reality shows that, for those very same good reasons, there should be the same amount of resources assigned to secondary and higher levels of education. The objective should be that the population has access to all school levels of education in such a way that they have the possibility to improve their quality of

Table 3.12. Bolivia: Projection of the Population of Age to enter to the University from 18 to 22 Years old according to gender

PERIOD	TOTAL	MALE	FEMALE
1992	70391	37024	33367
1997	88000	46286	41714
2002	115000	58650	56350

Source: INE-CELADE-UNFPA, La Paz, 1997

EDUCATION (YEARS)	1995-2000	2000-2005	2005-2010
1 – 5	24.4	16.8	10.2
6 – 8	12.4	15.0	8.2
9 – 12	13.2	17.2	18.6
13 & +	13.2	17.6	22.8

Source: INE-CELADE-UNFPA, La Paz, 1997.

Table 3.13. Bolivia: Increment Annual Medium of the Population in School Age (6 To 22 Years) in the Period 1995-2010 (In thousands)

life and have better employment opportunities. It is necessary that there is a process of educational transformation to try to improve the situation, and, at the same time, achieve social integration and solidarity. The production of knowledge through the accumulation of human resources and the production learning process have a central rôle in this growth dynamic.

The results which have been presented show that many cities in Bolivia have a wide range of deprivations and dis-satisfactions that have contributed to the amplification of the existing gaps and have generated a lack of opportunities in education for more than half of the Bolivian population. It is obvious that education by itself is not enough to overcome the lack of equality. It is obvious that education by itself is not enough to overcome the lack of equality. Income distribution must improve and generate a social movement, which permits sons to improve the wealth and social status achieved by their parents. It will be quite important that there is an economic transformation, which will make use of these educational achievements. Work opportunities and better jobs must be offered, increasing the current level of investment and taking profit from all the technical progress.

Although the policies of educational reform which try to reduce grade repetition, desertion and the improvement of the quality of education are quite important, these are not on their own enough to overcome the current lack of equality. Extra school elements have to be considered which affect the academic level, and thus try to compensate for the differences, which are related to the homes of the students. There must be an attempt to avoid having the educational system reproduce the current social differences.

The systemic competitiveness, is not only limited to the area of business, but it is closely connected to the quality of and accessibility to the educational system. Likewise, it is related to the degree of development and diffusion of the infrastructure.

Accessibility for the people and their capacity to generate multiplier-effects with the profile and dynamics of the financial sector plus ease of access to the resources must be available. It is also related to the institutional structures, which express themselves in the trust in, and credibility of the judicial system and the capability of public institutions to "facilitate" the productive area development. From there comes the fact that investment in human resources will be the most strategic long term option which might be adopted in Bolivia. This is something, which must be done to try to avoid a reversion to the badly organised tendencies of the productive structure. .

To summarise it can be said that dependant upon the educational level achieved by the population, there is a reflection of the important differences gone through to access and remain in these levels of education. The degree of education reached by the population is conditioned by the socio-economic possibilities that individual and families have to support their members so they might remain in the formal educational systems. The high proportion of women with low levels of education is clear evidence that there exists a "exclusion" process through restrictions of a social and cultural type. This means that there are certain types of restrictions on women which harm their possibility to access a higher level of education and, thus, of achieving higher levels of more competitiveness in the job.

The aspects introduced up to now reveal deep differences in the urban work, in the chances of systematic competitiveness, in an increase of the lack of organisation and job insecurity. All these have an impact on the organisation and use of urban territory. The regional economic imbalances have become the reason for emigration and big cities have been the ones to receive massive immigration currents. These cities have revised their norms and plans for urban growth, replacing their norms of growth for an unleashed chaotic growth, which

has produced in consequence high differentiation and internal segregation.

Next, I present the case of one of the cities in the Corridor. I do this to see the form in which one can assume the urban internal segregation in each of the cities and, it is these, which are the long-term visions, which have been proposed by planning offices.

3.3 Profile of Urban Growth in the Cities

3.3.1 The city of La Paz

The city of La Paz is found in the Bolivian highlands (Altiplano). It has an elevation from 3250 to 4100 metres above sea level, being the highest Capital city in the world. It has been the seat of the Bolivian Government since 1879 and has thus acquired a high level of centrality for the State structures. This affects the political, social and cultural processes in the country. It is a channel of communication with the national economic system and centralises the services of public consumption. La Paz is multi-ethnic, a city where there are immigrants from Aymara and Quechua backgrounds. There are still descendants of the Europeans and in lower numbers of other cultures within the country. Inside the City there are large gaps between poverty and wealth, which express a deep urban social problem (Figure 3.1).

aThe Urban Expansion in the city of La Paz

Following the model of the Andean cities, the urban process in the city of La Paz, formed around a close relation between the cosmological representation and its sacred characteristics, which control the agricultural cycles and rural¹⁰⁶ festivities. The basic spatial configuration was designed in 1549 and it obeyed the classical royal rules and also those of the Company of the Indies. The main square (today Murillo Square) and those streets and blocks around the area were the residence of the Spanish and Creoles (children of the Spanish born in America), while the native settlements were on the other side of the Choqueyapu River. There has been a certain spatial ordering which reflected the social hierarchy of the settlers and the social structures.

Consequently around the main square were the



Figure 3.1: The city of La Paz

cathedral, Government, the “Cabildo” or town meeting house and the houses of those who were the most “distinguished” citizens. There was a certain spatial ordering which reflected the hierarchy of the settlers, social structures and a discrimination model related to ethnical, cultural and economic reasons which are still currently valid¹⁰⁷. Dating from the arrival of the Spanish the physical configuration became highly segregated (Map 3.1). A process of the diversification of economic, management and international commerce activities began. These allowed the establishment of industrial units of production which became established in the higher part of the Choqueyapu River and were direct consumer goods units of production, like textiles and foods. The neighbourhoods of industrial workers started to form, settling on the north-eastern slope where today we find the neighbourhoods of Villa Victoria, Pura Pura and Achachicala. The construction of the Guaqui – La Paz and Arica – La Paz railway routes also included the tracks to Viacha where it joined the route to Antofagasta thus permitting it to connect with international markets via the Republics of Peru and Chile. The rail route between La Paz and El Alto has also become an element, which has defined its urban growth. All these factors helped in the construction of a city which was an economic, administrative and government centre. Giving the city a specific characteristic and thus an unprecedented demographic and economic primacy.

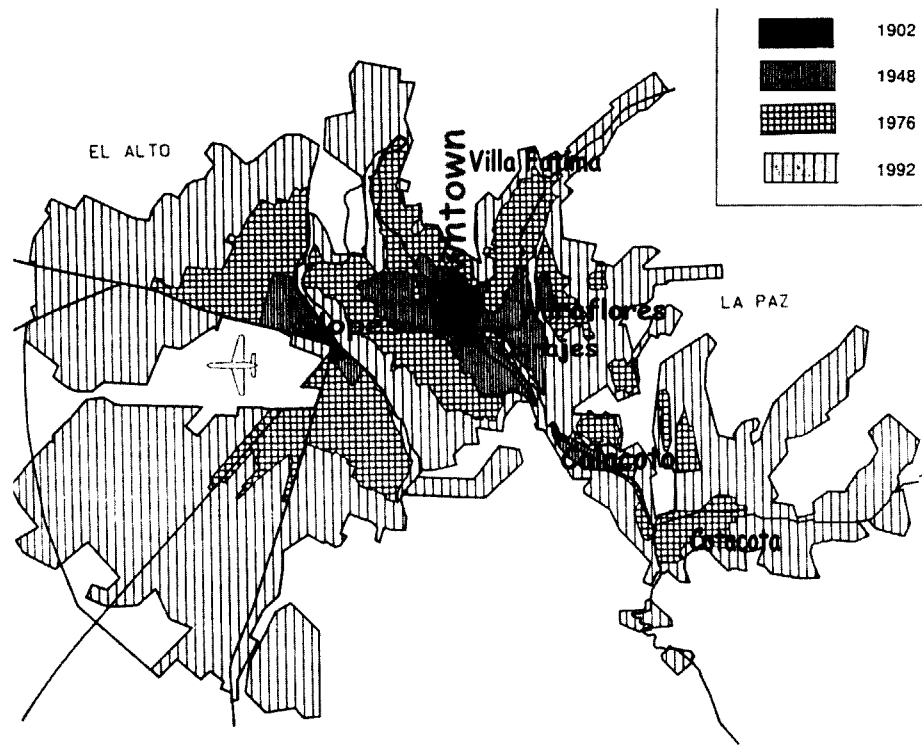
Groups from different social sectors have settled on the slopes, which surround the city including the historical neighbourhoods like *Villa Victoria*, *Pura Pura* and *Achachicala* which originated in the twenties with a large number of workers¹⁰⁸ who became famous for their fights for equality and labour rights. There were also

peasants, who after the land reform, settled on the north and west slopes. The people in these zones had unfortunately chosen to settle on eroded lands, which might tumble due to their unstable condition. The local city Government was completely aware of the problems those land had when it legalised the settlement on these lands. The slopes of the city are the clearest example of exclusion and discrimination. Thus it is not strange that the local inhabitants organise in groups to try to protect themselves against injustice and put into practice their rights as citizens. It is evident that these groups organise poor people, and they can be seen as the rejects’ mechanism to survive in a world of high intolerance, segregation and lack of organisation. This phenomenon is not new, it has a long history, and unfortunately the modernisation processes of local government only perpetuate and deepen the differentiation and exclusion at a social and spatial level¹⁰⁹.

In contrast to the process of construction in the marginal space, one can also see a configuration of the wealthy class of La Paz. It is thanks to their economic power that they have built houses with exquisite architecture. Many of these houses are designed with an European flavour which is visible in the medium and high income neighbourhoods like *Sopocachi Bajo*, *Obrajes*, *Miraflores* and *San Pedro Alto*. The classic internal yard of colonial times was forgotten and instead houses surrounded by a garden were built for one or two families. There were several styles, which could be found everywhere: neo-gothic, alpine, Italian, French, amongst others. At the same time, in the last decades the centre of the city was re-structured as the main material unit for the economic, political and administrative management of the country.

**Map 3.1 Urban Development
in the city of La Paz,
1902 – 1992.**

(Residential areas are
indicated in light grey)



The “old town” has a new function due to the appearance of small houses among the colonial mansions¹¹⁰. During the decades of the sixties and seventies Cala Coto affirmed itself as a privileged space for the wealthy class of La Paz and all the structures for this type of neighbourhood were built. Among these are the church of San Miguel, a network of supermarkets and other comforts. In these same years in the *Rio Abajo* zone appear other residential sectors like *Irpavi*, *Achumani* and *Cota Cota*, which have a moderate climate and are at a height of no more than 3000 metres.

In 1992 the population numbered 714 thousand inhabitants, and the urban complex, which is, consists of *La Paz* and *El Alto* there were more than a million inhabitants¹¹¹. Between 1976 and 1992 in the city of *El Alto*, only twelve kilometres from downtown *La Paz*, there has been an unprecedented demographic explosion. In only fifteen years it has multiplied its population five times (from 95 thousand in 1976 to more than 405 thousand inhabitants in 1992).

Migration is the factor which helps one understand the rapid demographic growth: six out of ten people who live in *El Alto* were not born there, but come from neighbouring towns or from other Departments. As in

the case of the mining areas in the Departments of Oruro and Potosi, which are the origins of an immigration flow, which comes from the highlands and goes to the same ecological area. This factor becomes more evident in the second half of the eighties after the national mining company *Corporación Minera de Bolivia* (COMIBOL) closed down. Many of the miners who worked there chose the city of La Paz, and more specifically *El Alto*, as a shelter from unemployment and uncertainty. Even though some of them went back, or moved to other places the greater part of them stayed in the city of *El Alto*. In the year 2000 the population of this metropolis was over a million and a half inhabitants. Throughout this century it has increased its size by 30%.

An important characteristic of the housing situation in La Paz is the fact that the rough topography of the city makes a natural limit for the growth of the urban structures. Once all the slopes were filled in the seventies the city began to spread to the highlands above. This was initially considered an expansion of the city, but later, due to the large area it had, it became necessary to give it its own local administration. However, when a large number of settlers almost invaded the lands there it became clear that this could not be considered a neighbourhood or suburb. The

situation become worse when the local City Council saw the enormous economic cost involved in providing the basic services for a population which almost has the same size as the city of Cochabamba. The solution was to create a new municipality and thus make official the new city of El Alto, even though in fact this is nothing but an enormous migration camp. This new City has started the slow and expensive process of creating a city profile, but at the same time it has to deal with the negative record of being the City with the maximum concentration of urban poverty in the country. One can say in summary that the urbanisation process for the city of La Paz has proceeded with the following characteristics:

Unbalanced development between the area of the city and the growth of population, uneven distribution of density with a consequent over-population of certain areas and under-population of others, lack of control and corrupt commercial use of urban areas; insufficient or non-existent public and community services, an irrational concentration of activities in the central area of the city and risks of landslides and land subsidence for settlements on the slopes of the hills which surround the city.

b. Internal urban segregation: Residential area

The urban internal segregation in La Paz has different planes and dimensions. Completely independent of the indicator, which is used, it can be shown that those who are enjoying the development benefits are to be found in the neighbourhoods in the downtown area. This is around 3600 metres above sea level and the residential neighbourhoods of the South zone are in the lowest part of the city, which is 3000 meters above sea level.

All of the poverty belt which is found on the "slopes" contains the most physically fragile zones and there is a height difference of around 200 metres. The belt surrounds the whole city, from the western slope to the eastern one, and it reaches its summit in the city of El Alto. This City is found at around 3,950 metres above sea level where there is a huge population in a poverty situation and where the greatest number of problems and needs are concentrated.

The human development indicators show that there is a dangerous segregation occurring inside the city. The neighbourhoods of the southern part are the ones, which have the best situation and thus have the highest value (0.93) for this indicator in the whole country. Instead El Alto has an IDH of 0.513 (which is below the national average of 0.589). When one analyses the values for the indicator of human development in the neighbourhoods of the slopes; *Las Villas*, *Las Delicias* and *El Alto* one finds values, which are below the national average. These averages are similar to those of the poorest countries of Africa, which presents a very sad scenario. The city of La Paz is a symbolic representation of heterogeneity, segregation and economical, political, social and cultural differentiation. To summarise it can be said that this city is an example of exclusion and injustice within a frame of unsustainable urban growth. This aspect has been present since the beginning of this City and yet incapable municipal management is making them even worse.

*(1) The marginal urban zones:
El Alto, the villas and the slopes*

a. City of El Alto

El Alto includes the large zone of the airport, *Villa Tunari*, *Villa Adela*, and others. The profile of its indicators of human development is very low for all the variables measured. It is very much behind with respect to education, for example women in El Alto have achieved an average level of education, which is among the poorest of the country found in the northern part of the Department of Potosi.

Poor conditions of health and high child death rates with an average life expectancy of only 55 years are some very crude indicators of the style of life. The difference with La Paz is huge, for example, life expectancy in La Paz is around 63 years. This is a very summarised simplified indicator of the lack of basic services. There are also problems such as lack of a sewage system, of a drinking water system and of basic sanitation for homes. One can also find a high percentage of homes of a very low quality and an overall extreme level of poverty and poor quality of life.

An average of more than four out of five homes in the city of El Alto are in a situation of poverty. This means that the members of such homes, be they children or adults, even though they direct all the family budget to food could not cover their daily food requirement in a proper way. The per capita income is three times less than the city of La Paz and even lower than the cities of Oruro and Potosí.

An unprecedented potential in the population of El Alto is the predominance they have of micro-companies. A third of those employed (38,670 out of 122,663) work in the secondary sector. El Alto is the birthplace of many of the artisans of Bolivia; their high level of productivity has made them able to go beyond the national consumer market. They have reached the international market, specially the north of Argentina through the border town of Pocitos in Yacuiba and also through the zone of Desaguadero to the republic of Peru. It has also helped coordinate the formation of artisan neighbourhoods in the cities of Cochabamba and Santa Cruz, which has given a positive characteristic to its migration flow.

The activities of lower scale commerce among women have also become an important source of income for local inhabitants. They go to the border of El Alto with La Paz where they can obtain better prices for their fruit and vegetables. Men work in construction works in the residential zones of Obrajes, Calacoto and the Casco Viejo.

b. The Slopes, the Suburbs and the Villas

The worst conditions for living and the highest risks (to life) are on the slopes, due to the steep characteristic, which these have. All these settlements are quite old, for example, on the eastern slope are *Villa Copacabana*, *San Antonio*, *Armonía*, *Pampahasi*, *Ciudad del Niño*, *Villa Kupini* and others. These neighbourhoods first started in the years 1968-1969 as a product of land occupation and their subsequent settlement. The western and northern slopes are found on the high area, which is next to the border with El Alto, this part is known as La Ceja. These settlements have been made illegally, land has been invaded and occupied without any legal credence.

The characteristic of the local population is that they are mainly immigrants, who usually rent a house, or are just

people who take care of a house or a piece of land. These people have different types of occupations, a high number of men work in temporary activities in construction or in markets. They work as plumbers, mechanics and artisans, but also in other similar areas. Among women the most common activity is that of informal commerce and also personal services.

Families are generally from rural areas and were farmers. The extended family is common amongst adult families, and a nuclear family is more common among young families. There is a lack of medical attention and it is for this reason that the inhabitants must sooner or later look toward the city to try to solve their economic problems and use traditional medicine practices as a temporary solution. The faith healers have proliferated and with this there is a greater vulnerability for the population.

(2) Residential Zones

(a) The heart of the city (Casco Viejo)

The oldest part of the City (the heart of the city) is characterised by the importance of commerce, administration centre and business. Within it are found most of the administrative and Government institutions. Most of the establishments work with commercial activities and, in the last fifteen years there has been a transformation of colonial and republican houses into public offices and buildings for administration and commercial usage. The downtown area is slowly recovering its historical function in the hands of commercial and industrial businessmen, politicians, administrative staff and technical personnel related to important companies or institutions. There are different buildings like the Central Bank, Crystal Gallery, Hansa, Ismar, Shopping North, and, on the Mariscal Santa Cruz Avenue is also the Communications Palace, amongst others.

Some one hundred offices found downtown represent the State entities. Among these one finds Government departments, de-centralized institutions, international organisations and others. The old part of the city of La Paz also has a very heterogeneous profile where there are poor people, for example *Villa 8 de Diciembre* in *Alto Sopocachi*, where the inhabitants of these neighbourhoods work in large-scale commerce and also in State

institutions in positions of great responsibility. People work also as public employees for banks or commerce, street sellers, in small street stores, food outlets and selling alcoholic beverages.

One can also find an important commercial centre in *Villa Las Lomas*, even though the only geographical access to this zone is not very pleasant. The only access to this place is through the Buenos Aires Avenue where there is only one pedestrian pass. The occupations, which have the highest percentages, include builders, drivers, bakers, carpenters and others. The female labour force is usually busy selling fruits and vegetables in the Buenos Aires market; others have a small store in their house. It is a heterogeneous zone due to the co-existence of different types of social-economic levels.

(b) The residential neighbourhoods of the south
Los Pinos, Obrajes, Sopocachi, Miraflores, San Miguel, they are areas which have a predominance of households with high levels of income. It is also the zone with the lowest residential density and concentrates many of the Embassies, Consular agencies, owners and staff of big companies and public administration, professionals and others. As can be seen it is an area with a predominance of higher and middle classes and holds only 5% of the population of the city. From the examination of the cadastral plans one can see that this area has all the basic services, sports parks and green areas, which for the most part belong to private clubs or to the Catholic University. There are mainly houses for one family; it has only been in recent years that apartment buildings have started to be built.

The area has several houses, which are in very good condition. It is evident that much of the structure comes from actions of the Municipality. This verifies that there is a clear segregation of the State actions, which favour this area. There are big houses and plenty of gardens adorn the walks in the southern part of the city. Ballivian Avenue is the central axis of this zone and as construction gets farther from this area the prices drop, thus making them more accessible for families with lower incomes. Another of these centres is the commercial centre on *21st Street in Calacoto* and its area of influence. It is specialised in commerce, which continuously

grows, and its presence has influenced the construction of family apartment buildings.

The construction "Boom" in the seventies had great impact in the zones of Sopocachi and San Jorge where all the old houses were demolished and apartment buildings were built and which are an expression of the vertical growth of the City. One can highlight buildings like Illimani, Santa Isabel, La Torre de las Américas, amongst others. The population density increased considerably and so did the prices for the apartments, which are in reach only of the higher middle class.

In summary: La Paz is a segregated city where the use of the most fragile lands has been designated to classes of lower economic capability. In these areas a vicious circle has begun since the provision of services has a higher cost, due to the rugged landscape of the steepest hillsides. The great and unjust contrasts of the city are evident when family incomes are analysed. In 1996 there was a gap of forty times the income for wealthy sectors compared to the population resident on the slopes and in the suburbs.

Note that both in 1976 and in 1992 around 38% of the population of the city of La Paz said that they had had some previous migration experience. Nevertheless this number does not reveal the large number of immigrants established in El Alto where around 55% of the population is of migrant origin. Not only can one see differences in the numbers of immigrants who have arrived in El Alto and the city of La Paz, but also one can analyse the economic and social profile of the migration flows. Immigrants who have got to the city of La Paz itself are of urban origin (63%) mainly, but there are also some who come from other big cities in the country. The other big cities, which provide immigrants, are Santa Cruz in the lowlands, Cochabamba in the valleys and on a smaller scale the other provincial capital cities. Indeed, I can see the importance of the rural highlands (inside the ecosystem) in the flows of immigrants to the city of El Alto (52%).

c. The vision of the future: The La Paz City Council and their actions

The institution, which is responsible for the definition

and execution of urban policies, is the local City Council. Traditionally the City of La Paz had quite a good city council tradition. It developed one of the best city administrations in the country, becoming one of the city governments, which developed quite a good financing capability. Nevertheless, their actions do not correspond to logic of technical efficiency and throughout the century one can see a variety of strategies, which have been explained by the complex relations of political and corrupt type.

Migration to the city and the spontaneous assignation of lands produced a very badly organised urbanisation without appropriate living conditions. Under these circumstances the need for giving a legal frame to new urbanisation with the elaboration of one of the first regulating Instruments in the year 1956. *The Regulation for Zone Creation and Land Division* was created, but did not have the expected impact due to lack of control site maps, which might put it into practice. In it one could see the re-affirmation of spatial segregation, which was seen previously.

The decade of the sixties is witness to a growth dynamic of City government bureaucracy. A corrupt political relationship started among different organisations and the City Council, and this fed its bureaucracy. During the first seven years of the seventies there was an expansion of the bureaucratic authoritarianism of the City, which rooted itself in the modernisation process. These actions were of assistentialist, paternalist, religious propaganda and traditional volunteer characteristics, which tried to control the street movements through institutions, which acted under the co-ordination of the National Assembly of Social Action of the Presidential Office. Together with the bureaucratic attitude as a means of social control they repressed their political formation. The urban investment grew and increased the amount destined for the social sectors of high resources stimulating the development of businesses. Within these certain preferences started to be shown for certain companies, thus generating a corrupt relationship between the State and these businessmen¹¹². In this decade there were several planning attempts for the longer term, nevertheless, a short-term logic was stronger until a total crisis scenario erupted in the eighties.

The urban policies toward the eighties suffered a change, which was explained by the constitution of neighbourhood groups, organised around concrete demands and objectives. These had an impact on the actions of the public institutions with an unfortunate political party influence. On the 10th January 1985 the Organic Law for City Councils was passed. This law recognised the City Council as a valid local government and a valid representative of the people of a particular district. They must have a public patrimony of their own and must have the objective of satisfying the needs of the community. In this sense it is important to plan and make effective "all technical, judicial, economical, financial, cultural and social management". The direct election of a member of the City Council as the City Mayor was introduced. From this moment on the political interest game began to assume a primary rôle and unfortunately corruption also increased.

In 1987 the project for strengthening the city government was implemented and was oriented to the modernisation and rationalisation of the municipalities. This project was divided into four programs: a) of administrative reorganisation, which included decentralisation and the creation of operational autonomy, the creation of an information network and the organisation of the City Council and the strengthening of the community government; b) of personnel management and training, which included the reduction of personnel and general training programs; c) of strengthening financial management, including a programme to increase the collection of tax, a re-design of financial management, budget formulation and an inventory of municipal property; d) of general purpose and multi-user land control, with the goal of re-evaluating land data. In general terms these trends were kept by the later administrations, with a more democratic approach and with respect for the municipality and the cultural attitude of the population¹¹³. With the Popular Participation Law of 1994, the municipality was extended into the rural area, where many public responsibilities were transferred and specific mechanisms for citizen participation were created.

In theory, all these actions were oriented towards a solution to the chaos and disorder of urban growth. The

results have not been very positive, the plan creating district autonomy was executed between 1994 and 1995 by the City Council of La Paz. This made the inefficiency and lack of operational capability very clear in the execution of their administration. There were several problems which became clear, there were no rules of the game that were well established and neither were there areas of action and of co-ordination with or by the City government. The introduction of party politics to the City Council reduced the chances of permanence for well-trained professionals and capable technical personnel who were trained to undertake the necessary tasks for the district. Rather, the problems that surfaced were an excessive weight of administrative personnel with relation to qualified personnel, lack of institutional norms, absence of procedures which clearly stated the functions and responsibilities of the districts and badly organised and maintained equipment and structures.¹¹⁴ These were only some of the elements, which have explained another failure in the attempt to build a frame of norms for city planning.

In 1996 a new district structure was established for the City of La Paz. It was divided into 23 Districts of which 21 were urban and two were rural. Unfortunately, the district division is more of a theory since the levels of equipment and structures are very elementary and there is no financial decentralisation and technical capability is very low.

Starting in 1997 the town planning was in charge of the Institute for City Planning and Research (IIPLAM), which is a decentralised city body of local government of La Paz, which has complete independence. The functions of the IIPLAM were defined in its presentation, these are: to contribute to the formulation of development objectives which might guide City policies; investigation of the patterns and trends of growth for cities and regions, preparation of plans and development programmes for urban and regional development, communicating and spreading these plans and stimulation of co-ordinated action between public and private institutions, provision of services for technical aid, information management, educational support, operations research and an improvement of the services within local government.

One of the most important aspects during this period was the succession of different Mayors accepted by large numbers of people of the lower social classes. These aimed their actions at trying to solve specific situations, which were not part of any large urban development plan. Many well-known architects participated in modernisation projects for the City, both in financial issues and also in operational and technical ways. International co-operation provided large funds, strengthening local government's ability to solve current problems. Among these was the fact that La Paz had been overcome by its chaotic growth, changes in the central zone, the growth of the slope settlements and of the residential zones in the south. These latter have been very expensive investments for infrastructure and the provision of water. Even though there has been much progress, the Administration is way behind in its solution of urban problems.

Added to the technical problems were problems of the corruption of at least three previous mayors. This situation is clearly reflected in the problem of lack of political stability in the metropolitan region of La Paz and, thus, also in the expansion of strategic actions attempting to answer the structural problems which exist in the City. The new Mayor, Dr. Juan del Granado, who was elected in 1999 was the one who prosecuted and jailed previous mayors who had used the funds for the development of La Paz for their own benefit. The new Mayor's programme of government has many good things in it, but La Paz is going into the 21st century without a strategic program, which might help plan the future urban development and establish the basis of a sustainable city.

The result of this sequence of mistakes is a growing, unsatisfied demand and the construction of a city, which organises its territory in a highly segregated manner. It is here that a great mass of people settled to live and work, established mainly in the northern zone, on the slopes of the hills and in the City of El Alto. Large masses of unemployed came into an unknown city looking for work or something to eat. In colonial times there were poor shelters of sellers, services employees and artisans, who lived in very crowded conditions. On the other hand, in the southern part of the city and surroundings of the

southern zone were the upper and middle classes of society who lived in a very different manner. It is very interesting to notice that in this social formation there are other issues, which are reflected, like cultural differences, racial discrimination and also the processes of ethnical spatial segregation, which are present in the capital city of Bolivia¹¹⁵.

3.3.2 The city of Santa Cruz

The city of Santa Cruz is found in eastern Bolivia, the Department has an area of 370.621 Km², which represents 34% of the national territory, and, thus, it is the biggest Department in Bolivia. It is located at 416 meters above sea level and it has a typically warm tropical climate. (figure 3.2)

a. The urban expansion

The origin of the City of Santa Cruz was different from the Andean colonial pattern for city foundation. The search for El Dorado or Gran Paitatí originated in the colonial time when the conquerors occupied these zones, and so these came from Asunción del Paraguay and settled in the Department of Santa Cruz¹¹⁶. The early establishment of the city was on the 26th of February 1561 by order of Captain Ñuflo de Chávez. Then it was established near the current town of San José de Chiquitos on the banks of the Suto stream.

Its formal foundation took place in 1595, which was when Gonzalo Soliz de Holguín moved the location of the city to the place called Punta de San Bartolomé in the Grigota lowlands, where the City is currently found. The town planning was according to the "Laws of the Indies". It had a main square in the centre of the City, a church and a meetinghouse, all present as symbols of the classic religious political power. The town form was similar to that of a chessboard¹¹⁷.

This city was 140 leagues from the nearest urban centre, which was La Plata (today, the city of Sucre). Also not far from it was the City of Cochabamba, and it also had communication with the town of Mizque. The agricultural production of Santa Cruz was at that time conditioned to a small local market, since the distance to the mining and urban centres of the west of the country did not permit it to offer its products in that market.



Figure 3.2:
The city of Santa Cruz

The system of landed estates which were the backbone of the growing agriculture, barely applied to this Department, which had as a hub the city of Santa Cruz, which then had an influence of no more than 10 leagues, like an oasis in the middle of enormous unexplored lowlands. This situation changed with the establishment of the Missions of Moxos, mainly by the Jesuits and Franciscans. During the 17th century the Jesuit missions had already been able to penetrate the current lowlands of the Department of Beni. Towns like Trinidad, Santa Ana, Magdalena, Loreto and Reyes had been reached thanks to the missionaries' base in Santa Cruz. This colonising process began the oppression of the natives, who were obliged to move to serve as a free work force for the agriculture of Santa Cruz. Among the products produced were sugar cane, sugar, cacao and other crops.

The rise of the missions was a large change in the historical trends of the region, since their function was not only religious. These settlements evolved until they became real productive centres for commerce, agriculture, livestock, handicrafts and even manufacturing. The missions began to commercialise their products in La Plata, building up a commercial network. Within this process Santa Cruz had an important rôle becoming a

storage, distribution and export centre for all of the production. However, when the Jesuits were thrown out in the 18th century, the economy of the Missions collapsed, but their final ruin came with the rubber boom in the first part of the 19th century.

In the beginning of the Republic the landed estates were the dominant productive unit. The fall of Potosi caused a recession in the economy and a change in its power position. Since 1825 Santa Cruz has continued to be the sugar cane production centre, which provided for the whole national market. In 1900 the population of the City was 15,874 inhabitants¹¹⁸ and it was in fifth place in demographic importance. It served as a connection point between the agricultural production of the Department and the sending of the entire surplus to the national markets. It was in this period that the first town plan, economic and social changes happened. The use of the "Law of the Indies" started to decline, following the ways that the people used instead.

A small urban nucleus had been established by 1943 and its extension was very limited and did not reach even 200 blocks of buildings – with a population of no more than 32,000¹¹⁹. In the 1950 census a total of 41,461 inhabitants was counted. From this period on, an accelerated process of urban growth began, which was backed up by the support that had been achieved from the central power due to the economic diversity it had in the agricultural, agro-industrial and oil well sectors.

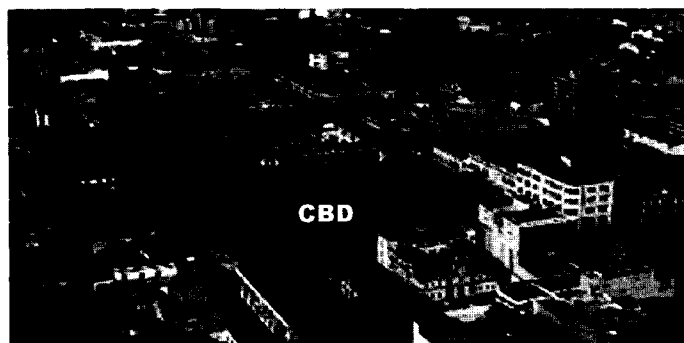
The opening of roads helped to integrate the national market, and in the first part of 1950 a 500 kilometre long paved road was built connecting Santa Cruz with Cochabamba. This was one of the most important means of integration, which brought together the eastern part of Bolivia with the valleys and highlands. This also es-

tablished one of the building blocks of the communication land route between the Pacific and the Atlantic.

The dynamics of the urbanisation of Santa Cruz and its modern history really started in 1952. It was during this period that a great agricultural growth of a capitalist type occurred. The medium and large companies were all classified as "agricultural companies", and, thanks to strong support from the State a large agro-industry was created in Santa Cruz, receiving and concentrating technical and financial support from the State and international aid. As a characteristic phenomenon of this period one sees an accelerated growth of the city of Santa Cruz. One also sees that the immigration of miners into this region and the State stimulus permitted the development of agro-industry.

Unlike the rest of the Bolivia, in the lowlands zone land reform was not applied as it was in the rest of the country. On the contrary, many of the landed estates were kept intact when the agro-industrial development began. It was within this context that a few years after the reform, the Guabira Sugar Cane industry started in 1956 with one small mill. After only five years its production had risen to over 200,000 thousand tons, thanks to the special credits from the State which also provided for the establishment of three other companies of this type. During this period, and, thanks to the organisation that existed, the sugar cane commercialisation began on a large scale throughout Bolivia and this was one of the key reasons for the construction of the road from Cochabamba to Santa Cruz. At the same time the production of rice, corn and cotton started. One of the key elements in promoting this form of agriculture was the creation of the Supervised Agricultural Credit, which through the supervision of the Inter-American Agricultural Service helped to incorporate new technologies into agricultural development.

Even though the rôle the State had in the growth of eastern Bolivia is quite evident, this were not the only cause. There were other reasons for this: the creation of new economic incomes, the oil resources that the Department has, the futurist point of view that the people in Santa Cruz had and which was clearly evident in the use they made of the participation they had in oil



income. In fact, they used that to build large urban structures. The international oil demand also contributed to the fact that Santa Cruz was able to connect with railway trains to Brazil and Argentina, countries with where it was able to connect to Atlantic ports.

The extension of the agricultural frontier was as a basic requirement to achieve the self-provision of products for Bolivia was one of the most ambitious goals of the M. N. R. This political party worked in two ways; on one side it stimulated a colonisation of the under-populated zones by agricultural families; on the other hand there has been a strong stimulation for the development of a capitalist agriculture which is based on landed estates, especially in the eastern parts of the country. It is important to note that the first settlements in the areas of colonisation of Santa Cruz date from the end of the thirties. Then it was mainly an issue of trying to establish a *camba* population in the zone, without accepting any immigrants from the Nadine zone. This was different to the colonisation processes, which happened during the sixties and seventies, which permitted an important exodus of people from the zone of the highlands and valleys toward those eastern zones. Even though during the eighties the national economic crisis caused a spontaneous colonisation process towards the regions of coca production. Santa Cruz also benefited from this since Montero, which is close to the City was one of the points where drug dealing concentrated a lot of money during the first years of the eighties.

The rôle of the State in the process of colonisation seems to be related to the building of roads rather than to the direct support of the colonisers. It is during these periods that the roads Cochabamba-Santa Cruz, Cochabamba-Villa Tunari and La Paz-Ca-ranavi, started in 1952 were all completed. So was the road to the northern part of Santa Cruz, Puerto Villa-rroel and Alto Beni. These permitted the movement of a large number of families toward these regions. (PAZ, 1983: 91-100), who became the most important integration between the east with the valleys and highlands. Additionally they opened up a route between the Pacific and Atlantic Oceans.

Its economic position generated the basis to make Santa Cruz an interesting place for migration. It is for

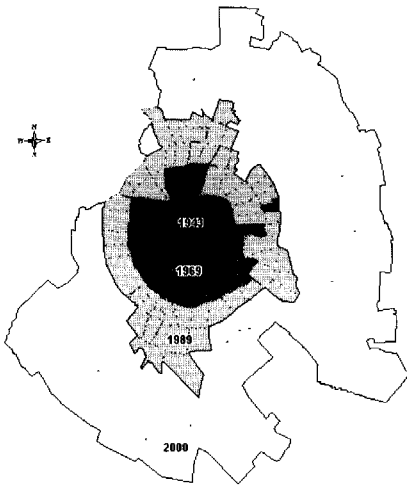
this reason that the increase of population went from 41,461 inhabitants in 1950 to 254,682 inhabitants in 1976 (a sixfold increase in 26 years)¹²⁰. In 1976, the city of Santa Cruz occupied the third place with respect to the populations of the capital cities of the Departments of Bolivia. In this way Santa Cruz became successfully inserted into the national economy and from the seventies was even able to reach some markets in neighbouring countries.

During the nineties the City of Santa Cruz grew annually by around 7%, which is very much above the average of 2.03% for the national global growth, this growth can also be explained due to the migration component. According to the data, which is available for the year 1900, the City had barely 9.3% of the population of the Department of Santa Cruz. It increased to 35.8% in 1976 with a population, which was sixteen times greater than that in 1900. In 1992 the city had 55% of the total population of the Department and had increased its size by 65 times throughout the 20th century. But, this growth had gone beyond the administrative limits of the City and gave place to a metropolitan region which has its main node in Santa Cruz and includes five municipalities surrounding it: Warnes, Cotoca, La Guardia, Porongo and El Torno¹²¹.

There were several factors, which helped in the City's growth. Its strategic geographical position, the wide economic range of incomes it has, its export agricultural dynamic, the strength of its agro-industrial sector, oil production and the road network. More recently one can also mention the fruits of the private investment of old public companies, especially the fuel and telecommunication companies. There is also the positive and open attitude toward innovation that the inhabitants of the City have, this was probably one of the most important motors for changes and development. All these characteristics make it the number one destination for many immigrants who come from other regions of the country and stay in this City or in one of the smaller ones around it. Such immigrants come mainly people from the highlands and valleys of Bolivia.

b. Intra-urban segregation

Santa Cruz was characterised when it began as a city in



Map 3.2: Urban Development in the City of Santa Cruz, 1943 – 1995

which the social classes lived very closely without any physical forms of segregation. It was an organic social structure, which expressed physically a characteristic complement with a mixed and heterogeneous structure. Land was not the property of a few, and there was also the idea that the lowlands were huge and very fertile and so the land was enough for anyone since the low demographic density had not made it an object of profit. Maybe it is for this reason that in the first stages the characteristics of its internal urban structure had plenty of organisation and planning (Map 3.2). In its central area, (today the Old Centre), as in other Bolivian cities, are housed administration, institutions and an important commercial centre (central business district = CBD).

However, rather different to what happened in La Paz and Cochabamba it was organised into a different structure based upon rings. Starting with the first ring it has an area which is surrounded by other rings and which spawn a series of radial streets.

In the year 1960 the first ring was completed, and this process was quite successful during the first years of the seventies during which neighbourhood units started to grow inside the rings, each one of which had a community surrounded by single- or multi- family homes. There were also green areas, to provide for parks, sport fields, industrial zones, hospitals and

university zones. From the second half of the seventies and onwards there began to be an accelerated regional economic development, and, at the same time, a sudden growth of the City's population. In structural terms the city grew to twenty times its former size, from 486 hectares in 1959 to 9,500 hectares in 1988. The population density decreased with time due to the increase in the urban area. Chaos and a lack of foresight with respect to the city growth produced a city with a demographic growth, which has marginality and exclusion within it. One can see that the characteristic urban type of the old centre, found in the first ring, still retains the most important elements of the traditional culture of the *cruceños* (people from Santa Cruz). Among these are the roofed sidewalks, the central yards in the houses, the roof types and others, which adapt the architecture to the climatic conditions.

The groups with great economic power did not think in the same way, and from the economic boom there also came changes to the types of houses in Santa Cruz. These changes try to express opulence and so one frequently sees enormous houses with false Baroque elements, Doric columns with grooves, the use of leaded windows and many other elements, which do not reflect the typical local architecture. Around the houses are high stone walls with large gates, while inside the houses are furniture and objects which do not combine well and only serve to give a feeling of opulence and power. This is the case for many houses in the second and third rings, which are an urban centre for the higher income classes of Santa Cruz. In this way the upper middle class of Santa Cruz lived in the neighbourhoods of the southern *Equipetrol*, *Urbani* and the historical centre, which up to the present has not been destroyed, in contrast to many North American cities. In this zone are many nightclubs, restaurants and much extreme opulence. It is frequent to find people from the Government or drug dealers renting these places for private parties.

Marginalisation and social exclusion took control of this chaotic growth from the fourth ring and onwards. Neighbourhoods like *Plan Tres mil*, *4-de noviembre*, *Naciones Unidas*, *zona de la feria* and *Santa Rosita* are some of the residential areas for people who do not have occupations or steady incomes. A large number of the

immigrants work as street sellers, building labourers, maids, shoe-shiners, car washers, making handicrafts and in other informal occupations. Many of the settlers come from regions of the Altiplano and the Valleys, and, in the type of language, which is used in Santa Cruz, are all generally called *collas*. It is for this reason that the immigrants of Aymara and Quechua origin are the largest number of those who live in these marginal neighbourhoods.

These neighbourhoods have grown very quickly in areas which do not have any planning, most of them far from the downtown area. Many of them live on areas, which they invaded, since these were not used in a continuum, thus leaving a lot of intermediate spaces. This type of chaotic settling shows a continuous, low density, disordered growth producing a situation, which makes it very difficult to give these people basic public services. Consequently, these zones frequently remain without services for very long periods of time. On top of this the distances, which the poorest people in the city have to cover, are very large and their transport budget is excessive. This service, due to the size of the city, has become an essential one, which constantly increases costs without any respect for their family budget. It is interesting that within the urban growth of Santa Cruz the *Colla* immigration groups have had an important rôle. Not only because they are hard working people, but also because their transport and commerce networks have absorbed this type of activity in Santa Cruz. It is not that strange to see the sellers in the fairs and marketplaces and observe that they are mainly immigrant women who come from the valleys and highlands, they even keep their traditional clothes.

During the first half of the century, in the people of Santa Cruz there have been extremely regionalist feelings. An expression of this feeling was the fact that in 1920 the "East Party" was founded, which believes that they are superior race, and so produces sad xenophobic situations. From then on there have started to be intolerant movements within the society of Santa Cruz. This situation can be seen especially among the political and the rich classes, which are very regionalist, conservative and fear being "invaded" by other cultures. Such groups are becoming stronger because of

immigration. It is for this reason that the massive arrival of *Collas* and *Aymaras* has become a point of conflict, with very clear manifestations of intolerance. To this must be added the fact that Santa Cruz has become a space where the social gaps have widened very dangerously. There are huge differences in income distribution. There is an environment where social tensions are putting at risk all the social integration processes and urban violence is constantly increasing.

The marginalisation levels are strong and there are even exclusive neighbourhoods for immigrants, which means places where these have invaded the land and have built homes with the same characteristics of those homes that exist in their homelands. It is quite frequent to find homes with characteristics from the highlands or valleys, walls built of adobe and other materials, which do not offer any protection in this ecological environment. Since the climate in Santa Cruz is hot, humid and rainy the materials these people use are not suitable and the houses they build quickly get ruined and the house becomes uninhabitable and collapses.

The current population growth of Santa Cruz is moving towards that of a metropolitan zone. These zones, other than those municipalities, which already exist, would eventually also include others, which are found along the roads, radiating from Santa Cruz. Among these towns are places like *Montero*, *El Torno* and *Cotoca*.

According to the data from the year 1900 the City consisted of barely 9.3% of the population of the Department of Santa Cruz while in 1976 it had around 35.8% of the population of the Department, a number sixteen times larger than that in 1900. In the year 2000 the City housed around 60% of the Departmental population, and since then the National Institute of Statistics has estimated 1,171,000 inhabitants for this Department. The City multiplied by more than 65 times its original size. Much of this growth has been produced by the continuous influx of immigrants.

c. Vision of the future

To organise the natural growth in a star shape and as "Garden City", in 1958 the regulation plan has done by the Techint Counseling. This plan proposed building a

city that had a concentric road structure, which would extend its main roads to the north with Warnes and Montero, to the southeast with the Cruceño Valleys, to the east with Cotoca and to the south-east with the railway and industrial zone.

The rise in economic activity at the beginning of the seventies, especially in commercial agriculture and the agro-industry together with the discovery and use of fuels and forest resources made Santa Cruz even more attractive. From then in a relatively short period of time, just twenty years, it has transformed from a small village to a modern, planned city. As in all modern cities problems arise with respect to land ownership and that is when illegal invasions start to occur and fragmentation of large pieces of land occurs in places with no planning.

In the second half of the seventies the failure of the objectives established by the Techint plan were completely evident. So the inhabitable land outside the established rings was quickly used and thus began the phenomenon of dispersion. The regulatory plan took over the urban planning, trying to make the organisation adequate for the great number of immigrants and illegal settlements, and started to broaden the structures proposed by the previous plan.

The new regulatory plan modified the zone proposed by the Techint plan for the city of Santa Cruz and so established the district infrastructure on the third ring and welcomed educational uses, administrative assistance, cultural and sports centres and strategies to avoid traffic jams due to concentric radial roads. The Extended Director Plan has been raised as an answer to the land invasion situation outside of the urban limits and as a measure to control and limit the expansion. According to the specialists the main cause is the possession of land.

The decade of the eighties can be classified as a time of planning degradation and implementation since, starting with the Techint plan as a consequence of a large amount of unforeseen factors in the design and plan elaboration. On top of this the plan did not consider the legal framework for its implementation, nor

the implementation of an institutional framework, which guaranteed its execution. In fact, the planners only agreed on good intentions and good will, while the population growth and other factors, which constitute urban development, did not have any consideration. Nowadays, it is recognised that the city growth is dispersed and erratic.

In 1990 the Municipal law was passed which declared that urban planning is a responsibility of the City Council and that to deal with urban development the local planning system was confirmed by the City Council and regulator plan.

Even though the City planning representatives had for along time wished for urban plan it was not until 1999 that a document was published entitled: *Strategic Guidelines for the urban development of Santa Cruz*¹²².

The main goal of the City of Santa Cruz is to improve administration and urban management to make Santa Cruz a spatially organised city with the following characteristics: one that is socially more just and human, economically productive and effective, sustainable ecologically and with political participation and which promotes the participation of citizens to satisfy their deepest human needs. It must also have efficient land management especially of public lands, environmental administration, public works management, social administration, public works administration and others. But, mainly social management and resource administration are required for the improvement in the quality of life.

Within this new process is a vision for the future; one of the strategic components assumes the issue of metropolis formation. Among the ideologies one can see factors, which produce an accelerated globalisation and the consequent formation of a metropolis. These include¹²³: the presence of agricultural commerce for export, agro-industry for export, the results of private investment as a policy of the State, especially for fuels and telecommunications, private investment in the financial system, mainly by foreign investors from Spain. Santa Cruz has received much help from the Central Government since the fifties. Sometimes the rest of the country has been put into second place. The key idea

that is the hope of those who conceive the commercial strategies of Santa Cruz is the fact that there is not another city of its size within 1500 km, which means that it has an enormous potential which could make of the City "a global city of the lower order" which could be integrated into the world network and become *an island of prosperity in the expansive frontier of global capitalism*.¹²⁴

3.3.3 The City of Cochabamba

The City of Cochabamba is called *the city of eternal spring*. It is found in the region of the valleys at a height of around 2500 metres above sea level and has a wonderful climate all year round. It has an average temperature of 20 degrees Celsius (72 Fahrenheit). It is in a closed valley of about 39,000 hectares of which some 18,000 are used by the urban structures of the city, close to 28% of the territory is mountain ranges, which surround the valley, where the highest peak is the Tunari, which belongs to the East Andes mountain range. It is in territorial terms that the City of Cochabamba has shown its special characteristics. The territorial extension due to its demographic extension has gone outside the municipal jurisdiction and has started to integrate into one urban zone all the populations and villages which are near this "urban centre corridor". (figure 3.3)

A basic background element, which can help in understanding the specific characteristics of the internal urban structure of the city of Cochabamba, is its rôle in the country and especially in its own region. The central position it has where it borders with six other Departments makes it the perfect place for the confluence of different human groups, in fact, more than half of the inhabitants are immigrants. In this City there are many activities and economic, political and cultural activities, which reflect the social and structural heterogeneity, that can be found there. In many senses Cochabamba is a reflection of Bolivia, it is an intermediate space, which provides a national meeting point where many of the contrasts in Bolivia can be found. The main indicators of Cochabamba are usually the same as the average values for all the country.

Only around 5% of the Departmental area of Cochabamba is a valley. It is within this "small piece" of the territory that 85% of the Departmental urban

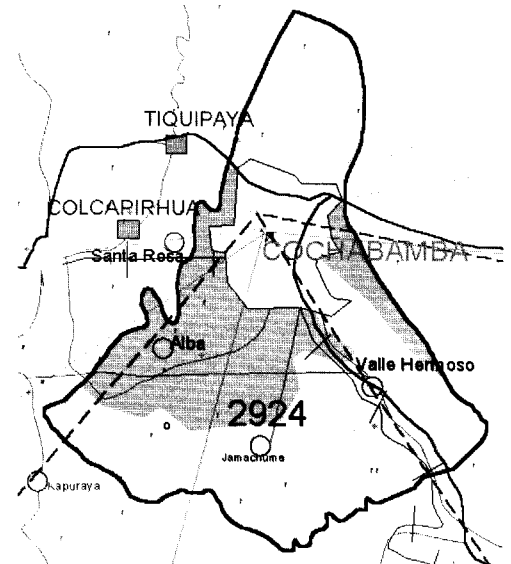
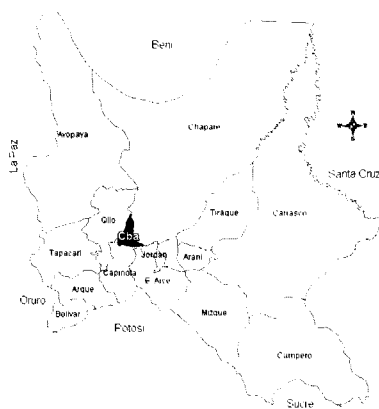
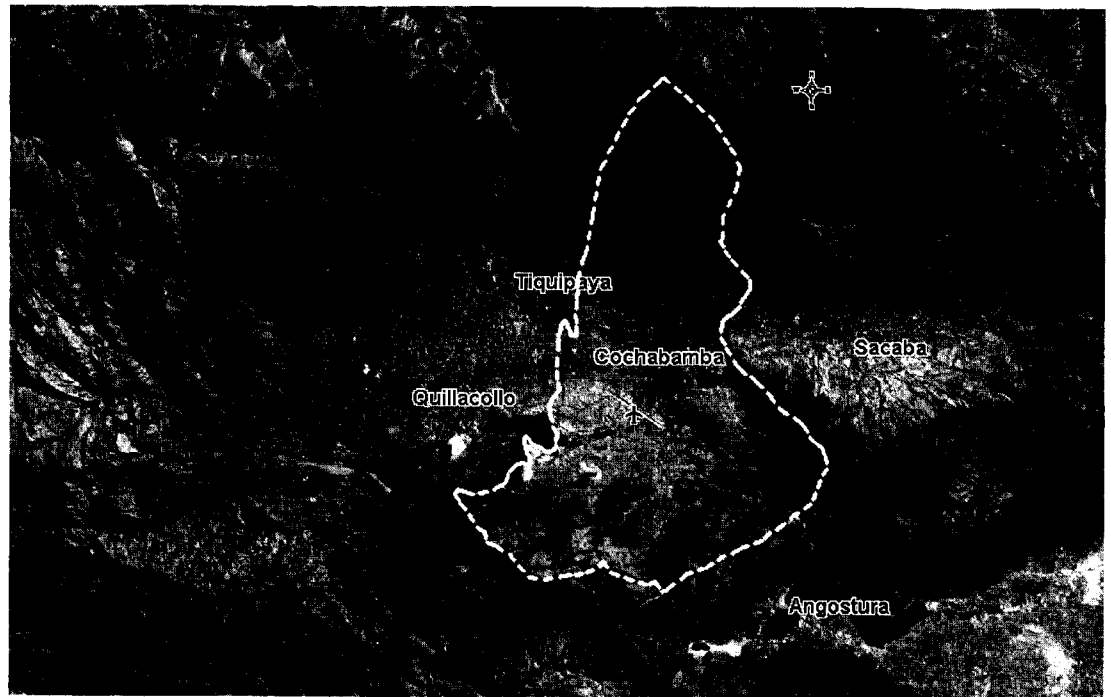
population lives and it is within this territory that the city of Cochabamba is found. The City was founded by the end of the 16th century on the foundations of the previous pre-colonial village of Canata. Since then it has achieved importance due to the development of agricultural landed estates, which had the purpose of furnishing food for the mining industry in Potosi (Urquidi 1950; Ledo, 1986; Solares, 1990).

The City has largely increased its participation within the Departmental demographic whole. In fact, it represented 7% of that population in 1900, 16.5 % in 1950, 28.2 in 1976 and 37% at the last census. It is quite sure that the processes of increase in commerce and immigration flows have had very much influence on the population increase and the growing rôle it has in the Department.

One way of analysing the changes, which have happened in Cochabamba, is to observe the spatial re-distribution of its population. Between 1976-1992 there have been only four provinces which have had a growth rate which was higher than the Departmental average (2.7%): two of the four represent the tropical lowlands of the Carrasco province which has had a 5.6% growth rate and Chapare with 4.4%; the other two are represented by the dynamic centre of the City of Cochabamba which grew at a rate of 4.3% and Quillacollo (4.1%). The provinces, which have a negative growth rate, are those, which have the worst economic and agricultural situation. These problems cause a poverty situation, which is among the highest at national level, mainly due to the extreme consequences of land distribution which itself was a consequence of the land reform previously mentioned.

The agricultural sector is not only composed of the traditional economy, which was developed in the valley, from the eighties onward, with support from the State, there was a process, which broadened the Departmental agricultural characteristic and extended it to the tropical zones, especially Chapare. This process was established between 1980 and 1988 when the specific character of the international market in drugs and the national economical crisis where the main reason for the spontaneous colonisation of wild lands which are found within the borders of the Chapare province.

Figure 3.3
The City of Cochabamba



a. The Urban Expansion of the city of Cochabamba

All the current evidence indicates that the Valley of Qhochapampa was populated around twelve thousand years ago. There are ceramics, which have been found that reveal the agricultural practices of agriculture within the first millennium before the Christian Era. (*chullpa pampa culture*). In this same manner there are testimonies that the valley inhabitants had been affected by the cultural diffusion of the Tiahuanaco (*colla-aymara culture*) as they were by the Inca control with the *Quechua* influence¹²⁵.

The first Spaniards came to these valleys in the year 1540. And in 1570 when the paperwork was done with

the Vice King of Lima the foundation of the Villa de Oropesa was decided. By then there had already been some settlements by part of a group of landed estates owners, in fact, it seems that they had their houses right next to those of the native dwellers. It was on the first of January of 1574 that the City of Cochabamba was founded¹²⁶.

In the early 17th century the village had some 300 Spanish neighbours and many natives who lived in the village and estate houses which were all around the valley,

there was a central church and seven other temples and a hospital as the Carmelite priest Antonio Vasquez wrote in a short description about the West Indies¹²⁷. With the passing of the seventeenth century the new *mestizo* generations increased the demographic index of the developing village. Nevertheless, there were very few mansions, which could be called urban. Meanwhile, the authority of those from Europe (Spain) and the Creole aristocracy ruled over mass of the native people, who were compelled to work in the fields and mines¹²⁸. In this way the growing City developed as a reference point for the valley landed estate owners and as a centre for the upper valley mineral transactions, since there was some silver mining there. From the City came all the control through which they taxed work, but also the Civil Government operation, church activities and the control of public order¹²⁹. Together with the Europeans, Creoles and Mestizos who lived in the urban centre there were also native Indian groups, which provided domestic and work services for the jobs that had to be done in the city.

Within this small eighteenth century nucleus there was some spatial order, which reflects the hierarchy of its dwellers and the impact of the most basic functions. An example of this was the Cathedral found on one side of the main square together with the Local Government house, meeting centre and some of the homes the most “distinguished” citizens. Around this central area could be found the homes of the traders and the landowners. Toward the outer rims of the urban zone one could find the huts of the Indians who worked providing services. There were a few blocks, which were established like a chessboard in fulfilment of the royal decrees, which regulated this design. All the streets were dirt streets with water channels, which watered the local orchards, and they constituted the urban structure. Even though agriculture was the basic sustainer of the economy, together with commerce and administration jobs, handwork and artwork started to bring additional characteristics to the urban scenario. In this way up to the end of the colonial period it was possible to distinguish certain zones or neighbourhoods, which had specific functions or characteristics¹³⁰.

Toward 1826 the city had around 8000 people who were settled in around 85 blocks. The 1886 census determined

for the City an approximate population of 19,507 persons; this is an estimated number due the limitations of the census that year. Nevertheless, it constitutes a testimony of the importance which Cochabamba achieved in the urban context of a commercial-mining-agricultural society.

When the City numbered about twenty two thousand people in 1900 the urban structures, due to continuous construction, had crossed the limits of the old City. The River *Rocha* was a natural border which limited the expansion of the city to the north and west, stretching south following an axis which penetrated into the most densely forested areas of the valley near the vicinity of Jaihuayco. The area, which was urbanised around 1910, was around 150 blocks, some of which had orchards and gardens. Even though the City had had an important urban growth the handicraft and commercial activities were still the most important ones for the urban economy. The centre of the City contained various small commercial establishments in some of which they produced direct consumer goods, things like soaps, candles, clothes and shoes were among the items, which could be found in the southern part of the city, even though there were no big industries. The same economic situation could be found in Cochabamba in 1950 when the city had tripled its size and its population was over eighty thousand people. Through chaotic land invasions there were agricultural lands, which were settled, it was a process which had absolutely no control and which caused serious problems when it came to the provision of basic services. If it is true that the City averaged 3500 people per square kilometre, it is also true that the most part of this area of 2300 hectares was very poorly populated while in the central blocks the population density was four times over the global average. In other terms, the older part of the City was distinguished by a compact land setting and paved roads, which continued up to the mountains. This tends to be seen in the south because there is a compact land setting with paved roads. Beyond the old *Rocha* border the population tends to have a lower density.

During the sixties and the first half of the seventies there was an expansion of the urban area in all directions. In fact, the geographical limits of the south east (*Verde* and

San Miguel Hills) were settled by “invaders” of immigrant origin, the agricultural lands from the Cochabamba-Quillacollo route to the south west had to be given up to urbanisation and commercial and industrial building. The “obstacle” which the airport seemed to be was not an obstacle to the advance in the east towards the southern part of the city. At the same time the wealthiest built their houses more to the north reaching the zones of *Queru Queru*, *Cala Cala* and *Muyurina*. New areas of rural origin like *Mayorazgo*, *Sarco*, *Temporal* and *Tupuraya* became a part of the urban area of the city. The once distant *Lake Alalay* and the distant country club, like *Jaihuayco* with the horse club and the brick companies soon became a part of the urban complex.

The urban expansion of the City involved a combined style of concentrated and widespread structures. While the urban expansion of the City had some 3,700 hectares in 1967, the “old city” which only had barely a tenth part of this total, held 37% of the 137 thousand people¹³¹. The average density of the city was of 3,713 people per square kilometre, but the density for the southeast centre was seven times larger.

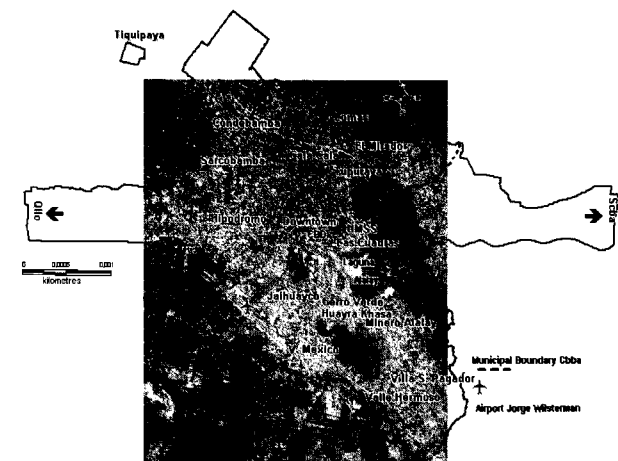
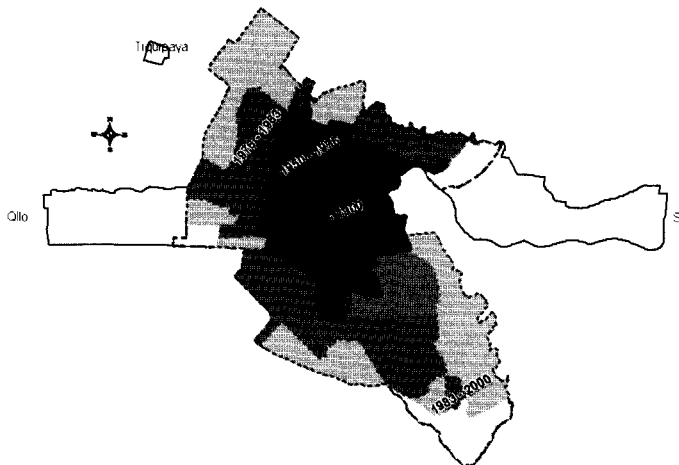
In 1976, nine years later, Cochabamba exceeded 200 thousand inhabitants who lived in 42,593 homes in 1800 blocks, which were spread over an area of 4244 hectares with an average density of 4794 inhabitants per square

kilometre. In the downtown area of the city lived about a quarter of the people in Cochabamba, its density is double that of the city's average density. The highest density was found in the *Las Cuadras* zone where there were very many poor level neighbourhoods. This zone was established over a rough landscape. There, there are neighbourhoods where some houses are in very bad state as in the case of 'El Solterito' at the foot of the San Pedro hill. There are also some neighbourhoods, which have pretty good conditions, as in the case of the homes, which are near the public university (*Universidad Mayor de San Simón*) and around Oquendo Avenue.

Between 1976 and 1992 the growth of the City has increased, with the unfortunate characteristic of being quite disorganised. Those lands, which have better quality for agricultural work, found especially in the north part of the city, have been taken and quickly transformed into personal residences for the more wealthy social classes. Opposed to this situation the people who are resident in the southern part of the city have integrated into City life in disadvantageous conditions, where they have a very evident lack of the most basic services and due to this the social climate is one of tension with the rest of the City. The impact at a spatial-physical level is that its size increased in 2.24 times from that which was registered in 1976. Now the City covers around 9,500 hectares¹³² distributed over 4350 blocks.

Map 3.3

Urban Development in the city of Cochabamba, 1900 – 2000



The average levels of nett density are around 57 inhabitants per hectare. This value hides the internal

contrasts that are evident in the neighbourhoods found in the south-eastern segment of the City (Old City), *Las Cuadras* (*Solterito Alto*), *Cerro Verde* and *San Miguel*, which have a net density of 16,287 inhabitants per square kilometre. In the neighbourhoods of *Cerro Verde* – *San Miguel*, *Barrio Minero Alalay* and *Jaihuayco* there are around 19,706 inhabitants per square kilometre.

Through the current century the City has increased its size by more than thirty times. From the start of this century one can see a systematic demographic increase. In this process the decade of the eighties produced the most conflicts, for example in 1986 more than 25,000 people who had been expelled from their homelands due to the application of policies of economical adjustment and especially due to the closure of the national mining companies arrived in the City. This measure of economical adjustment implied the closing of a large number of branches of the National Mining Company of Bolivia. There were more than twenty thousand workers who were dismissed and consequently changes happened where there was a sectoral and geographical re-distribution of the labour force in the second half of the eighties.

The greatest number of people who came here, were those who arrived during the eighties from urban areas. Their arrival is associated with the lack of work and insufficient income, which they had in their homelands. It was a period of time during which there was a series of political economy measures, which tried to solve the “structural lack of adjustment”.

Between 1987 and 1992 there were, on average, around 13,500 immigrants to the City per year. This value was higher than the total of 11,534 births, which were registered annually. This aspect helps one understand that it was the migration flow that contributed to a “boom” in urban growth over the last years. A way to show the impact of the immigration is to compare this with the number of immigrants in the seventies which was about 4,000.

The migration to the City of Cochabamba is mainly urban, nearly three out of four immigrants come from urban zones and so only a quarter is from a rural origin.

This situation changes the classical understanding, which permitted this phenomenon to be associated only with a urban-rural migration flow. The results, which have been shown in this information, indicate that this migration is more of an urban-urban type.

The main areas of urban origin are the three Departmental capitals of the Bolivian highlands: Muri-Ilo-La Paz, Cercado-Oruro, Frías-Potosí. One must also highlight the return migration and the migration flows from the city of Santa Cruz. The explanation of the urban origin of the flow toward Cochabamba is a real challenge; it goes beyond the usual stereotype of countryside to city migration flow and has to do with the relationship between urban centres and the process of transformation of Bolivian cities in the last decades.

b. Intra-urban segregation: The residential areas.

Cochabamba is a city which has grown physically and demographically in a differential manner, there is a high demographic concentration in some of the neighbourhoods and very low ones in others. The highest concentrations are produced in the Old City and around the central market place, specially in the *Las Cuadras* region where there are 16,287 inhabitants per square kilometre. There are also other places like *Cerro Verde* and *San Miguel* where there is an even worse condition with 19,706 inhabitants per square kilometre. Other neighbourhoods which have a high density are *Barrios Minero*, *Alalay* and *Jaihuayco* and in many of these zones, due to their low class characteristics, they have been built over a very rough landscape.

In the environment of demographic tendencies one can see that in the old city and others of the older zones there are settlements, which were quite important in 1976, but after fifteen years in 1992 they show negative growth indexes. This is different to the high growth rates of some zones like *Huayra K'hasa* (zone 25); *Hipodromo* (zone 6); *Barrio Minero Alalay* (zone 21); *Tupuraya* (zone 3) y *Condebamba* (zone 1) which have growth rates of over 9% annually.

The accelerated growth of the districts found around the mining neighbourhoods of *Alalay* and *Huayra K'hasa* is explained by of the trends of the concentrated arrival of

immigrants. Many of them come from the poorest regions in West Bolivia are different to the type of immigrants who go to the *Condebamba* zone where the migration within the same Department is the main one. For zones three and six the social groups, which constitute the main flow, are newcomers to the city and the Department. If these situations are not tackled by a serious urban policy the social costs in the future will rise beyond any estimation.

The high price of the land in the north-eastern and central zones, which have better services provided by the State, and the increase of commercial activities which has happened in these have caused three types of response.

The first consists of the sector strategy for high incomes, i.e. to sell their downtown properties and build new homes in cheaper zones. This has happened mainly in the north-eastern zone of the City, one can see various examples of this such as the wealthy districts *Las Lomas de Aranjuez*, *El Mirador*, *Villa Moscu*.

The second refers to the rent sharing that has developed among the large houses of the old city: when they subdivide these properties they have the benefit of accessing better equipped houses and locations which are closer to their work.

A third answer has been to invade lands in suburban areas, which are not that far from activity centres like the central market place (*La Cancha*) and the industrial sector of the south. There are important consequences as a result of these types of processes: the use of irrigated agricultural lands which were not destined for the construction of homes or other buildings and the lack of support for basic services like water or electricity and the lack of basic urban structures to give protection against floods or other natural disasters. A clear trend in the old City is the economic and social reality that is developing there, this reflects a high level of internal heterogeneity.

Lastly, the fourth consequence is the growing inequality, which is taking place within the urban structure of a variety of residential spaces and activity segregation.

These serious problems must awaken the Municipality to the need for generating a process to make people conscious of decision making so as to achieve an ordered urban growth. It is also necessary that those who take their responsibilities seriously, who understand the realities and make serious proposals which might change the urban profile of the City and provide for the basic needs of the population, rather than just plans on paper. The risk that threatens the valley of Cochabamba is that, if it continues with its expansion and uses the fertile agricultural valleys to build homes and structures it might put the agricultural tradition of the region at risk.

— The largest physical growth of the City up to now happened in the first years of the seventies.

— Between 1976 and 1992 the physical growth of the City decreased greatly, due to a process of increase of population density and space availability in the old city and the hills, which surround the *La Cancha* market place.

— The decline in construction growth is evident due to economic crisis and so there is a higher demographic increase.

Productive activities, social institutions and ideological currents all are part of the establishment of territory. The different styles of work organisation, technological means, judicial and political norms, cultural values and other elements which structure a society all originate different territorial parameters which determine specific ways and uses of space. In this way, one can say that the social demographic manifestations of the differences in population distribution are not mere issues for only one territory, but that they obey structural rules. About the latter one can say that these are deeply rooted in space and territory and so define patterns of social differences.

A simplified way of interpreting the spatial and environmental dimensions of the social differences in Cochabamba consists of pointing out a type of pair element between the residential area of the north east, which includes the Old City, the suburb zones and the south west of the city of Cochabamba, together with the routes that go toward *Quillacollo* and *Sacaba*. This differentiation is not a mere accident, nor an accident of random

product, but responds rather to historical conditions, which imply the combination of multiple factors. It is evident that a clear element of discrimination exists in the residential inter-urban space of Cochabamba; the place where the population establishes itself is an indicator of the social differentiation processes in that population. There are important differences in terms of poverty and of unsatisfied basic needs which permit one to demonstrate the existence of segregation processes in the use and property of space. One has to underline the inequality in the inter-urban residential space of Cochabamba.

c. Vision of the future: Actions of the municipality of Cochabamba

The local government executes the urban policies of Cochabamba, *"this is the organism in charge of administering and improving accessibility to public services (water, sewage, roads, etc) and of preserving the moral and physical health of its inhabitants. It must take care of the historical-cultural and ecological values and of the beauty of the city"*¹³³.

Until now the actions of the Municipality have generated an indirect or direct process of differentiation, especially with respect to economic activities and residential spaces. The residential position is considered as a benefit, which comes from an efficient social service. However, within the context of an open market economy the decisions, which are made, have acquired another meaning and so the local government has succumbed to the demands of the groups with greater economic power. The lack of attention to the basic needs of the population, which lives in the suburbs and the urban centres close to it, is generating important social tensions.

The explosive growth of the cities and of their surrounding towns has happened within a framework of a lack of determinism, chaos and improvisation. The progressive expansion of the urban area over previously agricultural areas has created important problems for the urban planning.

Trying to provide a solution to this disorganised growth, the Department of Urbanistics of the municipality

designed a regulatory plan in 1950. This plan included norms for building, zone control and accessibility criteria and it gave many suggestions for the re-modelling of the old city and the formation of neighbourhoods for five to twenty thousand people. In this plan there were various urban "high points" which had achieved development during the previous century. Through this there are references to railway stations, bus stations, the market place (*La Chancha*) in the internal area of the urban structure. It also mentioned the airport, the horse club, the Country Club and the southern industrial sector within the second area. Finally, it made reference to the eventual inclusion of *Quillacollo*, *Sacaba* and *Valle Hermoso* to Cochabamba¹³⁴. Many of the recommendations, which were present in the regulatory plan, were never put into practice, though some of them were used many years later¹³⁵.

In this period the "Law of Urban Reform" took effect, it was promulgated as a State Decree in 1954 as one of the derivations of the reform process started by the Nationalist revolution of 1952. This law established a limit of 10,000 square metres as the maximum area for private urban owners and decreed that those, which were bigger than this within the urban radius, should be confiscated. Nevertheless, the typical over-abundance of bureaucracy, the consequences that the exceptions were left and the bureaucratic lack of consideration for the peripheral areas, were all severe obstacles to the application of the legal initiatives. Moreover, since other legal entities set severe obstacles to the construction activity and to the making and commercialising of goods, the speculation process for real estate became worse all the time and finally began contributing to the spatial reproduction of social injustice. Even though this situation existed, several syndicates from Cochabamba were able to have access to large areas of land (among them where the railway workers, miners, oil companies, Lloyd Aereo Boliviano (LAB) and industrial workers), some of them, through co-operatives and the social achievement of marginal benefits built their homes and formed worker-neighbourhoods. At the same time, the National Institute of Shelter, which was created in 1956 to solve the shelter problem for workers, has done very little in Cochabamba. This situation, associated with the chronic residential deficit and the growing pressure

from demographic growth has motivated the proliferation of low quality houses and huts which have little or no water or sewage systems and which do not have decent access roads.

From 1952 on, while the process of land reform went forward, the City of Cochabamba, like other cities in the country, went through an abrupt growth expressed in new overflows of the urban limit. There was a disorganised growth of the suburbs and the formation of urbanisations for poor people, on one side, and the construction of streets and avenues, houses, buildings and green areas on the other. In this way the segregation tendencies, which have been present during history of the city, became more evident every day, while "land invasions" also became more frequent. Towards the end of the fifties only the streets of the Old City had been paved, which was equivalent to one fifth of the pavement required. It was estimated that the houses, which had drinking water and sewage systems, comprised only 23% of the total.¹³⁶

After a long period of total lack of urban planning a meeting was held with different professionals and foreign technicians in 1994 by the local City Council. They designed "the new strategy of urban development", which was, according to local authorities, the basis for the new document "*Strategies for urban development in Cochabamba*", which could have been the main instrument for the regional urban planning. What is certain is that in the official documentation of the City Council there is a Decree which instructed that there was to be a Plan of Urban Development, which had to strengthen and consolidate the Main Plan for the Urban Development of 1981, which seems to be the best work the local technicians have achieved.

Between 1994 and 1999 the city administration incorporated civil participation and decentralisation as an important element of its planning system. The district creation reform was approved in the year 1994 (City Decree 1465/94). This regulation had the City divided into thirteen municipal districts. In each City District there is a community house, which is a branch or dependence of the Direction of Territorial Management. The purpose of the Districts according to

the City authority is to de-centralise the municipal activities with respect to construction, health and education. It is also indicated that it will be possible through popular participation in each district that each neighbourhood tells the City authorities which works it considers important. Unfortunately, financial resources are not decentralised and autonomy is not given for establishing a budget, this is still in the hands of the Mayor and is quite an obstacle, which weakens the de-centralisation of the municipality.

An expression of this weakness is that, after the publication in 1995 of the District Development plans, which in theory should have been the instruments for technical and political planning, nothing happened. These plans are destined to guide the process of territorial organisation. Other than responding to an integrated, strategic and alternative vision of development to which the City of Cochabamba must get to together with all the Districts that are part of it as a whole. Unfortunately, after checking these documents I see that there is not the same methodology for comparing the District plans and that they were not used as basis for the construction of the strategic vision for the City.

The City Council of Cochabamba issued its Strategic Plan of Development at the end of 1999. In this it states that they want to achieve an integrated sustainable development based on four paradigms: Sustainability, Equity, Competition and Governability. The strategic objective will be directed to: "*Elevate the quality of human life, diversifying and making dynamic the local economy, improving the physical and environmental quality of the city to strengthen its geographical position in the regional space*"¹³⁷.

To achieve this important objective one has to ask the following questions:

How can the quality of human life be raised?

Are there actions being taken to overcome the existing urban segregation and differentiation situations, which exist in the City?

What mechanisms can be used to diversify the economy, without industry or a policy for industrial development?

Is it possible to establish a productive sustainable basis in agro-industry?

What criteria should be used to assign resources and investment? Will they be reconsidered for the benefit of the poorest in the City?

Disregarding good intentions, cities are growing with a very accelerated rhythm. Segregation is increasing with respect to the use and ownership of urban spaces, urban violence is growing, and there is more chaos and lack of urban planning for suburbs. One can summarise by saying that these dangerous processes are becoming more evident over the last years.

Meanwhile, the Municipality continues to invest in the aesthetics of the city, benefiting the residents of the northern part of the City. There is an evident improvement and a "home for all" just as the people in charge of planning say, meanwhile in the southern part of the City there is much chaos where these people live in a world of dissatisfaction and many needs.

This disorganised growth has dramatic consequences for environmental issues. One can see this in the growing levels of pollution and the City has turned into a city with fewer gardens, more frequently observed in large houses in the north part of the city. There are situations of over-populated areas with a lack of elementary services like water, sewage and garbage collection. There are also problems with homes built without any planning or authorisation, lack of property deeds, invasion of land areas destined for parks, traffic systems which marginalise the pedestrian and a lack of public urban buildings such as schools and hospitals. There is a general lack of ecological conscience both among the authorities and all the population.

3.4 Conclusions

The differences which characterise the urban productive structure of Bolivian cities, are growing. It has been shown that there are different forms of production with different dynamics. The clearest manifestation is the participation in the same market space of intensive economic units both in investment and in high productivity. This relatively modern technology permits useful savings per unit of production, and the incorporation of highly qualified workers together with small productive

units and which have a low or medium productivity. Considering the very restricted access to complementary production factors with a human profile, which has very low academic achievement, and with low levels of recognition for the job done. Within this frame of heterogeneity one has to highlight the quantitative predominance of those smaller academic units, which are organised in an autonomous way and are lagging behind in technological and productivity matters. This generates sub-employment conditions of the working class, which are expressed through low payment, and inadequate working conditions. Given the uneven characteristics in development and the growth of small business activities it will be important that an opportunity is given to the smaller companies. This is one of the conditions is to bring flexibility into the strict access to credit and support for management and administration of these economic units.

Nowadays, the scarce development of productive forces and growing heterogeneity among the economic units configures a productive structure, which is mainly tertiary. Within it activities, which are especially important, are related to intermediate issues and personal services. Uncertainties and labour dissatisfaction are two ways of synthesising the most evident effects of the most recent functioning of the labour market and the perception that the independent workers have of it. This increases the numbers of poor quality jobs. The fact that jobs have been devalued and the persistence of low and uncertain incomes has obliged families to search for a wide range of life strategies to cover the always growing requirements of the family budget and the simultaneous decrease of their real income. This explains a growing output of workers to the labour market, with no other objective than complementing their low family income and the lack of prospects for solutions to the multiple problems that the current society produces.

The measure of economic politics, which were applied from the middle of the eighties and after, have contributed to increasing the injustices within the country. Among these one can find the drastic fall in public employment, the radical decrease of public investment, the dismissal of many miners from nationalised companies and from other privatised State companies, the

freezing of salaries to stabilise the financial situation, the privatisation of the strategic sectors of the economy, the stimulus for popular participation in local management within the context of the municipality creation and the reform of social security, the execution of de-centralisation policies for the State and the creation of Departmental Governments. All of these have the goal of determining a new model of State and a new model of society, which might be replaced by the paternalist relationship, which influenced the country as a whole as was made possible by the previous model.

Bolivians must reduce injustice through a productive system, which gives greater protection for the workers and which enables them to have better salaries and more dignified work. A great reform is necessary by training for work, through education and updating courses in such a way that it produces workers who are able to tackle the requirements of the modern world and face the economic problems.

Finally, it has been shown that the urban process in Bolivia has been generated in a highly segregated scenario of local government. The development policies have tried to generate the official and underground cities where one finds most of the poorest sections of Bolivian society. For this reason there is a need to put into practice strategic programmes which might help with poverty in urban zones where the situation is alarming, for example in La Paz places like *Las Laderas*, *El Alto* and *Las Villa*; in the southern zone and the suburbs in Cochabamba and starting from the fourth ring in Santa Cruz. It will be impossible to tackle directly all these problems unless people work collectively and inter-institutionally. This may help in facing the problems of poverty and the degradation in the conditions of life for those living in the marginal urban zones of the big cities.

Notes

90.

Drewe, Paul, 1986, Page 335.
"Marginality is related to socio-economic characteristics expressed by indicators such as household size, employment in the informal sector and low family income".

91.

GREBE, Horst, (1983).

92.

UDAPE, 2001a, Page 15

93.

Losa Gabriel (1998) Page 88.

94.

Losa Gabriel (1998) Page 89.

95.

Given the close relationship between production and re-production in household economies that make the simple production sector, such an omission means the real magnitude of the working force is underestimated.

96.

Infantile and juvenile work in Cochabamba is significant. Taking into account the demographic prevalence of household economies, children are introduced into the work force at an early age, adapting them to the productive differentiation. Besides, at the fairs and informal trade carried out in the streets, it is not uncommon to see children, sometimes as paid workers. This situation is even more dramatic in the brick factories located in Jayhuaycu where families live next to the factories. Even though it is true that after the fifties the degree of school attendance has improved, as stated by Albo, Javier, *Lengua y Sociedad en Bolivia* (La Paz, INE, 1980), this does not represent an obstacle that impedes children from working.

97.

Thus, the use of certain ideological terms such as "over urbanisation" or "hyper-urbanisation" is questionable.

98.

Calderón, Fernando, 1983, page 294.

99.

Feedback circuits are not discarded between trade levels; a part of the demand satisfied by retail activities is supplied by the wholesalers, who use this as a mechanism to appropriate to themselves the surpluses generated by the first.

100.

Depending upon the ideological orientation of the different governments, and on secular alliances of classes for political power, caught between the socialising experiences promoted by Torrez and the Neo-liberal re-activation promoted by Banzer, the Government has acted as an agent responsible for re-distributing income, with paternalistic inclinations in its direct employment policies.

101.

ECLAC, 2000, Page 1 and 6.

102.

Barja Daza Gover, 1999.

103.

This competition is especially evident in Jayhuaycu, where the "gamboteros", approximately 900 persons that operate rudimentary family industries, must compete with modern industries (approximately 100 workers) that have adequate distribution mechanisms, and, consequently, do not have their surplus taken by distributors.

104.

ECLAC (1991), page.32.

105.

The projection for school age population prepared by INE/CELADE with the support of UNFPA, allowed estimation of the average annual growth the population in primary school (6-10 years of age) will undergo during the next 12 years. The same was done for age groups 11-13 (intermediate education), and 18-22 (higher education).

106

Morales, Rolando (1995), pages 30 - 31. The denomination that the city received was Chuquiapu, or Chuquiago Marka.

107. Sztrukler Alicia, 1996.
108. Calderón Fernando, 1982, page 26.
109. Blanes José, 1998, Page 40
110. Calderón Fernando, 1982, Page 27
111. By virtue of the Law of March of 1985, the city of El Alto became independent of the city of La Paz, breaking the urban unit in the administrative field.
112. Morales Rolando, 1995, Pages 62-65
113. Morales Rolando, 1995, Page 63
114. Morales Rolando, 1995, Page 68
115. Calderón Fernando, 1982, Pages 27-63.
116. Prado S. Fernando (1993).
117. Vargas M., Mansilla Adrián, Justiniano, J. C. (1991).
118. *National Census of the Population and Housing 1900*, INE, La Paz, Bolivia.
119. Prado Fernando, 1984.
120. *National Census of the Population and Housing 1976*, INE, La Paz, Bolivia.
121. Prado S. Fernando, 1999, page 7.
122. CEDURE (Centro de Estudios para el Desarrollo Urbano y Regional), 1999. Page 98.
123. Prado S. Fernando, 1999, page 3.
124. Prado S. Fernando, 1999, page 4.
125. In the valley of Qhochapampa, the mitimaes imposed their control on the Colla-Aymaras. See, in this respect, Ocampo, Eduardo, *Cochabamba Nuclei de Irradiación y Convergencia* (Cochabamba, Ed. Canelas, 1974.) pp31-40
126. Guzman, 1972). Pages 90-93, from the same author, *Gesta Valluna* (Cochabamba, Imp. Tunari, 1953) and from *Monografía del Departamento de Cochabamba*, author, Urquidí, Guillermo (Cochabamba, Imp. Tunari, 1954).
127. Ocampo, 1974., pages 47-48
128. Ocampo, 1974., page 55.
129. This onerous tribulation became continuous and growing protest. In 1730 the first insurrection took place led by silversmith Alejo Calatayud, the prisoners of the jail were liberated and the Viceroy's "revisitador" was forced to disappear, but soon the rebels were repressed. Later in 1731, raising a red flag, an Azirumarca farmer (Nicolas Flores) took the rebellion a long way into the rural districts. In 1780 an indigenous rebellion took place associated with the great insurrection of Tupac Amaru and Tupac Kalan and it was suffocated by the Creole society and, in virtue of this support to the regime, Cochabamba became worthy of the grant of the royal title of "Leal y Valerosa Ciudad" (1786) See, Ocampo, op.cit.pp 55-56. Ovando-Sanz, op. Cit. Pp 148 and Lewin, Bernarndo, *Los Movimientos de Emancipación en Hispano-america y la independencia de Estados Unidos* (Buenos Aires, Ed Raigal, 1952).
130. National service of manpower, *Estudio de la Mano de obra en Cochabamba* (Cochabamba, Ministry of Labour and labor development, 1977), p.XI-3.
131. *General Direction of Statistics and Censuses, Census of the City of Cochabamba*, 1967, La Paz, Bolivia
132. In 1976 the Mark of Sampling of Areas only registers around 1800 blocks. For further details see: *General Direction of Statistics and Censuses*, 1967. *Master Plan of Drinkable Water of the city Cochabamba*, SEURE-CA/CGL/SEMAPA, 1993. National Institute of Statistic (INE) Frame Sample 1992.
133. Municipal Office of Cochabamba, *Diagnostic Records for the Growth Model of Cochabamba* (Cochabamba, Municipal Office, 1980), p. 6.
134. Report of the architect Jorge Urquidí cited in Anaya, Ricardo, *The City of Cochabamba* (Cochabamba, IESE, 1965), pp. 38-40. See also, Crespo Renato, *Urbanism* (Cochabamba, Imp. University, 1951).
135. So, for example, it is seen that the "old downtown" resulted from being "attacked by new and prosaic constructions to the old style and without leaving areas of parking; the "units neighbourhood" they have neither achieved their organic composition, than the divisions of the urban properties and the tracings of the secondary streets and parks have been carried out to the humour of the proprietors and corridors of lands, who have left the plan of the full city of scars," Anaya, [op]. [cit]., p.41.
136. Averanga, Asthenio, *General Looks of the Bolivian Population* (Ed. La Paz. Argote, 1956); Anaya, op. cit., pp. 45-59.
137. Honorable Municipality of Cochabamba, 2000, See Main Document to elaborate the *Strategic Plan of development of the municipality of Cochabamba*, Page 8.

4. Social Inequality as a Whole City of Cochabamba: Spatial and Social Areas

4.1 Introduction

The objective of this Chapter is to discuss the third hypothesis that will demonstrate the existence of the multi-dimensional face of poverty and social inequality in Cochabamba. To do this I apply in an exhaustive way the group of variables and indicators used in the explanation multi-dimensional model (Generalised Canonical Correlation Analysis)

The Chapter has been divided into five sections¹³⁸: The first deals with the productive structure, social-occupational groups, and the income and level of schooling of the head of the household. In the second an attempt has been made to assess both the intensity and the basic characteristics of the urban make-up, analysing the variables regarding migrant condition, source of the migration and areas where the families have settled. The third section deals with those variables related to the physical living conditions and deprivation, the condition of the dwelling (overcrowding, availability of kitchen and bathroom(s), connection or not to basic services of water, sewage and electricity). A fourth section includes indicators of the position in the life cycle of the household: composition, size, presence of children, the marital status, age and gender of household heads. Finally, in the last section I have selected vulnerability indicators, in an effort to understand the field of exposure to risks and aspirations.

The target group is *'that whole component of the population that lives in a private household'*, has an active family head, or in their absence, another active adult member. The household head or other adult member is supposed to be the most important household income earner. These household heads are classified by their own unique characteristics. This classification is applied, in turn, to the members of their households. Hence, the indicators I choose refer to the characteristics of the household.

The information I use for this research results from the National Censuses of Population and housing in 1976 and 1992 as well as the surveys of *'Migration, Urbanisation and Employment in Cochabamba in 1988*

(BOL/87/PO3) and the survey of *'National Labour Sample'* in 1996. I deal only with private households because these better approach the concept of family, understood as *"a person or a group of persons who might be or not related by blood ties, live in a specific house, share the main meals and/or the expenses required for meeting their common basic needs"*.

4.2 Socio-economic Status

4.2.1 Productive Structure

The division of main occupations engaging active household heads confirms the findings given in Chapter 3. The tertiary sector encompasses two thirds of the occupations of the household heads surveyed in 1996. This fact reflects both the structural features of the economy of Cochabamba and it is also the result of the application of the structural adjustment program applied since 1985.

Although there has been an increase in industrial activity from 29% in 1988 to 34% in 1996, it is still rather low. The main economic activity of Cochabamba is tertiary in nature and with a limited degree of industrialisation. All this reflects an increasing focus on profit making at national level.

The tertiary sector, as shown in Table 4.1, is divided into five service categories. This partition reflects a hierarchy in the productive structure of the city. A hierarchical structure which reproduces the process of social differentiation and exclusion.

Retail trade shows the highest relative weight in the tertiary productive structure in Cochabamba. It held this position with almost no changes in the period 1988 to 1996. It also accounts for a fifth of all active household heads. A significant share of retail trade takes place in the open markets known as *La Cancha* and *La Pampa* as well as on sidewalks and neighbourhood markets. The workforce involved here is mainly female (80%). This profile of the workforce is lamentable, for two thirds have low levels of schooling, they work long hours (54 hours/week) and have incomes below the poverty line - about U.S.\$2 per person per day). The paradox here is that the male workforce, that is, 20%, are better off both in terms of working hours and income levels. (See Table

BRANCHES	MALE	FEMALE	TOTAL		MALE	FEMALE	TOTAL		INCOME PER CAPITA DAY (\$) 96	FORMAL EDUCATION YEARS 96	WORKING HOURS/ WEEK 96
			1988				1996				
A. PRIMARY	4.7%	1.1%	4.1%		3.0%	4.8%	3.4%		1	5	48
B. SECONDARY	31.5%	12.0%	28.5%		38.8%	17.5%	34.3%		2	10	52
C. TERTIARY	63.8%	86.9%	67.4%		58.2%	77.7%	62.3%		3	11	46
1. Wholesaler & Finances	7.9%	6.6%	7.7%		12.2%	8.0%	11.3%		4	13	42
2. Retailer & Hotel	14.7%	40.7%	18.7%		14.2%	40.9%	19.8%		2	8	50
3. Transport	12.0%	2.9%	10.6%		13.9%	1.8%	11.4%		3	11	56
4. Social Services	22.9%	30.4%	24.1%		17.0%	18.5%	17.3%		4	15	41
5. Personal Services	6.4%	6.3%	6.4%		0.9%	8.5%	2.5%		1	5	30
Total	100.0%	100.0%	100.0%		100.0%	100.0%	100.0%		3	11	48

Source: Elaborated on own account from the reprocessed database of the survey 'Migration, Urbanisation and Employment in Cochabamba', (BOL/87/PO3). CEP - UMSS, UNFPA - ILO - PREALC, 1988, Cochabamba, Bolivia. In 1996 from the survey 'National Labour Sample', INE, La Paz, Bolivia.

Table 4.1: Active household head by gender, daily Income per person, years of formal education, working hours weekly, according to Branches of Economic Activity, 1988 - 1996.

4.1) The statistical table produced by the National Statistics Institute for 1992 shows that over half the produce sold is foodstuffs and two thirds of the workforce are involved in retail trade (see Table 4.A1 in the Statistical Appendix)

Wholesale trade and financial services enjoy a higher standing. They showed a growth of 8% and 11.3%, respectively in the period from 1988 to 1996. Together they employed 5.6% of household heads. This reflects the low levels of goods processed and inputs in the regional economy. Household heads account for 5.7% of all employees in banks, foreign exchange bureaux and, accounting and insurance firms. They play a key supporting rôle in production. The male presence here is high (85%). Their level of schooling is high and their working hours meet, in general, those established by law.

Household heads employed in the social service sectors occupy second place in the production structure. Here, there is a drop from 24% to 17% in the period 1988 to 1996. This is due to policies of structural adjustment and is an indicator of their negative impact. The State had always played a key rôle as a direct employer. Now, following the implementation of the policies referred to above, people are more exposed and defenceless and

large numbers have been dismissed. Another policy that has led to the closing or transformation of certain economic activities has been the implementation of market de-regulation. As a result, the expertise gained over the years loses value in the changeover to new production functions – that is, if the worker was lucky to get another job. Many had to find ways of earning a living in the informal sector.

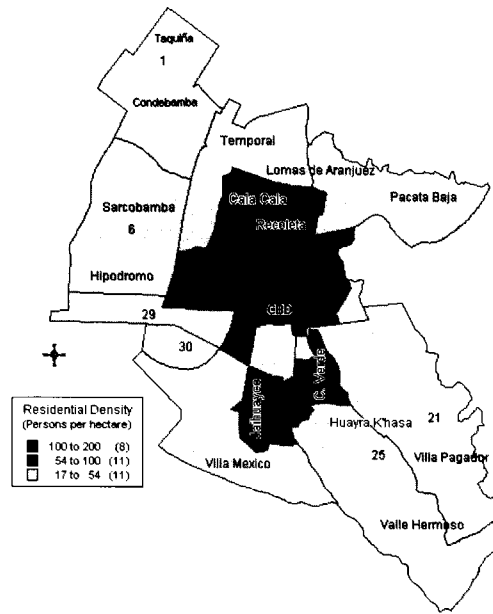
The State exists to preserve and reproduce the established 'order of things'. Hence, its actions operate a kind of buffer for the contradictions resulting from the development of a society whose main macro social motor is capitalism while it espouses the overlapping and discreet presence of a planned economy. The bureaucratic structure of the State has been characterised by political favour and opportunism since 1925. This led to a certain kind of a stable employment opportunity for the middle class. Hence, the profile of its employees is that of university graduates (75%) a 40-hour week and high income levels (\$5 per day on average).

The household heads that work in public transport and communications amount to 11%. It is a male dominated sector (96%). A third report having concluded thirteen or more years of school. It is a heterogeneous group characterised by long hours (56 hours per week).

Female household heads (96%) report working in some form of personal service. It is a form of employment characterised by informality and lack of stability. Both

Map 4.1
Residential Density at
Neighbourhood Level, 1992

Source: The maps were produced
 using the MapInfo GIS package



spring from the terms of employment as well as from the various ways in which people pay for the service. One of them and, may be the most common, is payment in kind. Thus, people are paid in meals, clothing and even in free tenancy of unproductive land. Of those interviewed, 85% report less than eight years of schooling. The low salaries received mean they are at a serious poverty level. Their families have less than one dollar a day. They cannot, therefore, make the purchases corresponding to the vital minimum.

The above group shares some features: they have no access to health insurance or retirement plans – something to which every worker should be entitled. Their quality of life is poor and the informality intrinsic to the terms of employment does not help. As it tends to happen to self-employed people, the workers in this sector carry out a variety of tasks. Moreover, they often do so as a family unit, e.g. the husband washes, cleans or watches over unoccupied property, the wife washes, cleans and cooks while the older children take care of their younger siblings.

In the urban employment structure, one can still find agricultural activities. The percentage is low – 3% in 1996 and it involves the production of vegetables and some dairy farming. These are located in Condebamba, an old neighbourhood of Cochabamba (north west corner) and La Maica and Villa Sebastian Pagador (See Map 4.1).

The production of material goods (secondary sector) takes place in the south of the city, along the road that joins Cochabamba and Quillacollo and even in the Old City. This sector employs 34% of active household heads. As already stated, this is a weak sector. Its produce is for immediate use. It is very much a cottage, labour-intensive activity that is spread over a large area.

Much of the productive activity in Cochabamba occurs in a cottage-like environment. Those who work as intermediary agents between producers and buyers have managed to profit from the surplus resulting from the transfer of agricultural and, to a lesser extent, industrial goods. This process is characterised by a series of complex city-country inter-relationships. Thus, in some cases former *campesinos* now sell the produce of small-scale owner-producers. They do so by going around the fields in their trucks, buying the goods from the farmers and bringing in the produce into the city on market days. Another type of network is that created by a family that has members in both city and country. These define a global survival pattern whose socio-demographic effects are of great importance. One finds large families engaged in agricultural production spread over various ecosystems all the way from the Altiplane through the valleys and in the tropical Chapare area and trading with the city.

There is a marked gender-based division of labour

among household heads. Male household heads are present and important in almost every sector, whereas female household heads are to be found in less hierarchical activities, as mentioned earlier the latter are retail trade, teaching, health services and personal services.

4.2.2 Socio occupational groups

Trade and simple production comprise the main labour activities in the City. The tertiary sector is the most important. Both the administration of the State and domestic help account for an important share of job positions. This gives rise to a particular system of stratification resulting from the way the various social groups fit into the productive structure, the relationship they have with the means of production, the rôle they play in the organisation of labour and the extent they have internalised axiological contents and become material bearers. All these are key dimensions of a social structure. The first three would enable the recognition of socio- occupational groups that participate in the network at different levels of living conditions due to their unequal capacity to participate in the benefits deriving from production. Social vulnerability is one of the characteristics intrinsic to living conditions for the less fortunate in this network.

Strictly speaking, both the individual and the family group are part of the labour market in the same way as they are part of the consumer world. This relationship influences not only the amount and quality of the goods and services, the indirect fruit of their physical and intellectual labour, but also on the physiological and psychical environment in which people's lives unfold. Moreover, membership of one or another socio-occupational group affects the nature of intra-family relationships as well as interactions with the other sets within the social whole. As a result, the way a person partakes in this social whole through his or her occupational functions is a determinant factor in the rhythms, structuring and behaviours of the family nuclei imposing the objective definition of their life (and death) patterns. This is reflected by the dependants in a household in their life styles, nutrition, clothing, leisure and access to the consumer market in terms of education and health.

SOCIO-ECONOMIC GROUPS (1)	1976	1988	1996
Director, professionals and company employees	12.8	18.4	14.6
No Manual Worker	23.4	20.3	15.9
Informal Sector	25.7	36.9	47.3
Manual Worker	38.1	24.5	22.1
Total	100.0	100.0	100.0
Cases	39121	72871	114055

(1) Refers to socio-economic profile of heads of household or active senior member's of the family.

Source: Elaborated on own account from the reprocessed database of the National Census of the Population and Housing 1976, La Paz, Bolivia.. survey 'Migration, Urbanisation and Employment in Cochabamba, (BOL/87/PO3). CEP - UMSS, UNFPA - ILO - PREALC, 1988, Cochabamba, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia.

Table 4.2: Distribution of Households according to Socio-economic Groups, 1976 - 1996

The various socio-occupational groups I have discussed were constructed through the simultaneous cross-reference of either the active household heads or active adult member's answers regarding occupation and occupational category. Analytical considerations gave rise to a breakdown into four groups. I applied the socio occupational structure as a set of analytical categories that tend to sum up the essence of a multiplicity of conditions and relationships present in each household that belongs to a given stratum.

It is deemed that belonging to one of the set groups constitutes a 'risk predictor' although there are other means, such as education (to be dealt with later) that also have the same effect. In fact, the process of social determination can be thought of as a set that goes through various 'intermediate variables'.

The near absence of an active population in agricultural activities gives rise to a structure of occupations where other productive sectors have an impact. Such sectors are those characterised by 'independent workers' and wage earners. The situation is shown, with certain degree of accuracy in Table 4.2. This table shows the relative distribution of nearly all the households in Cochabamba according to socio-occupational groups. The data shows the high impact of the tertiary sector as

well as the inter-family differentiation resulting from the various types of occupations held by household heads. I have omitted from subsequent analysis the category of non-specified on account of shortcomings in the information.

In the paragraphs that follow the meaning of the signifiers applied in the determination of each stratum and its specification and difference are made more exact.

a) In the category Directors and Professionals are found managers, business administrators, consultants and university teachers. Here are 15% of the active household heads. It is the top stratum. It is a relatively heterogeneous social group whose common denominator is a relatively high and stable income. Those who own or control the means of production exert a relationship of capitalist exploitation while others manage the means of collective consumption. As a group they have a direct or relatively indirect impact on the criteria that guide the widened reproduction of the present economic, political, social and cultural system. Their households enjoy ideal living conditions in terms of comfort, nutrition, leisure, education and health both physical and intellectual.

b) In the second category are non manual workers are 'white-collar workers'. They tend to work in the public sector, but are also found in the technical and bureaucratic teams of the private sector. This category includes office workers with varying degrees of training, middle range professionals: nurses, midwives, paramedics, school teachers, supervisors and accountants, bank workers as well as officers from law enforcement and the army. And though they do not, as a whole, possess the means of production or information, their deeds or omissions have a direct impact on decision-makers. They are, in fact, the actors in the various social practices that contribute in an active way to ensure and to make viable the reproduction of the social and economic system in ideological, legal, political and administrative terms. Most of the system's components are employees. Their work, especially in the public sector, is clearly established in a kind of routine of bureaucratic criteria and labour relationships. They are the backbone of what

is commonly regarded as the middle class or the white-collar workers. As a sector, it has suffered from the implementation of the policies of structural adjustment since many lost their jobs in the shrinking of the State concerns. It is, therefore, a sector that has experienced a drop in relative terms during the period 1976 to 1992.

c) Nearly half of active household heads are independent, self-employed workers (informal sector). Here are the traditional craftsmen, retail traders and farmers. Their rôle in the systems of production depends on the family relationships of production, self-help and mutual collaboration. It is important to notice that their numbers have doubled in the period 1976 to 1996. The craftsmen among them exhibit a semi-capitalist interaction (they both make and sell their products in small workshops)¹³⁹. It could be said that this is the clearest expression of popular sector adjustment to the urban structure. It should be pointed out here that the capitalist system takes advantage of the independent worker who lowers the price of his product, neglecting the value of his effort. In fact, the capitalist structure prefers the present organisation of the means of production of simple goods. The workings of retail trade are similar to those of crafts.

The rôle that family economies play in the processes of reproduction of labour and capital is a set of social forms that complement the production of the wage earner or a set of simple mercantile forms subordinated to the prevalent form of capitalist production.

In spite of the wide variety of activities of this sector, one can identify some common main features: (ii) they disclose themselves as subsistence work relationships since they do not seek to make a profit, but rather to compete on equal terms with formal production systems and thus sell their goods sometimes below cost (ii) do not have fixed working hours; (iii) do not have access to health insurance; (iv) they are exposed to labour instability due to various reasons; (v) they do not require much qualification. These wide, self-help groups contribute in most cases to the solution of social conflicts and facilitate the process of accumulation of certain companies. This is the case when a capitalist company appropriates the production of a crafts unit at a very low cost.

d) The group of manual workers includes factory and construction, energy and other independent small producers. They are not in the forefront of people employed in modern capitalist undertakings, but rather in undertakings that are semi-capitalist in nature. Although it amounts for 22% in Table 4.2, it is not homogenous work. In fact. There is a wide variety of activities involved in processing raw materials. In spite of a successful union fight for their rights, they do not work fixed hours and their situation has become particularly hard since the implementation of a labour market economy.

Having characterised the key categories in the analysis of groups identified, I now proceed to relate these groups to income levels and achievements in education. The point of view adopted moves on two levels: on the one hand, I hope that the groups being a expressive variable of social inequality allow discrimination between meaningfully distinct levels of income and education and, on the other hand, I consider that the said groups, as social dimensions, contribute to accounting for the differences in the quality of life, deprivation, life cycle and vulnerability of families.

4.2.3 Family Incomes

The analysis that follows concerns income earned as a direct result of work. I am not making an analysis of all forms of income since this was not included in the survey forms. These limited their query to payment for work done and did not include other sources of income

Table 4.3: Distribution of socio-economic groups by poverty lines per day(1), 1988 – 1996.

DESCRIPTION	PERCENTAGES			MEAN DAY	PERCENTAGES			MEAN DAY
	<2\$	> 2\$	1988		<2\$	> 2\$	1996	
DIRECTOR	48.2	51.8	100.0	3.0	19.2	80.8	100.0	6.2
NO MANUAL WORKER	81.3	18.7	100.0	1.4	44.0	56.0	100.0	2.9
INFORMAL SECTOR	78.4	21.6	100.0	1.6	70.9	29.1	100.0	2.3
MANUAL WORKER	86.2	13.8	100.0	1.3	72.6	27.4	100.0	1.8
Row %	75.4	24.6	100.0	1.7	59.4	40.6	100.0	2.8

(1) These data refer to the total per capita household income. The Poverty Line had been estimated according to the proposal of George Psacharopoulos: World Bank technical paper No 351, page 62, Poverty and Income Distribution in Latin America: The story of the 1980s. (Poverty incidence less than 2 dollar per capita day)

Source: Elaborated on own account from the reprocessed database of the survey 'Migration, Urbanisation and Employment in Cochabamba', (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia.

such as interests on savings, pension funds, etc. Some 10% of the households surveyed both at the end of 1988 and 1996 did not declare any income. This group is a heterogeneous group made up mostly of retired people and students. One group lives on pension funds and the other on money transfers. Therefore neither were declared since they are not, strictly speaking, payment for work done.

Two messages can be derived from an analysis of Table 4.3. On the one hand there has been an increase in the per capita income in the period 1988 to 1996. It has not been a homogenous increase and it has favoured the groups with more economic power. On the other hand, the distribution of income is not equal and the gap between the first two groups and the last two tends to widen. As an example, the relative income per day for the members of the two bottom groups was 3 to 1 in 1988 and 6.2 to 1.8 in 1996. This last figure reflects unequivocally the effects of the programs of structural adjustment.

Even if the incomes declared might be below the real value, the households in the top groups are certainly better off and the differences identified are overwhelming. The purchasing power of the two top groups is far above the other two. In virtue of their peculiar position these groups usufruct the benefits deriving from the social realisation of production. Their income is thus enhanced through various forms of appropriation of social product. Here can be mentioned: income on investment, comparatively high salaries, rent from leased properties or from profitable sale of landed property, payment for services, etc.

The stratum of non manual workers has a profile similar to the profile of the topmost stratum. Their relatively high and stable levels of income could be seen as indicators of a suitable quality of life for the household members. Levels of income, which will even, enable spending money on luxury items and certainly permit feeding their children so as to keep them physically and mentally healthy. Their social status tends to segregate them from manual workers and even influences their behaviour regarding biological reproduction – in general they ensure patterns of social behaviour that preserve their environment.

The stratum made up of independent workers (informal sector) includes a rather wide range of specific situations. Thus, we find here street sellers, public transport workers and retailers. Of these, transport workers exhibit on occasions certain degree of prosperity for they have money they can invest¹⁴⁰. They have a foothold on the city and on the country thanks both to the nature of their work and to family networks in both locations. A good majority of the household heads in this group (70%) makes less than 2 dollars per day. This data from Table 4.3 is similar in 1988 and 1996.

Small producers have to compete against larger undertakings to place and sell their wares in the market. As a result they are forced to sell their goods at prices that on occasion go below their overheads. This means they become complementary to the reproduction of the current social system.

It is a heterogeneous group. Some have to use their time with the raising of children while others divide their time between retail work and production of crafts. This limits the access to organised social groups for them. But, even in this group one can identify a certain degree of internal stratification. This happens to individuals who have settled in a function or have accumulated the means to become effective intermediate agents between the small producers and thus appropriate at 'ground level' the proceeds of most their work and that of the family.

One needs to underline the fact that the households of three quarters of manual workers have very poor living

conditions on account both of low income levels and their working conditions. In the open market areas of La Cancha and La Pampa one sees the extreme cases of exploitation where retail traders employ others on a temporary basis and for minimal payment. These workers become 'the last link in the chain of social exploitation'.

One of the most serious issues in Cochabamba is that of unequal and unfair distribution of income. One notices a marked disparity in the total family incomes. In 1988 half of the group of families observed managed to obtain only 23% of the income, which fell to 18% in 1996. But, if one looks at the top group of the ten into

Table 4.4: Share of Family Income distribution by tenths, 1988 – 1996

1988	RANGE	AVERAGE	%	CUMULATIVE %
1	21 – 160	121	2.4	2.4
2	160 – 206	188	3.7	6.1
3	206 – 258	237	4.6	10.7
4	258 – 309	290	5.7	16.4
5	310 – 390	352	6.9	23.3
6	390 – 450	418	8.2	31.5
7	450 – 550	500	9.9	41.4
8	550 – 680	606	11.9	53.3
9	681 – 960	809	15.8	69.1
10	961 – 6980	1577	30.9	100.0
Total		509	100.0	

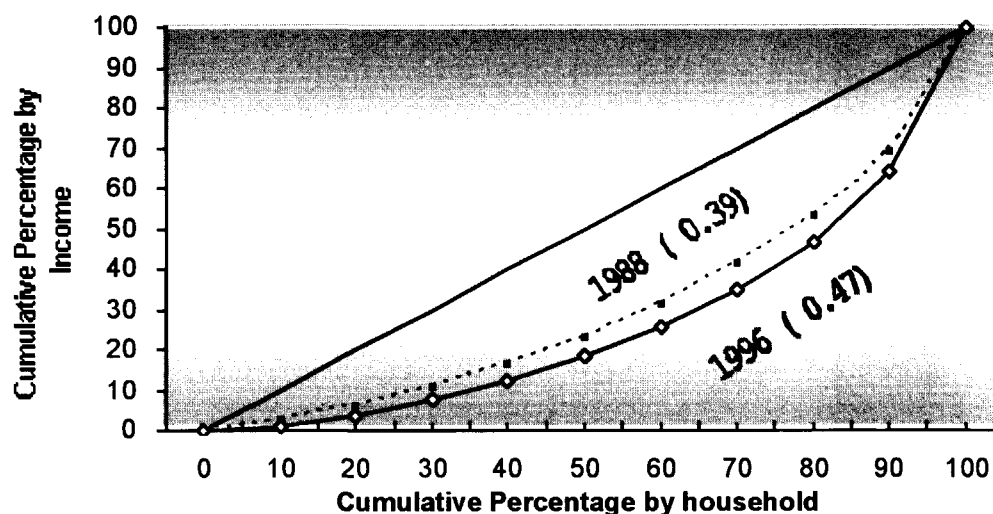
1996	RANGE	AVERAGE	%	CUMULATIVE %
1	38 – 404	247	1.2	1.2
2	404 – 574	475	2.6	3.8
3	574 – 712	651	3.7	7.5
4	712 – 858	830	4.7	12.2
5	858 – 1102	1063	6.2	18.4
6	1102 – 1321	1226	7.1	25.5
7	1321 – 1708	1528	9.4	34.9
8	1708 – 2252	2039	11.6	46.5
9	2252 – 3071	2972	17.6	64.1
10	3071 – 13025	5695	35.9	100.0
Total		1745	100.0	

Source: Elaborated on own account from the reprocessed database of the survey

'Migration, Urbanisation and Employment in Cochabamba, (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia.

Figure 4.1: Income distribution by tenths, 1988-1996 (Lorenz Curves)

Source: Table 4.4



which I have divided the households, one is certainly in for a shock! The income of one group at one end of the scale is thirteen times higher than that the group at the other end of the scale (Bs 1577 versus Bs 121) in 1988, which becomes 25 times larger – a widening gap – by 1996 (Bs. 5695 versus Bs. 247). This is a very eloquent indication of the worsening and disparity of the distribution of incomes in the city of Cochabamba (Table 4.4).

The Lorenz curve illustrates the presence of an acute concentration of family incomes in Cochabamba (figure 4.1). On the vertical axis is the accumulated percentage of incomes and on the horizontal axis the accumulated percentage of receivers. The sharp, concave nature of the curve – below the line represents equal distribution (the diagonal starts from the source).

The comparison of the 1988 and the 1996 series shows the worsening of the distribution of incomes in 1996 after a relative improvement in the eighties resulting from the coca leaf boom during the dictatorship of the Garcia Mesa government. Cochabamba, given its proximity to Chapare, the coca-growing region, became the necessary access and transit route for both people and capital flows. All of this resulted in a process of modernisation of the City¹⁴¹. Yet another associated factor is link function of Cochabamba in the National Economic Corridor between the economies of La Paz and Santa Cruz. This led to the setting up of a very versatile and dynamic production structure made up of small units with extensive family networks. They have the benefit and advantage of more opportunities

represented by the expansion of the services of transport, communications, production and trade in many places in the country.

The inequality of development in Cochabamba has become more poignant at the end of the nineties. There has been a collapse due to Structural Adjustment and the interdiction of the coca leaf together with alternative development policies. Together they have caused a backward movement of some twenty years in income distribution.

It is a serious cause of concern to notice that in 1996 the richest 20% appropriate more than half of the income, whereas the poorest 20% scarcely manage to obtain 3.8% of income. The indices of inequality are acute and there is an excessive concentration of wealth in the hands of a few.

Gini's co-efficient shows in more exact terms the degree of concentration of income. Thus, it is one of the clearest demonstrations of inequality in the development of Cochabamba. Once again one notices a relative improvement in the eighties and a drop by 1996 to the levels of the seventies (Table 4.5).

The data is certainly a cause for concern, given that the gap has widened considerably. This means that the chance to get out of the lowest levels of income becomes harder unless measures are put into place to generate a productive structure that actively favours transformation activities and provides more, and better, employment opportunities.

% HOUSEHOLD	1972*	1982*	1988	1996
20% (Poorest)	3.89	7.20	6.07	3.80
20%	7.36	11.29	10.34	8.41
20%	12.88	14.11	15.12	13.28
20%	23.22	20.93	21.77	21.02
20% (Richest)	52.65	46.47	46.70	53.49
GINI Index	0.48	0.37	0.39	0.47

Source: Elaborated on own account from the reprocessed database of the survey

'Migration, Urbanisation and Employment in Cochabamba, (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia. *The source for the estimates for 1972 and 1982 is:

Laserna Roberto, 1995: 'Sostenibilidad y Desarrollo Humano: la calidad de vida en Cochabamba' Pág. 120 Table 3.17a.

Table 4.5: Share of Family Income by Quintile and Measuring income inequality (GINI), 72- 96

4.2.4 Levels of Education

It was thought to be relevant to introduce the number of formal years of schooling household heads spent at school as an auxiliary variable for the interpretation of the differences in risks of social exclusion. This was done assuming that the level of schooling could determine certain attitudes in the access to the labour market and, hence, improvements to household living conditions. On one hand, the male household heads with university studies account for a third of the total. On the other hand, one of every two female household heads only managed to finish primary school (see Table 4.6). This shows that the opportunities for benefiting from formal schooling also reproduce a pattern of inequality.

There is a high degree of association between households whose head is a female and her achievement in formal schooling. Thus, the proportion of households whose heads have low levels of schooling

EDUCATIONAL LEVEL	1988			1996		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
< 3	6.1	22.5	8.7	6.0	21.8	9.4
3 – 8	34.0	32.7	33.8	27.6	32.1	28.5
9 – 12	29.2	17.3	27.4	28.0	8.1	23.8
13 – +	30.6	27.5	30.1	38.7	36.9	38.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Elaborated on own account from the reprocessed database of the survey

'Migration, Urbanisation and Employment in Cochabamba, (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia.

Table 4.6: Educational Achievement of heads of household by gender, 1988 – 1996

(less than eight years) is higher (54%) for households headed by a woman compared with a third for households headed by a man in the same situation. Conversely, there is a strong positive association between high levels of schooling and households headed by a man.

The young household (less than 30 years) are those that have better educational achievements. Those that have achieved higher levels of schooling tend to be the younger household heads. But, even here one still notices the profile of inequality where women lack levels of schooling (32%). In the age groups 30 to 59 one observes significant breakthroughs for both gender groups – 43% of them have university studies. The profile of households headed by a man is different. There is a greater concentration of more educated family heads (over 75%) in the ages between 30 and 59. The profile for female household heads is similar to that of male household heads with no schooling (see Table 4.7) The probability that a household head in the top stratum should lack schooling tends towards zero. The sequence

	Educational Level	Less 30		30 – 59		60 – +	
		Hombre	Mujer	Hombre	Mujer	Hombre	Mujer
Table 4.7 Head of household by Selected Age Groups according to educational achievement, 1996	< 3	0.0	32.4	6.6	16.6	16.9	43.2
	3-8	30.5	30.5	27.3	33.4	29.7	31.5
	9-12	47.1	13.7	24.9	7.2	16.6	5.7
	13 – +	22.4	23.3	41.3	42.8	36.8	19.5
	Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Elaborated on own account from the reprocessed database of the survey National Labour Sample' 1996, INE, La Paz, Bolivia.

SOCIO-ECONOMIC		EDUCATIONAL LEVEL			
GROUP	< 3	3-8	9-12	13 – +	Row %
1988					
MANUAL WORKER	11.5	44.6	33.6	10.3	100.0
INFORMAL SECTOR	13.0	45.0	29.3	12.7	100.0
NO MANUAL WORKER	3.9	20.5	25.5	50.1	100.0
DIRECTOR	1.5	11.6	17.3	69.7	100.0
Total	8.7	33.8	27.4	30.1	100.0
1996					
MANUAL WORKER	14.3	40.6	28.3	16.7	100.0
INFORMAL SECTOR	14.4	38.1	27.6	19.9	100.0
NO MANUAL WORKER	0.0	9.3	15.3	75.4	100.0
DIRECTOR	0.0	3.4	12.3	84.2	100.0
Total	10.0	29.0	23.5	37.5	100.0

Source: Elaborated on own account from the reprocessed database of the survey 'Migration, Urbanisation and Employment in Cochabamba, (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia.

increases in terms of high educational levels. Thus, while in 1988, 70% of household heads finished secondary school and started tertiary education; in 1996 the percentage rises to 84% (see Table 4.8).

The same can be stated regarding the group of non manual workers. These two groups differ from the other two in terms of level of schooling (informal sector and manual worker). This confirms that access to the regular educational system is "excluding" for "the poor of the city". This situation is closely linked to the characteristics of the productive system. In other words, education exhibits a distribution among groups, which tends to suggest a reproduction of social inequality. Thus, those more at risk of social exclusion are precisely those who benefit less from schooling.

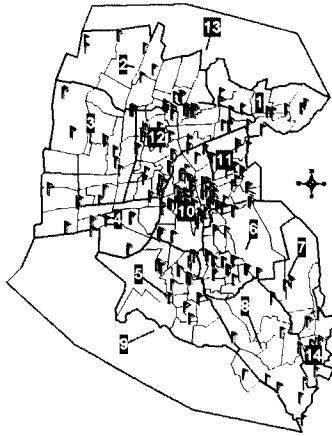
In consequence education is a component of social exclusion and differentiation in two senses. On one hand, in terms of quality, there is discrimination depending on whether the school is private (fee-paying school) or if is public institution (a state-run). The main problems are the public schools are affected by strikes that lower the quality of the education. But, attending a fee-paying school does not guarantee high levels of education either. This also depends, to some extent, on

how high the fees are. Hence, discrimination at source depends of socio-economic conditions. (See Table 4.8.)

It is clearly observable that a notable deterioration took place in 1996. The only group that does not seem to be affected is the top stratum (Directors and Professionals). There has been a proliferation of private schools and in an indirect way; this has lowered even more the quality of education in the public system. This, in turn, increases the vulnerability of the poor children who attend the public system, regarding their chances of access to the labour market in the future. There has been a marked segmentation of education depending on the income levels of students' households. The children and young people from households with high income level go to private schools with better organisation and good quality, while those coming from families of lower income can only attend public establishments, and, in those that it has become evident that there is academic deterioration.

The education level reached reinforces the effects of social inequality. From this point of view, the instruction level reached does not allow direct recognition of 'social groups' and would not permit identification of 'target groups' for specific policies.

Table 4.8
Probability of educational achievement according to the position of the socio-economic group of the head of household, 1988 – 1996



Map 4.2 Localisation of Schools (public and private) for neighbourhoods and Municipal Districts, 1997

I should point out that the education indicator has been interpreted in such opposing ways as to render it ambiguous from the point of view of social research. In some cases it has been used as a means to represent the "social" class the individuals belong to, in others as an expression of how "modern" or "modernised" those people are. The data submitted, and, assuming the limitations it has, invites the questioning of both interpretations. I will not argue that in the process of teaching there is a situation present that favours the change of certain cultural elements. The realisation of future aspirations will depend only upon concrete social material conditions and on the stand individuals assume regarding their society.

The difference between the various groups is more evident the more years of schooling each stratum has. This amounts to saying that the upper groups are those that profit more from the "technical advantages" offered by education so as to reproduce their relative privilege. Conversely, the household heads that lack or have little schooling are on the other end of the scale.

The position of the member of a household in a given stratum is the key dimension for understanding the differences regarding the risks of social exclusion. Yet it is necessary to analyse certain elements in education. One such element, shown on Table 4.7, arises from the ever-increasing numbers of school students. But, such a diffusion of instruction is not synonymous with a process of homogeneous learning, in general terms, it is

appreciated that the public system is faulty as to the type of knowledge that it transmits, due to the restrictions that distinguish its dissemination (teachers with low wages, inappropriate classrooms, lack of technical means). Another problem is malnutrition. This leads to poorly motivated students who fail to perform at the expected level. A third element is the lack of support and encouragement from the parents for their children, especially in the lower income groups. The private schools are only accessible to a small part of the population, but it has resources enough to offer a better grade of qualification. Such circumstances become a part, then, of the reproductive mechanisms of social inequality.

The data discussed in this section is but a first step in the process of identification of the target groups. I have managed to place them in the context of the social structure and of the economy of Cochabamba. They have yet to be placed spatially in the internal structure of the City. The next section seeks to answer whether there is a certain degree of correspondence among the various socio occupational groups, their insertion in the urban space and their material living conditions.

4.3 Socio Spatial Dimension

4.3.1 The Condition of Migration

The population of Cochabamba grows rapidly, both because of its own dynamism, as well as the permanent influx of migrants from other regions of the country and even from abroad. In the period 1950 to 1976, there is a 3.6% annual accumulative growth rate, one of 4.3% in the period 1976 to 1983 and, finally, one of 4.5% in the period 1983 to 1992. (see Table 4.9). In general there has been an increase in the growth rate since 1900. The causes lie in immigration, a drop in emigration as well as a drop in infant mortality. The latter is somewhat offset by the drop in fertility from 4.70 down to 3.64 children per woman. The period 1976-1992¹⁴² shows a marked increase in migration of 2.9% versus the vegetative growth of 1.6%.

The rate of growth of the migrant population has shown a marked increase since 1976. It reached 7%, or its highest point in the year of the last census. This is in

MIGRATORY CONDITION	1976-1983	1976-1992	1983-1992
Immigrants	5,52	5,55	6,79
Not immigrants	3,28	3,65	4,80
Total	4,24	4,50	5,73

Source: elaborated on own account from the reprocessed database of the National Census of the Population and Housing 1976 and 1992, INE, La Paz, Bolivia, and used the 'Survey Complete Enumeration', CIDRE/COD/FENACRE/UMSS, in 1983

Table 4.9: Rates of Growth of the Population According to Migratory condition, 1976-1992

contrast to the permanent population whose rate of growth is low. In fact, one finds that nearly three out of every four household heads have had a migratory experience in 1988. This dropped to about 60% in 1996. (See Table 4.10).

Migration tends to affect the whole of the family. In these cases, the household heads tend to be relatively young. Another common element is that most of these families are small – quite convenient when migrating.

The heads of extended households were, on average, aged over 52 in 1996. Large and extended households are possible partly by the reception of relatives and also of former migrants from the same region.

4.3.2 Origin of Migration

As stated in Chapter 2, most of the migration into Cochabamba comes from other cities: three of every four immigrants come from urban areas. This rate is even higher among household heads; four of every five

Table 4.10: Family Structure according to Migratory condition, Average Family Size and Age of head of household, 1988 – 1996

FAMILY STRUCTURE	1988						1996					
	NO MIGRANT	AGE	MEMBERS	IMMIGRANT	AGE	MEMBERS	NO MIGRANT	AGE	MEMBERS	IMMIGRANT	AGE	MEMBERS
Single	4.5	46	1.0	5.1	38	1.0	3%	47	1.0	7%	42	1.0
Nuclear	70.5	39	4.4	72	41	4.7	71%	43	4.7	65%	41	4.6
Extensive	22.2	49	5.4	20.7	48	5.3	24%	49	5.8	26%	53	5.4
Compound	2.8	48	4.2	2.1	47	4.5	2%	55	5.1	1%	52	6.7
Total	100	42	4.4	100	43	4.6	100%	45	4.8	100%	45	4.6
Total Row	27.4			72.6			40%			60%		

Source: Elaborated on own account from the reprocessed database of the survey 'Migration, Urbanisation and Employment in Cochabamba, (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia.

AREA OF ORIGIN	1988	1996
Urban	78.8	81.1
Rural	21.2	18.9
Total	100.0	100.0

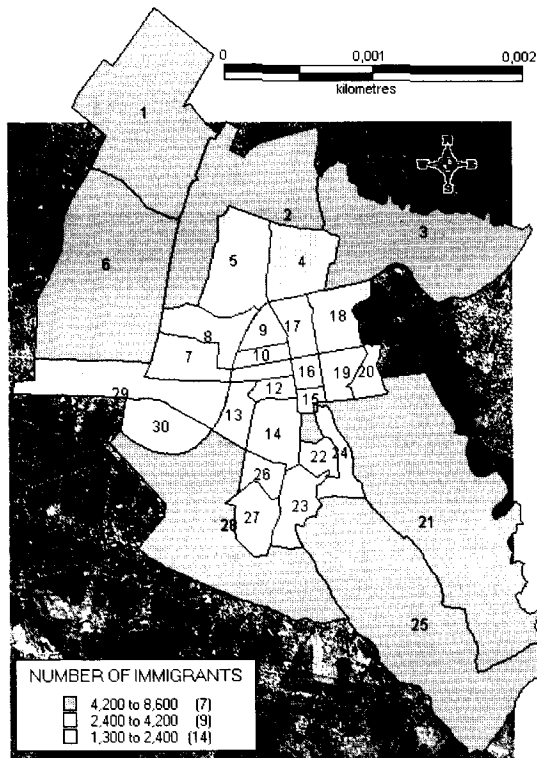
Source: Elaborated on own account from the reprocessed database of the survey 'Migration, Urbanisation and Employment in Cochabamba, (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia.

Table 4.11: Origin of immigrants, 1988 – 1996

come from an urban area and half of that flow come from the other cities of the National Economic Corridor (See Table 4.11).

In 1996, 70% of the migrants came from a city in the Bolivian Altiplane. Out of this total, 46% came from Cercado, Oruro; Bustillos and Frías, Potosí and Murillo and La Paz. If one includes those migrants from Sucre, a city in the valleys, then the percentage rises to 54%. (see Table 4.12). It is worth noticing that there has been a significant increase in the migration of household heads from intermediate cities and a decrease from rural areas. The fact that most of the migration into Cochabamba originates in urban areas is challenging, for it is a departure from the classic stereotype of migration from rural areas. I should point that that inter-departmental migration towards the city of Cochabamba is prior to 1971. Migration mainly from La Paz and Santa Cruz is more marked from the period 1971 to 1976. This trend continued well into the nineties.

Migration from within the Department of Cochabamba amounts to only 17%. This means that there has been a drastic fall over the last twenty years, since, in 1976, the figure was 36%. It can be unequivocally stated,



Map 4.3 Number of immigrants by neighbourhood of residence, 1992

therefore, that the migration flow into the city of Cochabamba is mainly from outside the Department. This results from the application of the programs of structural reform. It helps to explain the spatial redistribution of the population and, hence, the target of the migration flows into the larger urban centres.

Table 4.12: Urban Immigrants by Department and ecological area of origin, 1996

CITY – DEPARTMENT	CASES	%
Cercado – Oruro (Highland)	8156	18.2
Murillo – La Paz (Highland)	7236	16.1
Oropeza – Sucre (Valleys)	3382	7.5
T.Frias, Bustillos – North Potosí (Highland)	5135	11.5
A. Ibañez – Sta Cruz y Beni (Lowland)	1948	4.3
Quillacollo y Sacaba – Cba (Valleys)	1301	2.9
Other Urban – Highland	11224	25.1
Other Urban Cba– Valleys	6424	14.3
Total	44806	100.0

Source: Elaborated on own account from the reprocessed database of the survey

'National Labour Sample' 1996, INE, La Paz, Bolivia.

The prevalent intensity of the migration flow from the high land of could be related in terms of the allure of an apparent boom in the economy in the city of Cochabamba. This has to do with the area of speculative economics. In contrast to the problems in the high land, the city of Cochabamba seems an attractive space for people to move into and to anticipate better days.

The volume and orientation of the rural migratory flows results from structural problems within the rural economy. Natural disasters, and more properly, the drought in the highlands and valleys forced many rural families to leave their lands and to move toward Cochabamba in search of income sources that would allow them to survive. The most important rural immigration comes from the north of Potosi.

The migration flow is also due to the location of Cochabamba as a city on the transit routes to the tropical areas of the Department. Migrants go there to grow the coca bush. Naturally, this attracts former peasants, but also former miners. However, people move into the tropical region, not just for agricultural production, but also for the whole economic network required by new, growing settlements. This is hardly surprising, since the State does nothing to help them.

4.3.3 Intra-urban residential areas

In approaching the identification of the emplacement of the dwellings inhabited by the 'target groups' to the correspondence between belonging to a given socio-economic group and the residential locality was reviewed. It is considered that the housing conditions and their related problems do not constitute an isolated and autonomous phenomenon, but rather the complex combination of structural factors lying outside the specific field of the dwelling. Thus, I can conceive of the arrangement of the intra urban spaces both as a concrete manifestation of the patterns of social structuring and as environments for the daily production of the labour force. In this process, things do not happen as mechanical "tracings" or direct 'copies'. Hence, the so-called 'physical marginality' is not necessarily synonymous with 'social marginality.'

Only a quarter of Cochabamba families live in residential

NEIGHBOURHOOD	POPULATION		HOUSES		RATE 76-96	SURFACE TOTAL		DENSITY	
	1976	1996	1976	1996		GROSS*	NET*	GROSS*	NET*
Good (Residential)	45.6%	25.5%	45.6%	28.1%	2.3%	2053	1973	7147	7440
Regular	39.6%	54.3%	39.2%	51.7%	7.0%	5205	3687	6014	8490
Bad (Periphery)	14.8%	20.2%	15.1%	20.2%	7.3%	2241	1490	5202	7824
Total	100.0%	100.0%	100.0%	100.0%	5.3%	9500	7150	6067	8061
Cases	204684	576376	43688	114055					

* The surface estimated by the Project of the Plan of Drinking Water for the city of Cochabamba: SEMAPA-CONSORTIUM SEURECA/BRGM/SOGREAH/CGL, 1993.

Source: elaborated on own account from the reprocessed database of the National Census of the Population and Housing 1976, INE, La Paz, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia.

Table 4.13: Population, houses, Rate of Demographic Growth, Density and Surface (Hectares) According to intra-urban Neighbourhood Of Residence, 1976-1996.

neighbourhoods. The remaining families live in peripheral neighbourhoods (see Table 4.13). In the peripheral neighbourhoods there is a high demographic growth around 7% per year and this has doubled in only eight years. This area also requires increased attention in the provision of an urban infrastructure. Given that urban segregation in Cochabamba is strong, this forces me to outline the aspects that facilitate an understanding of its specificity and issues. I do so to find elements that explain the living conditions, deprivation and vulnerability.

a) Best housing conditions: The north-east and the Old City. The area in question lies in the Centre and north east of the City. It is divided in two by the Rocha River. It happens to be the part of the city with the lowest net density. Its inhabitants belong to the social groups with high and middle incomes. In 1976 it housed some 46% of all households. This percentage dropped to 38% in 1988 and even more by 1996 – 28%. The current annual growth rate of 2% confirms the relative loss of population. This value is below the average for the whole of the city.

The centre of the City – neighbourhoods 11,12 and 16 – is heterogeneous since it houses dwellings, businesses, workshops and a variety of services. Area 16 houses the



Map 4.4: Best housing conditions: Northeast and old city

Source: © Space Imaging) LLC, IKONOS Satellite Image of the City of Cochabamba, IKONOS II, 4 April 2000, International Institute for Aerospace Survey and Earth Sciences (ITC) Enschede, The Netherlands.

top stratum and 11 and 12 house non manual workers. Self employed and manual workers are under represented in these districts. One finds people with relatively high incomes, unmarried, retired and young married couples. This can be seen in Map 4.4. Thus, Cochabamba has not yet, at least up to the nineties, suffered from the deterioration that has affected many of the 'historic centres' of many Latin-American cities.

These neighbourhoods have all the infrastructure of a modern city in terms of sanitation, leisure, education, health and transport. These districts have received all the attention of the Municipality and the benefits of those "the externalities of assessment"¹⁴³. Its population density per square kilometre is 7440. Their housing could be described as good and there is no overcrowding since most are more than one storey high. These districts are an example of a good quality residential environment where the kind of infrastructure goes hand in hand with the type of inhabitants. The groups of high socio-economic status live in these areas, where their excellent equipment of basic urban infrastructure associates with the place of preferable residence of the rich families of the city.

b) Regular housing conditions: La Cancha and its surroundings

This area is located in the north west segment and south east of downtown. Half of the population of this city live here. The proportion increased significantly in the period 1976 to 1996 (39% to 54% in that order). It has an annual growth rate of about 7%, a rate far higher than the average for the whole of the city.

What most characterises this area is its commercial activities, in *La Cancha* (open market) and surroundings¹⁴⁴. It combines wholesale and retail trade, being a meeting point for, mainly, food producers, wholesalers, retailers and consumers. Many of the producers, small-scale campesinos, often spend the night when they come to sell their goods and wares. Thus, a lot of the housing here serves as temporary lodgings. This explains why it is the initial destination of the poorer immigrant flows (See Map 4.5).

Such activities also exist in the surroundings of *La Cancha*, including some handmade activities such as the bricks of *Jaihuayco* (areas 14 and 26). The contamination by chemicals that is produced by making the bricks,



Map 4.5
***La Cancha* and its surroundings**

Source: © Space Imaging) LLC,
IKONOS Satellite Image of the
City of Cochabamba, IKONOS II,
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Earth Sciences (ITC) Enschede,
The Netherlands.

explains that the risks of illness increase for lack of an infrastructure which brings equilibrium to the needs of the population.

Condebamba is one of the neighbourhoods located in the north west with a bigger agricultural and cattle tradition for the city, here is the production of milk, poultry farms and the cultivation of fresh vegetables. This fills an important need for the people.

On another topic, in the western segment there exists an important cluster of economic units: many varieties of factories, repair services and maintenance of vehicles, hairdressers and, obviously, the presence of numerous precariously built restaurants (*chicherias*). Additionally, it is frequent to find some important commercial storage located in this area.

This neighbourhood evidences explosive growth, settled in many cases by former miners who lost their jobs in 1985. As a whole, it has a population density of 8500. Most of its streets are asphalted, but one notices some neglect in garbage collection. The very process of selling and buying foodstuffs means the *La Cancha* area is dirty.

c) Poor housing conditions: South Periphery

An element that is characteristic here is the heavy concentration of households suffering from poverty: two thirds of households had around 1996 an income less than 2 dollars per person day, which is an insufficient amount for the cost of the necessities of alimentary subsistence. They are, in fact, the poor groups and their housing reflects their lower income levels. It is a sector of the city where the effects of labour invasion and urban policies have generated a landscape of unacceptable basic needs. To compound it all, the rates of demographic growth in the period 1976 to 1996 are high and above the average for the city (7.3% versus 5.3). It has grown four times its size up to 1996. In addition, a large part of its inhabitants are immigrants.

Workers tend to find their residence near their workplace. Certainly, in Cochabamba, an important fraction of the industrial workers have built their houses close to the productive units, including the area surrounding the main road toward Quillacollo (to the west of the City) and the highway to Santa Cruz (toward the south), where the main industrial units are located. Thus, the "*khateras*" in *La Cancha* and the "*gamboteros*" in Jaihuayco evidence

Map 4.6: Poor housing conditions, Southern Periphery

Source: © Space Imaging) LLC, IKONOS Satellite Image of the City of Cochabamba, IKONOS II, 4 April 2000, International Institute for Aerospace Survey and Earth Sciences (ITC) Enschede, The Netherlands.



this statement. This seemingly spontaneous pattern of setting their residence near the workplace was re-inforced in the laws regarding Urban Reform. Such laws enabled labour unions to purchase land for their members. But, in addition the fast growth of the illegal urbanisation in these unplanned divisions has happened without any authorised building plans and without basic sanitation or transport infrastructures. Local authorities have been not been able to stem the process and have been forced to acknowledge their existence. (See Map 4.6).

4.4 Living Conditions and Deprivation

4.4.1 General Characteristics of Housing

The characteristics of the physical habitat: the dwelling itself, the supporting infrastructure and location constitute the basic components of the quality of life. In a market economy housing is market item where supply and demand fix the price. A supply, moreover, which is limited by the land available and the existence of residential housing. A sizeable part of the population is marginalised from this process because they lack economic means.

Housing is a basic condition of the reproduction of the labour force. Yet, this is beyond those with the lowest resources who can never hope to afford even the simplest type of dwelling. Housing costs in Cochabamba are high, not only because of the high cost of building materials, but also because urban land is subject to market laws and to speculation. In fact the ideal house with front and back garden is replaced by temporary "lodgings" that scarcely meet minimal residential requirements. Paradoxically, these cheap

accommodation solutions turn out to be expensive because of their location in more distant places, not served by public transport or basic sanitation, let alone schools or health centres. All these deficiencies force the residents to spend the little money they have on long journeys to work or supply centres, to buy water, etc.

The data from the last national employment survey reveals the presence of 114,000 families in the City of Cochabamba. Only 34,000 live in detached houses, 16,000 live in flats and some 60,000 live in one room facilities or in huts, shacks or ramshackle dwellings, in markets and elsewhere (see Table 4.14).

Forty-five per cent of the residents in the residential neighbourhoods in the north east and in the Old City declare that they live in their own house. Many of these houses reflect the means and tastes of their owners. In contrast, the houses a quarter of the residents in the south west own were all built as part of state housing projects, while others are modest self-built, one room, dwellings

Fourteen percent of families live in flats. This is exclusive of the upper groups and their areas of residence. There are two types: those flats in buildings several storeys high and the house that has two flats, one on the ground floor and the other on the top floor. As said earlier, one can expect to find them in the consolidated areas of the city.

In the third typology I have grouped together one-room housing and temporary shelters. Up to 1988 these represented the second most common housing solution, but since 1996, it has become the prime one. Of the two types, the first consisting of a single, all-purpose room is the most common. In most cases these are rented rooms. These are not the bed-sitters

Table 4.14: Housing type by quality of neighbourhood of residence, 1988-1996.

NEIGHBOURHOOD	DETACHED HOUSE	FLAT	ROOM & SHACK	TOTAL 1988	DETACHED HOUSE	FLAT	ROOM & SHACK	TOTAL 1996
Good	52.7	22.6	24.7	100.0	45.2	22.2	32.6	100.0
Regular	57.0	6.4	36.6	100.0	32.1	14.1	53.9	100.0
Bad	61.9	3.1	35.0	100.0	24.2	0.9	74.9	100.0
Total	57.3	11.2	31.5	100.0	34.2	13.7	52.1	100.0
Cases	41713	8153	22908	72774	38995	15613	59447	114055

Source: Elaborated on own account from the reprocessed database of the survey 'Migration, Urbanisation and Employment in Cochabamba, (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia.

common in England, that tend to be placed in one building, but are spaced rather over a plot. The bathroom tends to be shared by all the inhabitants in the *vecindad* (a more restricted neighbourhood). The second type, more of a shelter than a dwelling, scarcely meeting minimal housing standards, must be considered as housing.

Cochabamba is the sum result of its having harboured many cultures over the years. Its feature results from a process of permutations of various types. One of these is the influx of various immigrant groups from many different places. This has contributed to setting up distinct types of spaces within the city.

Those immigrants from the rural areas up to the seventies introduced a type of house modelled on their own precarious dwellings in the country. This type of house has evolved over the years into a one-roof house that stretches lengthways and may even try to look like the elegant houses of better off neighbourhoods through their facades, and it happens especially along the streets that are being asphalted. Here the owners try to improve at least the external looks of the houses to accompany the improvements. Former miners have tried to transplant the architectural style of their houses in the mining districts. But, in general, it can be said that Cochabamba has become a huge market controlled by tradesmen, smugglers, speculators, transport workers and politicians. Their deeds have dominated the economic scene thus building the new looks of this city.

4.4.2 Characteristics of ownership of dwellings.

As far as one can ascertain from the data available, ownership of a dwelling is not a discriminating factor among the various social sectors, given that this happens all over the City. Ownership by itself is not associated with quality, nor is it an indicator of well being. Over half of the families possess the dwelling in which they live (55%). A fifth rent their accommodation, 10% lease it and 16% live in borrowed property or usufructed (see Table 4.15).

Most people live in rented housing in the neighbourhoods to the south west of the city. These households were described earlier as extremely poor. Landlords make some extra money by renting their property, but for the tenants this expense is one more negative element. In the north and old part of the City another form of lease is practised. Here the landlord receives an fixed sum, to be returned to the tenant after a period of tenure. This means that the tenant has actually to possess that sum of money to benefit from this type of lease.

Another way of accessing housing is as exchange for "services rendered." In this case, the landlord transfers the tenure of his property as payment for services received. This is, in fact, an old practice in Cochabamba.

Now is the time to examine not just the issue of ownership, but rather that of being able to use a stable and secure dwelling whose cost amounts to a

NEIGHBOURHOOD	OWNER	RENTED	ANTICIPATE PAY RENT OF YEAR	GIVEN BY SERVICES- BORROWED FOR SERVICES	TOTAL
Good	53.4	18.3	9.4	18.9	100.0
Regular	49.0	24.8	6.2	19.9	100.0
Bad	53.3	26.1	4.1	16.6	100.0
Total 1988	52.3	22.9	6.6	18.2	100.0
Good	56.4	13.0	11.9	18.6	100.0
Regular	56.5	17.8	9.7	16.0	100.0
Bad	48.1	31.3	7.0	13.6	100.0
Total 1996	54.8	19.2	9.8	16.3	100.0

Source: Elaborated on own account from the reprocessed database of the survey 'Migration, Urbanisation and Employment in Cochabamba, (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia.

Table 4.15 : Characteristics of ownership of the dwelling by quality of neighbourhood of residence, 1988 – 1996

reasonable percentage of income and whether people can meet the basic housing need is interesting. The analysis that follows concerns the issue of habitability of the dwellings.

The basic housing need has two key components: one is the building itself and the other the basic sanitation infrastructure. As a physical entity, a dwelling must have suitable sleeping quarters, a place for cooking and eating where hygienic conditions are of the utmost importance and a facility for personal hygiene. Also as part of the urban structure, it must be served by a supply of fresh water, and electricity with sewage facilities. In the next section I analyse each of these components in greater depth.

4.4.3 Characteristics of Overcrowding in Housing.

A dwelling is the physical structure that conditions the life of the family group. One of the many issues that affect childhood is the fact of overcrowding. This affects many aspects of the life of a population. One is promiscuity – arising from not having suitable and enough sleeping spaces according to age and gender that can ensure the intimacy of the parents.

While ensuring individual privacy is desirable, the most basic requirement is that of a separate bedroom for the married couple. Stringent standards would demand separate bedrooms for adolescents and other sleeping quarters for family members that are not blood relatives. Surveys do not seek to identify the exact sleeping arrangements; they only ask about the number of people per bedroom. In this context bedroom can be any room used for sleeping. Statistically, one assumes there is overcrowding if the figure is above 2.67 persons per bedroom. This statistical determination of overcrowding

is based on the number of people in a household and the number of rooms used exclusively as bedrooms.

An analysis of Table 4.16 reveals quite clearly that, on the issue of overcrowding, the City presents a dual situation. On the one hand the residential areas, where over three-quarters of the houses meet the requirements. On the other hand, the houses in the south where over two thirds of the houses create situations of promiscuity. Had there been more discriminatory elements such as the surface built and the quality of building materials, one might shed more light regarding the actual pressure on a dwelling.

One-room dwellings are a risk situation for the health of children. So much so that it could be classified as extremely serious. It must be implied that everything happens in that space. Notwithstanding the limitations, the indicator of overcrowding refers unequivocally to the poor living conditions of most of the population of the City of Cochabamba. This would then re-confirm the hypothesis regarding the existence of modalities of social segregation in the urban space.

4.4.4. Characteristics of the Building Quality of Dwellings

For a house to meet the basic requirements, it must first be well built. The materials used must ensure its physical strength, the sanitary installations the health of its inhabitants, and the whole provide shelter in all weather conditions.

The basic structure of a dwelling is the walls, and especially the external walls since these are exposed to the meteorological phenomena. These also protect its inhabitants against external sources of insecurity.

Table 4.16: Overcrowding in Housing by quality of neighbourhood of residence, 1988 – 1996

NEIGHBOURHOOD	ACCEPTABLE	OVERCROWDING	TOTAL 1988	ACCEPTABLE	OVERCROWDING	TOTAL 1996
Good	84.4	15.6	100.0	75.9	24.1	100.0
Regular	70.2	29.8	100.0	46.6	53.4	100.0
Bad	57.9	42.1	100.0	32.7	67.3	100.0
Total	70.7	29.3	100.0	52.0	48.0	100.0
Total	51496	21375	72871	59314	54741	114055

Source: Elaborated on own account from the reprocessed database of the survey 'Migration, Urbanisation and Employment in Cochabamba, (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia.

NEIGHBOURHOOD	QUALITY OF THE DWELLINGS			TOTAL	QUALITY OF THE DWELLINGS			TOTAL
	GOOD	REGULAR	BAD	1988	GOOD	REGULAR	BAD	1996
Good	17.6	78.6	3.9	100.0	24.6	71.1	4.3	100.0
Regular	3.5	76.4	20.1	100.0	13.1	72.9	14.0	100.0
Bad	3.8	63.6	32.6	100.0	0.0	80.0	20.0	100.0
Total	8.9	72.2	18.9	100.0	13.7	73.9	12.5	100.0
Cases	6471	52591	13809	72871	15615	84231	14209	114055

Source: Elaborated on own account from the reprocessed database of the survey 'Migration, Urbanisation and Employment in Cochabamba, (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996 the survey 'National Labour Sample', INE, La Paz, Bolivia.

Regarding the roofs, these can be held to be part of the basic structure, or as a replaceable element. Here we consider them as the second. The argument runs as follows. A house can be 'saved' if it has good, solid walls, but a bad roof, or a bad floor whereas this is not so if the walls are poor. In this case one would have to start from the foundations. The above distinction is really a statistical issue. In fact, if the roof is bad, it has to be changed whether we regard it as part of the basic construction or as a complementary element. So this matters little when we consider a house unacceptable or as a house that needs improvements.

Materials such as cardboard, tinsplate or corrugated iron, straw or non-lined adobe walls are not suitable as protection against the weather or intruders. In the Bolivian context, it is particularly important that adobe walls are lined to prevent kissing bugs, the carriers for the Chagas disease, from making their nests in the crevices.

Some suitable materials could be a minimum to be demanded as a solution to the habitation problem for they provide better shelter and protection. Such materials, though not as durable or ideal for thermal control, or even aesthetic reasons are prefabricated concrete slabs, lined adobe walls and wood. The best materials are those that offer perfect shelter and protection as well as thermal control and aesthetic impact. Such materials are brick walls; stone pieces joined by cement and lined or caulked wood. In addition, one could use other indicators for a finer classification. These are the soundness of the foundations, the height between the floor and the ceiling and similar aspects.

I classify the housing available in four categories in

terms of the quality of the building materials employed. These are good, acceptable, poor and unacceptable quality.

The key element for the analysis is the predominant material used in walls, flooring and roofs. These materials were classified as follows: good, intermediate and poor.

— Walls: good materials are brick and stone; intermediate concrete masonry and lined adobe; and, poor non-lined adobe bricks, mud walls and the like.

— Flooring: good materials are wood and floor tiles; intermediate brick and cement; poor compacted soil and the like.

— Roofing: good materials are ceramic tiles and cast-cement roof tiles; intermediate corrugated iron and clay roof tiles; and poor straw, cane, palm leaves and the like

The above served to classify the type of housing applying the following procedure:

- 1) Good quality dwellings: walls, roof and floors made only out of good materials.
- 2) Acceptable dwellings: when at least one material belonged to the intermediate quality but no material was of poor quality.
- 3) Poor dwellings: if one or more of the building materials was of poor quality.

Based on the above criteria, nine percent of all households inhabited good quality housing and 14% in 1996. The topology of good quality housing was practically the same – around 73% – in both survey

Table 4.17: Quality of Dwellings by neighbourhood of residence, 1988 – 1996

dates. In the poor quality of dwellings there was a percentage fall of 19% in 1976 to 13% in 1996 (see Table 4.17).

In the residential areas 25% of households inhabited houses were classified as good in 1996 whereas only 4% of the households in these areas inhabited houses identified as poor. Hence 95% of all households in the north east and old part of the City inhabited relatively well-built houses. As already established, these are the districts were the better off live.

In La Cancha and surroundings, 73% of households inhabit acceptable dwellings and only 13% live in good quality houses. Therefore, 76% of all households live in regularly built housing whose quality in general terms is lower than that of the residential districts in the north east and Old City. As stated earlier, there are fewer negative situations. In fact, only a fifth of all households live in poor quality housing. In the south the difference with the north east is striking. One fifth of all households inhabit poor quality dwellings and there are no good quality houses. Aerial photography and empirical observation seem to confirm these data.

4.4.5 Availability of private bathroom

In the survey people were asked about the availability of bathroom, whether these were for the exclusive use of the household, whether they were inside the house or whether they connected to the municipal sanitary sewage. These questions sought to identify an indicator

Table 4.18: Availability of private bathroom by quality of neighbourhood of residence, 1988 – 1996

NEIGHBOURHOOD	YES	NO	TOTAL	YES	NO	TOTAL
			1988			1996
Good	84.8	15.2	100.0	79.0	21.0	100.0
Regular	60.1	39.9	100.0	57.2	42.8	100.0
Bad	30.3	69.7	100.0	43.1	56.9	100.0
Total	57.6	42.4	100.0	60.5	39.5	100.0
Cases	41938	30933	72871	68956	45099	114055

Source: Elaborated on own account from the reprocessed database of the survey

'Migration, Urbanisation and Employment in Cochabamba, (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia.

for the quality of the ownership of sanitary services. This is yet another element that evidences intra-urban inequalities. It is again in the residential districts where the availability of sanitary facilities is relatively satisfactory (79%) whereas in the rest of the City about half the homes do not have exclusive access to this facility (see Table 4.18).

57% percent of the houses in the south and nearly 43% in the La Cancha and surroundings lack this facility. The availability, or not, of a toilet for private use is an additional indicator of the sanitation conditions of the immediate environment in which people's lives unfold. The ideal situation is one where the household has access to a toilet for its own exclusive use and this room is inside the house. At the very least it has to contain a water closet and a shower. There is no doubt that the lack of a toilet raises the risk of disease and death among the members of a household.

4.4.6 Availability of a room for cooking (kitchen)

Yet another element that is part of the minimal housing standard is the availability of a dedicated cooking room. The surveys I am using in this research paper included a question regarding this availability.

Over a third of the households in the south of the City cook in the open, or use a multi-purpose room for this purpose a (see Table 4.19). In the *La Cancha* area and surroundings the percentage of households lacking a dedicated room is over 15%. So, in terms of kitchen availability, the south and the La Cancha area exhibit the

Table 4.19: Availability of a room for cooking by quality of neighbourhood of residence, 1988 – 1996

NEIGHBOURHOOD	YES	NO	TOTAL	YES	NO	TOTAL
			1988			1996
Good	73.4	26.6	100.0	93.0	7.0	100.0
Regular	45.3	54.7	100.0	83.3	16.7	100.0
Bad	27.0	73.0	100.0	63.0	37.0	100.0
Total	48.6	51.4	100.0	81.9	18.1	100.0
Cases	35398	37473	72871	93431	20624	114055

Source: Elaborated on own account from the reprocessed database of the survey

'Migration, Urbanisation and Employment in Cochabamba, (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia

worst housing conditions. In contrast, 93% of the households in the north and old part of the City do have a kitchen. Although this is not as important an indicator of habitability as the quality and materials in walls, the existence of a toilet or the degree of overcrowding, nonetheless it helps to round off the picture for the urban conditions inside the city.

4.4.7 Urban infrastructure and residential areas.

One of the connotations of the city is the way the process of the reproduction of the labour force unfolds. This is a specific characteristic of the mechanisms of social appropriation of space. One expression of the said processes, in its daily and simple variant, corresponds to the situation of the households vis-à-vis collective consumption. This dimension refers to the degree of satisfaction of the minimal requirements associated with the subsistence of populations and how meeting them involves the whole of the social group inhabiting a given space.

One sees here something specific to the City, for, in order to meet the consumption demands of the whole, there needs to be organised intervention by the community. This supposes that the State plays an active rôle. For, in contrast to the countryside, in the urban setting, it is necessary to share the costs and benefits derived from the supply of certain elements that cannot be left to just to the arbitrariness of the forces of nature. Given that they are areas that have been built up – at least in theory – for life together with others, cities require a joint process of decision making so as to ensure the provision of a whole series of elements. Two such elements are fresh water and sanitary sewage and should – in theory – be available to urban dwellers. In fact, the availability (or not) of these services are part of the mechanisms that establish the differences in the appropriation of the social product. So, though everybody contributes in one way or another to pay for the costs, just a few reap the benefits or benefit from them far fewer than is fair. Thus, a situation, which could be classified as characteristically urban, is cut across the planes of social determination and the elements of inequality they contain.

Given scarce resources, the intervention of the State tends to be limited and to favour certain groups to the detriment of others. But, even if the City had a water and

sewage network that covered its entirety, for each household there would still exist the issue of connecting to that network and so partake of the common benefits.

I now continue with the approach to successive approximations to physical living conditions. These conditions have been interpreted as a field of intermediation of structural factors that are socio economic in nature and legal and political in kind. In addition to the indicators dealt with above and which are closely inter-related to the dwelling, and will now look at the provision of piped fresh water right into the dwelling, the existence of sanitary sewage and access to electricity.

a. Availability of Drinking Water

Since water is a basic input for the preparation of food, personal hygiene and washing of clothes, lack of it becomes a causal agent linked to the high levels of infant mortality. But, since it is a key requirement, fresh water cannot become just a problem of lack of availability; it must also be considered as a problem, which is social in nature. *"Water is a key human right and a public asset that every level of the State should protect. It must not therefore become a mercantile good, nor be privatised or trade by those levels of the State. In fact, an international treaty should seek to ensure that these principles are beyond controversy"*¹⁴⁵.

The provision of piped in fresh water right into the dwelling is an important indicator of the living conditions of a population. An indicator, not only in terms of ease of access to fresh water, but also what it means in sanitary terms. Not having piped in water implies extra efforts whether it be to obtain it from a distant source – a community tap or well – or, to buy it from a water truck. Not having a regular supply of piped in water in toilets and kitchens plots against the health of the household. It is, therefore, regarded as an agent of social exclusion.

The Municipality of Cochabamba is responsible for providing basic services to the population. It provides fresh water and sanitary sewage through SEMAPA. After a brief and convulsive period when SEMAPA was run as a concession, it is now back again as a public utility company. The so-called 'water war' that put an end to the concession and its return to a public service entity evidences the importance of the quotation above. The



Map 4.7 Piped water supply by neighbourhood of residence, 1996

Source: Own elaboration using the database of the company SEMAPA in 1996 and © Space Imaging) LLC, IKONOS Satellite Image of the City of Cochabamba, IKONOS II, 4 April 2000, International Institute for Aerospace Survey and Earth Sciences (ITC) Enschede, The Netherlands.

business of providing water cannot be a lucrative one.

Now a look at the issue of fresh water in the city of Cochabamba, from both the supply and demand angles. Statistical data is not useful regarding the supply of water. I have used for this the primary data provided by SEMAPA for the period 1992 to 1997 and have worked hard to match the SEMAPA data regarding supply and the demand data as gathered in the surveys I have used for this research paper. It has been difficult because the data SEMAPA has is oriented to the trips the meter readers have to make so as to charge for consumption.

The supply network covers the old part of the City, the residential areas to the northeast and a sizeable part of the La Cancha area. The other areas to the south and north are not yet served. The network serves, therefore, those with greater economic power. This reflects the difficulty the State has had in meeting the demands arising from accelerated urban growth. It could be interpreted as a segregationist attitude on the intervention of the State, contributing to social inequality and the widening of the gap between the north and south (See map 4.4). I use the data from the 1976 National Population and

Housing Census and the 1996 National Survey on Employment as a way of analysing the trends regarding change and likely trouble spots.

The situation has got worse in relative terms during the period 1976 to 1996. Only a third of all households have a good quality service by 1996. If I break this down by areas of the City, one sees marked differences. Thus, while two thirds of the households in the north east and old city have piped in fresh water and just over 30% of households in the north west and La Cancha and surrounding areas are served, 95% of all households in the south lack a piped-in water service. The alternative to piped-in water is water delivered by independent water trucks. People spend between 7 to 10% of their family income on this service. What is worse, the quality of the water provided cannot be guaranteed.

The above evidences the qualitative shortcomings of the residential context. It is a sanitary problem that affects, one way or another, the whole of the urban community as well as a social equality issue. (see Table 4.20).

The data from SEMAPA reveals that in 1996 there were some 46,267-supply points. Of these, 92% or 42,464, were residential in nature. Customers are charged according to a four-level scale that goes from R1 to R4. The residential customers use up to 80% of all the volume supplied by the company, one of about 7.7 million cubic meters. (see Table 4.21).

Nearly half (48%) of the water supplied is used by the inhabitants in the old part of the City and the neighbourhoods in the north east which together house only 30% of the population. Accordingly, the remaining 52% has to meet the needs of 70% of the population. This was the situation in 1996.

NEIGHBOUR- HOOD	YES	NO	TOTAL 1988	YES	NO	TOTAL 1996
Good	87.5	12.5	100.0	64.4	35.6	100.0
Regular	41.8	58.2	100.0	33.0	67.0	100.0
Bad	7.0	93.0	100.0	5.2	94.8	100.0
Total	57.5	42.5	100.0	36.2	63.8	100.0
Cases	24956	18461	43417	41315	72740	114055

Source: elaborated on own account from the reprocessed database of the National Census of the Population and Housing 1976, INE, La Paz, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia.

Table 4.20: Piped water supply by quality of neighbourhood of residence, 1988 – 1996

On the one hand, in the rich neighbourhoods (north east) the drinking water consumption per person day is 165 litres (or 731 litres per day per average family group) at an approximate cost of Bs 30 per month. In the other extreme, the typical consumption of a person who lives in the periphery south is the 22 litres per day – if connected to the network – (or 125 litres per day per average family group), at a cost Bs. 39 (see Table 4.21).

Life expectancy for an inhabitant born in the north east is 67 years, but only 47 for a person born in the south, a difference of 20 years on average. This difference is a cause for concern. It is known that a high incidence of infant mortality can be traced to diseases originating in the lack of water or in its bad quality, such as diarrhoea and gastro-enteritis. The impact of this shortcoming is compounded with malnutrition. The statistics are clear: 45 infant deaths in the north compared to 145 infant deaths in the neighbourhoods in the south for every 1000 children born alive.

In general, the households that receive piped-in fresh water have higher incomes. It is a privileged, chosen,

sector of the population that enjoys the benefits of their economic power.

As an alternative to the municipal fresh water network, people get their water from water trucks, wells and even community-built and run primitive networks.

Sometimes, the water truck becomes the only feasible alternative – especially when the house is built high up on a hill – as in some districts in the south and on foothills, as in the north of the City.

The issue of water quality is also a cause for concern.

One element here is the storage of water. This is often done in metal drums or plastic drums – originally meant to contain oil or chemicals. Such containers tend to be kept at the entrance of the house – for easier and faster access to the water truck hose. So, in addition to being exposed to dust and heat, the metal drums suffer from internal rust, and since water is scarce and expensive, it tends to be re-cycled. This can also contribute to health problems. All this requires that a large-scale sanitary engineering project be started in these districts.

But, it is not only a problem of meeting the, as yet, unsatisfied demand – for the authorities also have to worry about those districts that are already connected

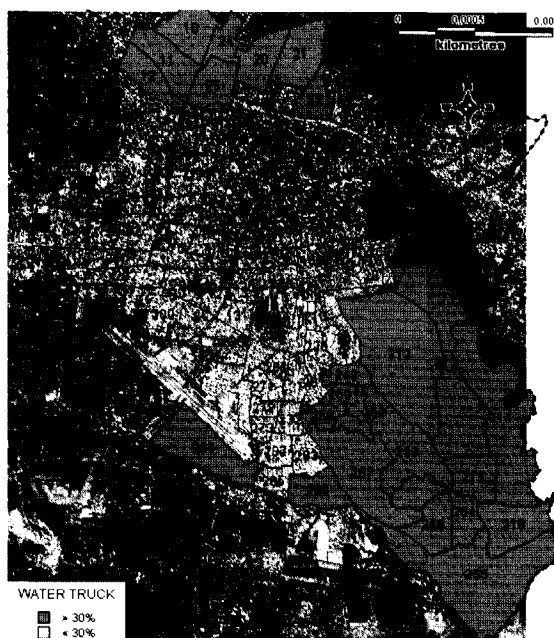
DESCRIPTION	NEIGHBORHOOD			TOTAL
	GOOD	REGULAR	BAD	
NUMBER OF CONNECTIONS				
Cases	18695	19884	7688	46267
Domestic	16249	18663	7552	42464
No Domestic	2446	1221	136	3803
% of Consumption				
Domestic	45%	38%	17%	100%
No Domestic	59%	36%	5%	100%
Total	48%	38%	14%	100%
DOMESTIC CONSUMPTION DAILY LITERS				
For family	731	430	125	429
For person	165	99	22	95
Size of Household	4.4	4.4	5.7	4.8
Income Bs. Month	2500	814	576	1130
Price of Water	26.09	26.01	39.23	30.4
% of Income to pay water	1%	3%	7%	3%
Life Expectancy Years	67	57	47	58
Infant Mortality(per 1000)	45	105	146	97

Source: Own elaboration using the database of the company SEMAPA in 1996 and the database of the Survey of the Plan of Drinking Water for the City of Cochabamba: SEMAPA-CONSORTIUM SEURECA/BRGM/SOGREAH / CGL, July 1993. The calculations of mortality were elaborated with the information coming from National Census of Population and Housing of 1992, INE.

Table 4.21: Neighbourhood of residence according to Number of Connections, Water consumption per family and per member (day), size of household, monthly income, price of water, percentage of income spent on water, and infant mortality, 1996

Map 4.8 Distribution of people who get their water from Truck by neighbourhood of residence

Source: elaborated on own account
from the reprocessed database of the
National Census of the Population
and Housing 1992, INE, La Paz,
Bolivia



and where the demand is expected to be one of over 7 million cubic metres by the year 2015. By this year the City will have increased its population three times.

All the above requires thinking about future demand and also finding ways of making the supply network more effective. One step here is to reduce losses due to leakage that represent 53% of the volume produced (see Table 4.22)

Before the short period (see above) in 1996 when SEMAPA was operated as a concession, it was estimated that the water deficit would take twenty years to be fixed. The present SEMAPA, back again as public service entity, faces bankruptcy and is open to political manipulation. This makes it even more difficult to meet the demands of a growing population. In addition,

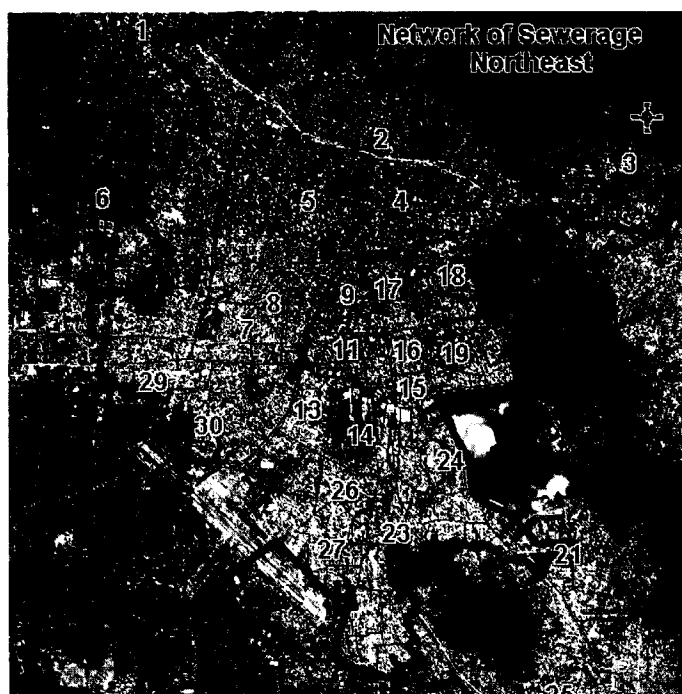
SEMAPA is hindered by the lack of suitable plans of urban development. So, it is not just a question of demographic growth, but also one of growth whereabouts and migration flows. These have tripled the population of the City in the last twenty-three years. Some short-term solution has to be found that can reduce the time of suffering of the depressed sectors.

The need arises to implement strategic relief programmes in those areas where the levels of unsatisfied demand are alarming. But, this will not be possible other than as a collective and inter-institutional effort that seeks to deal with the root problems of poverty and generalised deterioration of the living conditions of the population. Another related issue is the rational and planned use of the territory. So far, about a third of it has

Table 4.22. Cochabamba: Volume of Drinking Water distributed according to consumption categories,	Description	Volume Litres / Day / Second		Total production in meters cubic year			Projection
		1996	Expected	Requirement	1996	1997	2017
	Domestic Consumption	359	602	12364010	7746082	7965859	13939360
	No Domestic Consumption	90	124	3353703	1945051	1921852	1511812
	Total Consumption	449	726	15717714	9691133	9887711	15451172
	Total Lost M3	203			10838084		
	Total Production M3 in 1996	651			20529217		

Note: The estimate of the deficit was carried out using the relative questions on the population's unsatisfied consumption, and the projection was carried out based upon the production of water of the administrations 1996 and 1997.

Source: Own elaboration using the database of the company SEMAPA in 1996 and the database of the Survey of the Plan of Drinking Water for the City of Cochabamba: SEMAPA-CONSORTIUM SEURECA/BRGM/SOGREAH / CGL, July of 1993



Map 4.9 Sewerage Connection by neighbourhood of residence, 1996

Source: Own elaboration using the database of the company SEMAPA in 1996 and © Space Imaging LLC, IKONOS Satellite Image of the City of Cochabamba, IKONOS II, 4 April 2000, International Institute for Aerospace Survey and Earth Sciences (ITC) Enschede, The Netherlands.

already been developed, much of it without approved road or sanitary plans.

b. Availability of Public Sewage

A suitable dwelling must also have an internal sanitary sewage system and a rainwater drainage system. They

Table 4.23: Availability of Public Sanitary Sewage with Connection Inside Housing, according quality of neighbourhood of residence, 1988 – 1996

NEIGHBOUR- HOOD	YES	NO	TOTAL		YES	NO	TOTAL
			1988				1996
Good	92.5	7.5	100.0		83.1	16.9	100.0
Regular	76.4	23.6	100.0		51.0	49.0	100.0
Bad	14.1	85.9	100.0		55.1	44.9	100.0
Row %	57.8	42.2	100.0		60.9	39.1	100.0

Source: Elaborated on own account from the reprocessed database of the survey

'Migration, Urbanisation and Employment in Cochabamba, (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia.

should ideally be connected to the respective municipal service, but septic tanks will do, provided they are properly built and maintained. The municipal service serves 60% of all households (see Table 4.23 and Map 4.9). Most households that have access to piped-in fresh water also have a connection to the public sewage system.

The households in residential areas are served in 93% of the cases while 86% of the households in the poorer south are not served at all¹⁴⁶. They solve the problem using septic tanks, but since these are seldom built according to technical standards and with the right materials, they end up contaminating underground water. Another alternative is one of simply emptying their sewage into ditches with the corresponding negative effects.

The provision of a water and sanitation system is a key element in an urban setting that determines the living conditions and health of a population. Unfortunately, it is the people with the least economic power who also suffer from the lack of these services.

c. Availability of Electricity

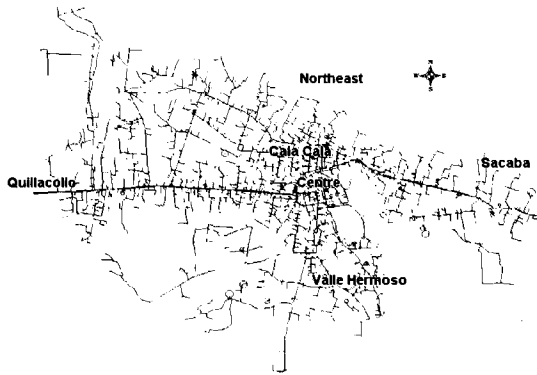
The availability of electricity is another important component of the internal basic service. Once again, there needs to be a connection from the grid to the house. The provision of electricity is not a discriminating factor in Cochabamba since 97% of all households are connected to the mains. (See Table 4.24). The provision may be larger than declared in surveys, for some people have clandestine connections to the grid. In general terms the provision of electricity in Bolivia and specifically in Cochabamba is

Table 4.24: Availability of Electricity, according quality of neighbourhood of residence, 1988 – 1996

NEIGHBOUR- HOOD	YES	NO	TOTAL		YES	NO	TOTAL
			1988				1996
Good	97.9	2.1	100.0		97.5	2.5	100.0
Regular	95.8	4.2	100.0		97.4	2.6	100.0
Bad	92.1	7.9	100.0		95.1	4.9	100.0
Total	95.1	4.9	100.0		96.8	3.2	100.0

Source: Elaborated on own account from the reprocessed database of the survey

'Migration, Urbanisation and Employment in Cochabamba, (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia.



Map 4.10: Network of electricity, 2000

Source: ELFEC, 2000, Cochabamba, Bolivia

widespread. In commercial districts, there is a shared use of a connection because open-air markets open only on Wednesdays and Saturdays – market days.

4.5 Position in the Life Cycle

Another way of getting closer to the characteristics of the household heads is by means of the factors associated to the vital cycle. Elements such as marital status, gender and age are key variables. These serve to define the potential labour market, human resources and the necessary health, education and housing infrastructure. Birth and death rates, migration flow rate and participation in the economic activity turn out to be clear instances of differences in terms of gender and age.

4.5.1 Size and Make up of Households and Marital Status of Household Heads

Although the complete home is prevalent in the City, the

distribution varies across the City. Again, in general terms, the households in the residential areas show more of a breakdown of the standard home and the appearance of more complex household compositions. A factor influencing the extended make up of households today represents a strategy to deal with the effects of the Structural Adjustment Policies. One also notices that among the less well off households the traditional values have been preserved.

There is a significant number of incomplete standard households: that is, those where either parent is missing (see Table 4.25). Divorce tends to be the main cause for this (see Table 4.27). In such cases, the parent who is left alone either moves back into their parents' household or invites other adult relatives to be part of the household and thus cope with the sharing of responsibilities. Either way one sees the making up of extended households.

In general terms I do not observe a trend towards large households. The average size has remained relatively constant at about 4.7 members per household. The functions within the household do vary and one also finds that extended households are more numerous. The number of households with six persons or over is still significant in the south of the City. Three quarters of these households indicated they had one minor below twelve. This is not as common in households in residential areas in the period 1988 to 1996 (see Table 4.26). The standard household contains a married couple, but there are many variations. Many result from the death of one of the spouses or from divorce (see Table 4.27). Other households, the so-called extended or non-family tends to have more members. One can also observe small groups that share a house, but not a family style; such is the case for students or young, single workers.

Table 4.25: Size and Households composition, according neighbourhood of residence, 1988 – 1996

NEIGHBOURHOOD	SINGLE	NUCLEAR	NUCLEAR	EXTEND &	1988	SINGLE	NUCLEAR	NUCLEAR	EXTEND &	1996
		COMPLETE	INCOMPLETE	COMPOUND			COMPLETE	INCOMPLETE	COMPOUND	
Good	4.7	57.1	8.6	29.6	100.0	8.9	45.9	11.4	33.8	100.0
Regular	6.4	64.5	9.6	19.5	100.0	3.1	60.6	9.1	27.1	100.0
Bad	4.3	69.9	5.8	19.9	100.0	7.5	64.5	10.7	17.4	100.0
Total	5.0	63.8	7.7	23.5	100.0	5.6	57.3	10.1	27.0	100.0
Average Members	1	4.7	3.5	5.1	4.4	1	4.7	3.9	5.6	4.7

Source: Elaborated on own account from the reprocessed database of the survey 'Migration, Urbanisation and Employment in Cochabamba, (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia.

	1 – 3	4 – 5	6 – +	YES		1 – 3	4 – 5	6 – +	YES	
NEIGHBOURHOOD	M/H	M/H	M/H	1988	CHILDREN	M/H	M/H	M/H	1996	CHILDREN
Good	33	44.4	22.6	100	62.2	35.5	44.1	20.4	100	53.4
Regular	33.7	37	29.4	100	66.6	22.8	44.4	32.9	100	73.0
Bad	27.2	38.2	34.6	100	74.2	30.3	40.4	29.3	100	71.1
Total	30.9	40.2	28.9	100	68.0	27.9	43.5	28.6	100	67.1

Table 4.26: Distribution of Households by Size and presence of children smaller than 12 Years, according to quality of neighbourhood of residence, 1988 – 1996.

Source: Elaborated on own account from the reprocessed database of the survey 'Migration, Urbanisation and Employment in Cochabamba, (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia.

	DIVORCED/ WIDOW(ER)	MARRIED	UNMARRIED	1988		DIVORCED/ WIDOW(ER)	MARRIED	UNMARRIED	1996
HOUSEHOLD COMPOSITION									
Single	35.8	7.6	56.6	100.0		43.9	11.8	44.3	100.0
Nuclear complete	0.2	99.7	0.1	100.0		0.0	100.0	0.0	100.0
Nuclear incomplete	83.4	8.6	7.9	100.0		84.0	14.3	1.8	100.0
Extend & Compound	25.5	60.6	13.9	100.0		30.7	58.6	10.8	100.0
Total	14.4	78.9	6.7	100.0		19.2	75.2	5.6	100.0

Table 4.27: Marital Status of Household Heads according household composition, 1988 – 1996.

Source: Elaborated on own account from the reprocessed database of the survey 'Migration, Urbanisation and Employment in Cochabamba, (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia.

4.5.2 Socio-demographic Characteristics of Households

A simple way of characterising households is to label them in terms of the characteristics of the household head. Yet, though simple in operational terms, this procedure does not always convey a comprehensive idea of the household, especially so in Cochabamba where the household head may be the oldest male, but not necessarily the main wage earner and household provider. The headship falls on the mother only when the male is absent through death or divorce.

It is frequent to find households whose heads are senior citizens who are retired, are looked after, and, in fact, supported by other younger members of the household. In the cases where the head of the household states that he is not an active economic agent; then the senior wage earner, be it the wife or oldest son is seen as head

In this research for the categorisation of the household only the members that make up the standard family: i.e., parents and children is used. There are very few households in the City of Cochabamba where none of the standard household members is an active wage earner (the percentage is just 0.7%). In such homes, the active wage earner is a relative. Given the very low

percentage, I decided not to categorise such households. In any case, a re-definition of the data would be needed to categorise them. This is not worth the effort though, since the result would be negligible.

d. The Gender of the Household Head

In 1996, the head or senior active member is a male in over three out of every four households. Thus, a female is the head in just 22% of all households. (see Table 4.28). Females become heads only when they have no spouse or partner. Over two thirds of incomplete

Table 4.28: Gender of Household Head according to family type, 1988 – 1996

	MALE	FEMALE	1988	MALE	FEMALE	1996
Single	63.5	36.5	100.0	51.8	48.2	100.0
Nuclear complete	99.8	0.2	100.0	95.4	4.6	100.0
Nuclear incomplete	14.2	85.8	100.0	36.9	63.1	100.0
Extend & Compound	70.5	29.5	100.0	58.4	41.6	100.0
Row %	84.5	15.5	100.0	77.0	23.0	100.0

Source: Elaborated on own account from the reprocessed database of the survey 'Migration, Urbanisation and Employment in Cochabamba, (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia.

Table 4.29: Selected groups age of the Household Heads, according to family type, 1988 – 1996

FAMILY STRUCTURE	LESS 30	30 – 59	60 – +	1988	LESS 30	30 – 59	60 – +	1996
Single	34.5	51.6	13.9	100.0	30.5	50.0	19.5	100.0
Nuclear	20.3	71.1	8.6	100.0	15.9	79.3	4.8	100.0
Extended & Compound	12.6	60.2	27.1	100.0	13.6	64.2	22.2	100.0
Row %	19.2	67.6	13.2	100.0	16.1	73.6	10.3	100.0

Source: Elaborated on own account from the reprocessed database of the survey 'Migration, Urbanisation and Employment in Cochabamba, (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia.

standard households are headed by females. In the case of complete standard households, females become heads only in 4.2% of all cases.

It is interesting to point out that in extended households the weight of female heads is much higher than in the whole spectrum. This would seem to indicate that, in the absence of a spouse, women tend to return to the paternal home and thus incorporate other adult members into the household.

e. The Structure in terms of the age of the Household Heads
Nearly three quarters of all households are supported by wage earners in the age group 30 to 59. In the second most important group in terms of the age of the household head, their ages are below 30. In this group many live by themselves. The proportion of extended households supported by a person aged 60 or over is significant. In 10% of households, the most senior active wage earner is over 60. This evidences the, as yet, insufficient development of a retirement plan, thus forcing people to continue their active economic life (see Table 4.29).

In single-person households, the presence of young adults – aged below 30 – is significant and so is the presence of people aged 60 and over. They are mostly students or retired people, respectively, who live alone.

In standard households, the age distribution of the heads is the opposite to the above situation. Their age ranges between 30 and 59. This is corroborated by other studies that show that the proportion of standard homes diminishes as the parents get older. In the process, the children get older and leave the household or other family members enlarge the household – people such as in-laws and grandchildren – in general terms it

can be said that the older the household head, the more likely it is that the household is an extended one.

4.6 Vulnerability

Vulnerability has been defined by way different manifestations of dependency. Those manifestations can be specified in terms of social contacts, social networks, the way one provides for one's household, the use of time and all kinds of activities (also leisure), social (societal) participation, aspirations and future expectations, knowledge of societal developments and the use of societal amenities (services) and health and handicaps¹⁴⁷. Consequently this is a part of a multi-dimensional and dynamic phenomenon that accounts for insecurity, risks and helplessness resulting from external factors. Vulnerability is directly associated with the resources individuals and families control at the time when change happens, as well as to the likelihood of using them in the new economic, social, political and cultural circumstances that the process defines. In this sense, it refers to resources "whose use allows to take advantage of existing opportunities at a given moment, be it to reach a level of well being or to maintain it in threatening situations"¹⁴⁸.

The deficiency that makes individuals vulnerable expresses a relationship between resources and needs while the relevance of the goods in both spheres depends a lot on the cultural and environmental setting people live in, as well as on the likelihood of furthering the satisfaction of their wishes¹⁴⁹. While it is true that the issue of vulnerability encompasses a diverse range of aspects, the shortcomings in the conventional presentation of statistics thwart a correct treatment and so make it hard to explain the many faces of vulnerability.

Regrettably the indicators used to measure the poverty do not contribute to elucidating this dimension because they are static in nature and account only for the lack of resources or money. The ongoing reality cannot be fully interpreted unless it also takes into account the future, that is, people's wishes or ambitions. Indeed, to approximate and try to understand this problem four indicators have been elaborated in this research regarding the vulnerability risk of the household heads as an attempt to further my explanation.

The risks, uncertainty, a heightened pessimism and the lack of wishes or desires for the future constitute at present some of the hardest blows that households face in Cochabamba¹⁵⁰. It is not exclusive to the poor since it has affected all groups in the social entity of the City. In this context, the issue of vulnerability enables a focus on the identification of those long-term interventions that might enable imagining scenarios likely to change this both at family and individual levels.

The modifications in economic strategy, the opening of the markets to market forces and the withdrawal of the State from the productive and social spheres have brought about an intensification of helplessness and insecurity for vast numbers of people and families. They are now exposed to greater risks, especially if they live in the marginal urban areas.

In Cochabamba, the vulnerability is strongly bound to the job, because many workers have great problems to find stable, secure and well-paid job, also, for many of them, it is difficult to decode the complexity of the modern world. Access to a job is, no doubt, the most important resource for the working classes and also of the middle urban classes. The possibility of finding a job is becoming much harder. Towards 1996, only 57% of all household heads had a permanent job. Many had to manage with temporary, low quality and poorly paid jobs.

In the nineties only half of household heads worked under a contract and well over half all employees did not have a secure monthly salary. Hence, the sense of insecurity to which these workers are exposed is very high. The open market policies and a more competitive labour market have accentuated the productive

heterogeneity. To this has been added the flexibility of the labour market leading to greater insecurity and helplessness. As a response to this, one observes personal initiatives in creating jobs for oneself, labour instability and a prevalent precarious nature of employment. This is accompanied by a weakening of the labour unions, and, consequently, their bargaining power. Temporary jobs have become the rule and so vulnerability at work is raised and as is also the increase in open unemployment¹⁵¹.

On average informal economy workers earn less than half of the salary of the executives in modern companies. In 1996, one notices that many employees are not paid at appointed times, but are subject to the caprice of the employers, partly because there is no written contract, or because they are temporary workers. *"Various groups and sectors in society are exposed to lacks and dynamic disabling processes which render them less able to cope with the problems arising from subsistence and the social achievement of a satisfactory life. These depend basically of the existence of an opportunity for accessing to sources and basic rights of well-being, well-paid, stable jobs, know-how and skills, leisure time, security and provision of social services, economic patrimony, political citizenship, integration and ethical and cultural identity"*¹⁵².

One's language becomes another indicator of vulnerability. It is an indirect factor of social exclusion, for it prevents those affected from enjoying the comparative advantages of Spanish speakers. Advantages such as open and permanent access to the educational system, to work, to receive and to understand the mass media: in short, to understand the codes of the modern world.

An analysis of Table 4.30 revealing the presence of differentiation profiles is demonstrated according to social groups, showing the strong presence of Spanish speakers among the groups with greater economic power (Directors). In terms of secondary importance, these groups are followed by white-collar workers, also speakers of Spanish. A third group is that of people who work in the 'informal sector' of whom only a third speaks Spanish. They may speak a native language such as *Aymará*, *Quechua* and *Guarani*. By 1996, over half of the households in Cochabamba conversed in their native

SOCIO-ECONOMIC GROUPS	TEMPORARY JOB		NO/CONTRACT		NO/SALARY		SPANISH-NATIVE		INCOME MONTH	
	1988	1996	1988	1996	1988	1996	1988	1996	1988	1996
MANUAL WORKER	28.0	27.5	64.6	50.6	43.1	43.4	89.4	88.6	371	1120
INFORMAL SECTOR	18.5	70.2	98.2	86.1	96.0	87.5	85.5	85.3	469	1515
NO MANUAL WORKER	9.1	12.8	23.3	18.7	6.7	3.5	76.2	48.9	418	1553
DIRECTOR	12.4	11.5	57.8	40.1	47.7	35.9	58.4	20.2	880	3482
Total	17.8	43.1	67.4	50.4	46.3	56.8	79.6	56.8	510	1721
Average education (years)	8.4	8.5	8.6	9.2	8.7	8.7	8.7	8.3	9.7	10.4
Age	42	46	42	47	46	46	43	46	42	45

Note: The percentages of each cell correspond at the level of this category. They are variables of two categories, consequently the difference of 100% corresponds to the other category.

Source: Elaborated on own account from the reprocessed database of the survey 'Migration, Urbanisation and Employment in Cochabamba, (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia.

Table 4.30: Socio-economic Structure of household according vulnerability indicators, 1988 – 1996

language at home, although they speak Spanish. This language is used only in economic interactions such as the workplace.

In fact, the main obstacle for a real and systematic integration of human development is language. The issue of language is not just a question of cultural diversity and integration of ethnic groups, but rather one of a gender issue and of differences between sexes. This can be seen in Table 4.31 where the presence of monolingual women in the poor districts of the city is significant.

More women than men are bi-lingual. This arises from the fact that it is the woman that has to keep and transmit the lore and the building of social ties. As a basic pillar of the family she is still a strong factor in

Table 4.31: Language of the head of household according to quality of Neighbourhood of Residence and Gender, 1996.

NEIGHBOUR- HOOD-	SPANISH	SPANISH NATIVE	1996	CASES
Good	57%	43%	100%	32055
Regular	42%	58%	100%	58930
Bad	29%	71%	100%	23070
Male	45%	55%	100%	89973
Female	37%	63%	100%	24082
Total	43%	57%	100%	114055

Source: elaborated on own account from the reprocessed database of survey 'National Labour Sample', INE, La Paz, Bolivia.

socialisation. Given the characteristics of the production structure, women are to be found in all kinds of activities linked to trade, agriculture and personal services, and since it would be a hindrance not to speak the working language, usually Spanish, they adopt it, or society forces it upon them.

Social vulnerability refers to those society groups that are more subject to risks or insecurity. These are women, the elderly, the *quechua* or *aymara* speakers, poor immigrants, who should be a priority. For these people who are left out of the economic system, some economic and social support program has to be designed.

Contacts and networks (people and families) are determining to a greater or lesser extent the chance to access the job market, information and the conditions of power. This is what materialises among the networks of retail traders in the open-air market of *La Cancha* and also among construction workers. The current development model has affected the traditional ways of social organisation and participation as well as political representation through political parties or traditional social movements. The opening to the world economy and world trade and capital has intensified the competition for markets, the privatisation of the economic life, the shrinking rôle of the State in the protection of social life and the weakening of the workers' unions have tended to disintegrate traditional social structures. To be able to exist in a fiercely competitive city, companies must produce more or less at cost. To do this, one of the first sacrifices is the workforce. Thus, there is now a mass of available manpower without a job or under-

taken by non-regular workers, including casual, temporary or part-time workers, contractual, piecework or seasonal labour, ready to grab any job.

In contrast, family networks constitute an asset, especially for the poor. They tend to enlarge the family network by including relatives and even those who are not related, as long as they somehow contribute additional income or they help with the household chores. But, the harshness of the present situation is causing an increase in the vulnerability of the family a social unit expressed in terms of divorces, or, at least, separation of the spouses. And, while one still finds the process of family network enlargement, the new additions – non-wage earner female household heads and penniless seniors who need looking after – have changed the economic viability of the household. Yet another negative element is household violence.

4.7 Conclusions

It seems necessary to insert the family group into the system of social stratification in order not only to identify differences regarding social exclusion, but also to further an explanatory process to understand the differences. One of the variables is education, but its operational energy can only be more precisely targeted when distributed, for once its participation in certain social groups is controlled, its direct influence appears self-evident. Its interpretation at the conceptual level is even less exact for there is no certainty about the specific nature education has an intermediary indicator; it would seem to be an additional manifestation of the features pertaining to each social group. This analysis is important due to the implications for policy making. It could be said that socio-occupational stratification is a useful instrument for locating those groups that are at a high risk of social exclusion, but it is also partial. It would seem that social stratification is a key element for the perception of the conditions that motivate such risks. Working conditions and access to the benefits of social production, expressed in differing consumption patterns would seem to represent the main causes generating precarious living conditions, but this demonstration will be possible in the next Chapter when the multi-variate analysis will be applied.

In very simple way, the preceding analyses have allowed demonstration of the existence of spatial segregation in Cochabamba. The neighbourhoods of the south periphery are those whose levels of deficiencies are the highest – they lack both water and sanitation networks and their respective connections, they lack toilets for the exclusive use of the household and a high proportion of households have no kitchen. A lot of the housing is below standard. Therefore, what is most significant is the systematic continuation of differences between areas. This fact implies that social inequality exerts a powerful influence in Cochabamba. I have also shown that the high socio-economic position lives in the centre or the north east of the City, the more likely one is to be well served by Municipal services. And, conversely, that these services thin out as one gets further from the centre or the north east. It is here where people with higher incomes and better quality jobs and living conditions live.

The indicators provided have also shown that there are several processes of deterioration. The negative impacts of the structural adjustment are increased part-time jobs, non-payment for work done by uncontrolled, below-minimum wages, higher job instability and “unsocial hours” (night work, weekend work and long shifts during peak periods.) The workers’ turbulence and insecurity are intensifying as lay-offs occur and as flexibility increases, and this makes them more vulnerable to increased exploitation and lack of social protection. This situation is most disadvantageous, especially for the informal sector which has increased in numbers, but in poor conditions, for this enhances their vulnerability. It has also been alarming to observe that there has been an increase in the number of incomplete family groups and single mothers acting as household heads. The poor find it increasingly difficult to provide their children with a proper childhood. It is these children who will later drop out of school and society.

The vicious circle – temporary wage earners, low and uncertain income, incomplete education, low opportunities to access the social participation, poverty – interacts with other vicious circles such as lack of access to municipal water and sanitation services, health services, problems at work, difficulty to re-enter the labour market. The combination of all these reinforces

the process of social exclusion. An extensive sector of the population is, in fact, excluded from a proper education, from permanent, secure jobs, from participating in the cultural life of the community and from having health insurance. All these facts described above avoid the generation the opportunities for change in this inhuman reality.

Dealing with poverty as part of a wider perspective of social vulnerability allows one to identify and promote public policies that aim to strengthen resources and reinforce and complement family strategies. These would contribute to their being in a better position to face the present circumstances. The State has to set a frame of policies oriented to basic protection and equal and fair opportunities for all citizens. This is due to the multi-dimensional nature of the phenomenon. For this reason, in the next Chapter a multi-variate analysis will be applied in order to understand the multi-dimensional face of poverty, deprivation, social exclusion and vulnerability in Cochabamba.

Notes

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See methodological appendix for operative considerations in the construction of the indicators

139

It is nuclear families that exploit the clay or other natural resources; the production of bricks in Jaihuayco is one of the most important activities of craft production, it is located to the south of the city (area 26) and it embraces an area of 190 hectares approximately. The peculiarity of this small establishment is it is a combination of works, traditional craft, the upbringing of animals and agricultural cultivation.

140

Calderón, Fernando, (1985), page 147. He shows that this case is frequent among the established merchants of La Cancha and La Pampa, particularly those that sell potatoes and fruit.

141

Roberto Laserna has explored some of these explanations in the drugs and the adjustment (*public secret and political economy*), Ed. Cedla, La Paz, 1994, and in "The

coca boom. Social change and regional development in Cochabamba" (PhD Thesis), University of California, Berkeley, 1995.

142

The vegetative growth was obtained from the questions regarding dates of the birth of the last-born alive from women in fertile ages, covering only the births of the last twelve months and the deaths in the last calendar year. The net migration rate was obtained through omitting the numbers of recent migrants, calculating by linear interpolation the number of arrivals annually in the city and the number emigrants. From the difference the net migration rate was found.

143

It is in area 11 the *Square September 14* (*Plaza de Armas*), around which the public offices of greatest importance are located with many local commercial units and restaurants. In area 12 the majority presence of the grocery trade is observed and of non food products, the commercial associations, professionals and labour, the Chamber of Industry and Trade and the

offices of some private companies, repair services, restaurants and hotels. Area 16, is rather more heterogeneous and in it the emphasis is on the cafeterias and snacks (due to their vicinity to the university), groceries, bookstores, printing, bazaars, kiosks, and others.

144

The origin of La Cancha was associated with the "take lands" of some hills (dedicated according to the planning regulator as green areas), being constituted, at the point of encounter between the urban and rural populations, and in this space the prices are determined.

145

See the *Second point of the Declaration of carried out Cochabamba December 8 2000*: Seminar has more than enough world pressure against the transfer from the supply of water to the private sector, Cochabamba, Bolivia.

<http://www.canadians.org/blueplanet/cochabamba-e.html>

146

According to the previous statistics, the provision of these services to housing is practically universal in the central area, where the accumulative effect of the public intervention is verified.

147

Drewe Paul, & E. D. Hulsbergen, (2001), Page 7. Drewe Paul, & E. D. Hulsbergen, (1983), Page 3.

148

Rubén Kaztman, 1999.

149

Roberto Laserna, 2000, Page 19

150

The rich and poorest have felt the impact of the policies of structural adjustment since the 90's.

151

Pizarro Roberto, 2001, Page 14

152

La vulnerabilidad social. Marco teórico: Antecedentes Históricos del concepto dimensiones de análisis, de focalización y de intervención", Secretaría de Desarrollo Social. Subsecretaría de Proyectos Sociales (SIEMPRO), mimeo, octubre 1996 (Cit Coraggio, 1998. pp. 7).

5. The Multi-dimensional Face of Poverty, Vulnerability, Deprivation and Social Inequality in Cochabamba

5.1 Introduction

The objective of this Chapter is to explain the third hypothesis, in connection with the multi-dimensional characteristics of poverty, deprivation, vulnerability and social exclusion in Cochabamba. This hypothesis postulates the presence of multi-dimensional patterns of social organisation in the urban areas that differ from one another in terms of socio-economic positions. They also exhibit varying environmental conditions as evidenced by the availability or non-availability of basic sanitation. Their deprivation is associated with the highest risks of social exclusion and vulnerability. There is a high level of deprivation in the outlying, recently settled areas, as well as in the older parts of the City centre. It is also postulated that the actions of the State and the urban social movements have been those that have contributed to increasing the differences between the various residential districts in the City. Given the multi-dimensional nature of this hypothesis, it is only possible to demonstrate it by applying the multi-variate Generalised Canonical Correlation Analysis (GCCA) since this accepts the simultaneous inter-action of a set of variables and is, therefore, the model of choice that best fits the theoretical and analytical requirements of this research work.

This Chapter is divided into three sections. In the first section, the necessary steps for the application of the multi-dimensional analytic model are presented in detail. To allow precision in explaining the steps, they are presented in sub-sections:

Firstly, comes an explanation of the structure of the databases. Also included is the procedure used in validation and consistency plus the procedures used to clean anomalous data (outliers). The explanation of the criteria used in the construction the new files and variables are applicable to all the databases used in the research. Secondly, there follows an explanation of the steps followed in the application of the Generalised Canonical Correlation Analysis model (GCCA). Thirdly, the presentation of the final results of the application of the Model GCCA is made. These prove the hypothesis to a high degree of reliability and in a forceful way. Finally, the end results ensuing from the canonical scores show a distinct typology of households.

The purpose of the second section is to scrutinise the reliability and quality of the GCCA results. Classical poverty models and the Human Development Index (HDI) are applied. Both allow consideration of the advantages of the GCCA. In general terms, the same results are achieved, but while the classical models provide an account of the general diagnostics of the problem, GCCA goes further and identifies the elements that are part of the problem (it shows the true face of poverty. One can understand, therefore, that this could become a powerful tool to comprehend and provide good explanations for the deficiency model of urban development in the city of Cochabamba. Lastly, the results of municipal investments are presented in their relationship to the space, i.e. the Municipal Districts, where it is clearly manifested that the predominant investments correspond to the consolidated districts, an aspect that constitute an indirect way of observing the impact of local government actions in the segregation and inequitable process of their development.

Finally, the third section refers to the ways in which civil society intervenes through Urban Social Movements. This is a key approach to imagine future solutions to the wide range of problems. It is important to analyse the socio-political and institutional conditions that guarantee citizens' access to collective goods and services. The interventions of the Municipality in favour of, or against any social group infringe citizens' freedom and perpetuate a climate of insecurity, violence and urban segregation. All of which are unacceptable for the construction of the future, sustainable city.

5.2 The application of the steps if the multi-dimensional analytic model

The processing of survey data has been approached in a step by step manner: control of the consistency of the data, the definition and transformation of variables, the management of files and obtaining statistical results. The Statistical Package for the Social Sciences (SPSS) enables the execution of all these steps. It should be noticed that those "steps" are not necessarily consecutive. During the research, one had to pass between data and theory, frequently returning to a previous step in order to elucidate a problem. At a given moment,

after having obtained some results, a re-definition of the variables or cases was made – this is a previous stage. In this way, through a constant “toing and froing” among the data, the theoretical concepts, the statistical results and the questions or hypotheses that had been considered in advance, successive approaches have allowed an advance in figuring out the study problem, since in the research the results usually stimulate the exploration new analysis possibilities.

Before defining the techniques for the statistical processing of data, it is necessary to explain the structure of the database used in this research. The structure encompasses two issues: its conceptual structure and the empirical variables of the questionnaire. The first is important in all the phases of the analysis, because the concepts (located in the theoretical field) have been translated to the main variables of the research. The second allows the development of a good structure and accessible database. Large-scale multi-level surveys require a tremendous amount of time to set up, conduct, and analyse. If the different levels of data are identified clearly and they are managed properly through the different stages of analysis the other steps are more easily carried out.

A control analysis of the presence of anomalies and spurious data has been carried out for an integrated interpretation of these databases. It is applied to allow a critical analysis of the information in the functioning of the previously defined theoretical requirements. In order to reduce the danger of handling data arbitrarily, a systematic step-by-step reduction of the data was made. The success of this application was a carefully elaborated validation and consistency proceeding on to the application of the GCCA.

5.2.1 The Database Structure

The databases are hierarchical, case-structured matrices. They contain cases, variables and categories, where each row includes all the data for one entire case (or observation), and each column includes all the data for a particular variable (or question in the survey or census). Each case in a data set contains information about a specific physical or logical entity. All the databases have been translated to the SPSS configuration.

The surveys had two distinct levels of information. The first level showed the characteristics of the household while the second contained the variables related to members of a household. The unit of observation is a household member respondent. Each household member is assigned a unique identifier and this variable is used as the case identifier (ID – key variables). The ‘key variables’ of data management arise commonly in dealing with database programmes, but this is also applicable to survey analysis¹⁵³. Thus, the information about persons could be combined with the information about households. The ‘complexity’ of the work lay in the simultaneous connection between these two units of observation¹⁵⁴.

The samples used are relatively large: In 1998, 2313 households, and, in 1996 some 532 households. This gives some authenticity to the manipulation of data. Care has been taken to ensure the statistical significance of the databases, given that for the application of the GCCA the size of the sample is a key element.

a. Control on the consistency of data

The booklet used in the 1988 survey had five sections and nineteen pages. In the first section there were questions about the socio-demographic characteristics of the population under study (questions 10 to 19). The purpose of the second section was to gather information on the conditions and migratory condition of the population (questions 20 to 55). The questions in section three are about the situation of the people interviewed in terms of the economic structure of the region (questions 56 to 84). Section four covers employment issues (85 to 100). The fifth part included female fertility and infant mortality. It had the same sections as the 1996 (National Survey of Employment) with the exception of the fifth.

With the purpose of carrying out an exhaustive inspection of the consistency of the data and because the number of variables was enormous, the first step was to create a unique ‘book of codes’ for all the databases (Census 1976 and 1992 and Surveys in 1988 and 1996). Special care was taken to maintain the set of ‘original variables’ and then ‘command programmes’ were developed to permit the simultaneous use of the distinct databases, in order to carry out the test of internal

coherence of the data. This would enable preservation of the criteria of consistency of the original data, and, thus, its comparability with all the available databases. Firstly, lists of all variables of the questionnaire have been obtained. Secondly, the marginal frequencies have been obtained and they were scrupulously analysed. Thirdly, the cross tabulations help to examine the coherence between two or more variables. Fourthly, the result of these processes was to find diverse types of inconsistent data, which was corrected only when the source of error was obvious. Otherwise, it was declared as a missing value. This activity was slow and tedious because special care had to be taken in maintaining the original concepts and ensuring the equivalence of the variables. The said variables were included on the final data matrix prior to an analysis of the conceptual criteria. This was the essential clean up phase of the files.

b. Definition and transformation of variables

The creation of new variables was a part of the process of 'analytical re-creation of reality'. The total data is divided into preliminary data sets. The input has been the original variables. The execution of the above task involved two steps: firstly, they took into account the theoretical criteria of the study so as to translate the concepts into variables and indicators of the preliminary sets; and secondly, before definite data sets can be constructed, one has to check the analysis of homogeneity¹⁵⁵ (HOMALS). This is another way of simple examination of hypotheses and helps to avoid incorporating subjective and arbitrary criteria in the construction of the new variables. In fact, its use enabled the elimination of bias in the determination of the structure of the new variables and ensured the development of indicators with statistical significance.

Some creations were straightforward since the new variables were simply the result of re-coding an existing variable; other additional variables followed a more complex procedure. These are then 'translated' into abstract concepts so that they may be placed into sets of operational variables. As a comment on the concept of homogeneity, it should be pointed out that this corresponds to an analytical aspiration, for social reality tends to be rather complex and varied, much more than is assumed to be in the schemes that pretend to capture it. Once the variables were chosen, the processing of data

is somewhat like a process of industrial transformation. The input from reality is transformed into an output including 'added value'. They now say something new, something, which hitherto could not be directly perceived. The purpose was to transform the raw data into a more relevant set of information, not only through the creation of new variables, but also through their combination. An added bonus was that this work revealed hidden aspects. This work is possible only through a systematic to and fro between the theoretical and the variables (step by step). It is here where statistical procedures combine and present data in a relevant and meaningful fashion¹⁵⁶.

Having carried out the phase that cleaned up the databases new variables were created – 'additional variables': On one hand, in relation to key concepts of the research, and on the other hand, in connection with internal homogeneity of the categories. These indicators have been used for elaboration:

- Marginal frequencies of all the variables,
- Cross tabulations,
- Analysis of Homogeneity.

Multiple questions, on account of their characteristics, deserved special attention. It was necessary, first of all, to notice the degree of concentration or dispersion of the answers to analyse whether to re-code them. Secondly, the results obtained allowed making precise decisions regarding the treatment the questions required. The choice was made to re-code those questions whose answers evidenced remarkable concentration and to divide into various categories those that showed dispersion in the combination of answers.

The set of questions that was the object of special attention on had to do with Occupation, Branch of Activity and Occupational Category because exploration would enable reaching a precise knowledge of the ways the population is introduced to the labour market and the effect it has upon the economic structure of the region. This will certainly help towards the correct design of specific programmes, projects and policies for intervention. The tasks carried out were:

— Creating 'Value Labels' of the categories to four numeric codes of occupations on the base of the

Classification of Occupations (COTA 70 – revision 2) for the question on the branch of activity based in turn on the International Uniform Industrial Classification.

- These labels were attached to all the files.
- Once this process was finished, frequencies were taken out of each one of the respective questions in order to determine whether invalid codes have been typed, and, if so, to correct them.
- The next step was to achieve cross tabulation of the variables: Occupation, Branch of Activity and Occupational Category. This provides voluminous printed files and their respective charts.

This procedure was carried out in order to produce a clearly structured data matrix with a minimum loss of relevant information to solve the main problem in this research. During this step, the data per respondent was checked and the coherence of the variables inspected. Such checking was worthwhile, because the perceptions of the survey takers, encoders and processors were not necessarily compatible with the rules. This mis-interpretation was consequently corrected by attempting to match them with the original concepts. When no guiding elements were found, they were declared as missing values.

Finally, the missing values have been carefully explored since, statistically, it is a most heterogeneous group composed of various social sectors. The Variance t-test and Cross-tabulation of Categorical Variables tables have been used to discover if significant differences exist within non-respondents. These calculations help to decide if missing data can cause problems in the analysis. It has been decided to use only the valid cases, because the degree of reliability might put the research in jeopardy. The data are mainly selected at face value.

c. Manipulation of Multi-Level Data (Merging Files)

When the file organisation was correct and as well as the internal consistency of the data, the next step was to merge the files. The “merging” of used files consisted of three different types:

The first one was to add ‘files’ that had the same variables, but referred to different cases (men and women, immigrants and non migrants, amongst others). It was

possible to add two or more files that contain different cases, but had in part, at least, the same variables. Adding files means that all cases previously in separate files will end up in one file, that is, the resulting file will have more cases, but not more variables. This case is usually rather simple: for instance, there may be the same sort of data for gender (male or female), for migratory conditions and one would wish to have them in a single file and selection of a sub-set of valid cases.

The second was to combine files that refer to the same cases, but with different groups of variables (files of demographic variables and of socio-economic status). It is possible to create new variables in combination to match two files that contain the same cases, but have different variables. These matches were possible because a single case from the key, or table file was able to match to any number of cases in the second file.

The third is more complex, because it merges files of two or more hierarchical levels. For example, the files of individual socio-economic characteristics were matched with overall socio-economic household data. The information for each type of analytical unit was separate (a household-file and a household-member-file). They have been used with the commands AGGREGATE and JOIN MATCH of the SPSS, to combine different levels of data between units of observation and the key variables with them. This task was possible due to the existence of the key variable of identification (ID).

Usually, each case in a data set has a unique identification variable (ID), and this identification variable has been used in all of the databases. If the cases in each data set are sorted in ascending order by the ID variable(s) (indeed, there may be more than one ID variable), the data sets have been matched (with “name” used as ID variable).

These steps have permitted a careful test of the data-coherence and a good ‘combination’ of the various levels of information (Hierarchy of Levels). The new database included all the variables needed for the comparison of the hypotheses in this research, when applying the multi-variate analysis of reduction of data. A detail of these steps will be able explained in the next section.

5.2.2 Steps in the Application of the Generalised Canonical Correlation Analysis Model (GCCA-OVERALS) and Data Processing

Given the extreme degree of historical structural heterogeneity in the City of Cochabamba and the alarming levels of inequality and poverty, the model of Generalised Canonical Correlation Analysis (GCCA-OVERALS), will enable the research get one step closer to interpreting the conditioning factors of this process. Likewise, it will provide a series of approaches that contribute to understanding the inter-actions of the social actors in this process. The analytical framework, which has been derived from the concept of social exclusion, emphasises the dynamic processes and the outcome of deprivation suffered by social actors. It is, in fact, a chain of simultaneous problems that configure vicious circles of deficiencies and deprivations.

The perspective of social exclusion and vulnerability represents a dynamic and multi-dimensional model that incorporates various factors. These factors contribute to explaining the incidence of poverty and social inequality. Thus, the analytical framework for social exclusion permits linking together processes that accumulate risks: economic, social, cultural, political and institutional. These have profound consequences for the unequal opportunities making it possible to escape from the vicious circle. All this is compounded by the institutional mechanisms that determine that some social sectors do not have the same opportunities for integration, as do others. In this way they perpetuate the segregation of the benefits of development in favour of the more privileged sectors.

Because of the complexity of the phenomenon, their demonstration it is only possible by means of the simultaneous inter-actions of the five basic variables analysed in Chapter 4, namely: Socio-economic Status (First set: X₁), including the variables, occupation, income and formal education; Socio spatial Status (Second set: X₂), containing the neighbourhood location and migratory conditions; Living Conditions – Deprivation (Third set: X₃), combining the shortages in housing and technical infrastructure; Position in the Life Cycle (Fourth set X₄), this refers to the specific identity of each household, age, gender or the preferences or

trends of certain individuals and social groups, also socio-demographic and cultural indicators; and Vulnerability (Fifth set: X₅), allowing consideration of elements that include a series of insecurities, risks and wishes.

The problems identified have to be demonstrated simultaneously because they not occur in isolation, but rather experience deep inter-actions. These produce a succession of vicious and regressive circles. In order to move on with the explanation it is absolutely necessary to use a multi-dimensional model. This is the aim of the elaboration of the following points.

a. Preliminary selection of variables and indicators

Regarding the selection of the variables: a primary task was to analyse all the variables of the four databases available: the two National Censuses of Population and Housing of 1976 and 1992 and the Surveys for Sampling of 1988 and 1996. It was noticed that the information coming from the censuses, which is very precise, because it is records data about the Bolivian population. However, it was limited for a restricted number of variables that do not contribute to the theoretical re-construction of the problem statement. On the other hand the surveys of 1988 and 1996 that were obtained by sampling, offered a larger number of variables, which corresponded, with the main questions of the research.

For this reason, the organisation of databases in 1988 and 1996¹⁵⁷, has been changed to the same structure and includes: column locations and widths for each variable; definitions of different record types; response codes for each variable; codes used to indicate non-response and missing data; exact questions and skip patterns used in the surveys and other indications of the content of each variable. It was possible to carry out this task with only one 'code-book' in all the databases. This enabled the replication of the same criteria in the various databases, as well as the elimination of unsettling elements by executing the evaluation of the internal consistency of the data. A second task, the chosen variables resulted from translating the abstract aspects of the theory into operational variables. Hence, the only variables that were represented finally were those that matched the object under study. For the final selection the conceptual definition and the coding

criteria was compared. This situation enabled the course of action with the data to be seen:

- Is the data continuous, ordinal, categorical (nominal) or dichotomous?
- What is the relationship between variables?
- Which variables are explanatory and which are response, and are some in both categories?

The codes are only numbers chosen to represent the categories. It is important to be able to distinguish variables, which are ordinal in nature from variables, which are simply categorical. The terms 'categorical' and 'nominal' are used inter-changeably. Only two main types of variables have been chosen: categorical and ordinal variables. Categorical variables classify distinct possibilities among themselves. They keep no order, nor do they permit any mathematical or logical operation on the answers obtained. Ordinal variables refer to categories which have an obvious order, but for no measure of distance between categories. A good example is where a variable concerning a socio-economic level permits a hierarchy of values it is identified as an ordinal variable. When one compares the answers two people give to a variable that uses an ordinal scale, one can say whether the answers are different or the same. In addition, it can be seen whether one is higher or greater. Again, something that was not possible with categorical variables

It is also important to identify the way the 'cases' were distributed among the different values of each variable (categories). The distribution of the individuals or cases amongst all these possibilities emerges as the most important information to be obtained from the survey. Some variables, such as 'gender' or 'kinship' admit only a few alternatives. Others permit a wide range. These are variables such as 'monthly income' or 'age'. For that reason they need re-coding. There are some very powerful statistical procedures, which require interval data for their use. There are also many statistical tests for other procedures, which are only meaningful if the relevant variables are of an interval type.

The result of the preliminary selection provided 38 variables. After a careful test of the compatibility between the two periods analysed it was detected that ten of the selected variables were not compatible between 1988 and 1996. It is important to remember

that the vulnerability variables have been defined in relation to the *'social contacts, social network, the way one provides for one's household; time spent in all kinds of activities; social participation; aspiration and future expectancies; knowledge of societal developments and the use of societal amenities (services), as well as health handicaps'*¹⁵⁸. The dependences, defencelessness, insecurity, uncertainty, exposure to risk and the aspiration the change are the more important aspects, because the vulnerability is a dynamic concept.

Operational Variables: Set 5 – Vulnerability

1. 'Employment type' (p62new) 1 'Permanent Job' 2 'Temporary Job'. (1988 and 1996)
2. 'Employment Contract?' (p63new) 1 'Yes/contract' 2 'No/Contract'. (1988 and 1996)
3. 'Income Type?' (p66new) 1 'Yes/Salary' 2 'No/Salary'. (1988 and 1996)
4. 'Languages (p09rr) 1 'Spanish' 2 "Spanish plus Native". 1988 and 1996
5. 'Number of working hours per week' 1 '<24 h/w' 2 '24-48 h/w' 3 '48 & + h/w'. (Only in 1996)
6. Aspiration: 'Do you want to work more hours a week?' (p78new) 1 'Yes – More hours / week' 2 'No' (Only in 1996)
7. Aspiration: 'Do you want to change your current occupation?' (p78new) 1 'Yes/change' 2 'No/change'. (Only in 1988)
8. Aspiration: If you could choose the opportunity to work, how many hours a day would you like to work? P82 1 the whole day; 2 Half-day; 3 do not want to work (Only in 1988)
9. Aspiration: 'Why you do not work more hours a week?' p48new 1 'No work found' 2 'Lack of financing' 3 'Family reasons and others'. (Only in 1996)
10. 'Did you study in public or private school?' (p17new) 1 'Public' 2 'Private' 3 'Neither'. (Only in 1988)
11. 'For which reason did you not attend school?' (p17new) 1 'Economic' 2 'Family' 3 'Did Attend' (Only in 1996)
12. 'In the event of illness do you go to a public or private establishment?' (p122new) 1 'Public/Health' 2 'Private/Health' 3 'Other/Health'. (Only in 1988)
13. Do you belong to a Union or Worker's Association?' (p65new) 1 'Yes' 2 'No'. (Only in 1988)
14. During the last 12 months did you participate in

some popular participation project? (p65new) 1 'Yes'
2 'No.'. (Only in 1996)

In this research the temporary comparability is important because there have been several changes of economic character in Bolivia since 1985 and all of them have

Table 5.1: Main variables, scaling level and categories

SET	VARIABLE	DESCRIPTION	OF CATEGORIES	OPTIMAL SCALING LEVEL	CATEGORIES
		STRATIFICATION OF SOCIO-ECONOMIC GROUPS			
					1.Manual Worker 2.Informal Sector 3. Non-Manual Worker 4. Director, professionals
1	1	x11	4	Ordinal	1. <1\$ 2. 1-2\$ 3. 2-4\$ 4. 5\$+
1	2	x12	4	Ordinal	1. Wholesale & Financial Services; 2. Transport, Communication & Social Services 3. Retailer, Personal. Services. & Restaurants 4. Primary & Secondary Sector
		PRODUCTIVE STRUCTURE			
1	3	x13	4	Single Nominal	1. < 3 2. 3-8 3. 9-12 4. 13 - +
1	4	x14	4	Ordinal	1. Biggest City 2. Intermediate/City 3. Rural
2	5	x21	3	Single Nominal	1. Good 2. Regular 3. Bad
2	6	x22	3	Single Nominal	1. No Immigrant 2. Immigrant
2	7	x23	2	Single Nominal	1. House or Flat 2. Room & Shack
3	8	x31	2	Ordinal	1. Owner 2. Rent & Borrow
3	9	x32	2	Ordinal	1. High/Density 2. Normal
3	10	x33	2	Ordinal	1. YES 2. NO
3	11	x34	2	Ordinal	1 Yes-Kitchen 2 No-kitchen
3	12	x35	2	Ordinal	1. Good-Walls 2. Regular-Walls 3. Bad-Walls
3	13	x36	3	Ordinal	1. Good-Roofs 2. Regular-Roofs
3	14	x37	2	Ordinal	1. Good-Floor 2. Regular-Floor 3. Bad-Floor
3	15	x38	3	Ordinal	1. Yes-Water 2. No-Water
3	16	x39	2	Ordinal	1. YES-Sewer 2. NO-Sewer
3	17	X310	2	Ordinal	1 Yes-Electricity 2 No-Electricity
3	18	X311	2	Ordinal	1. Single 2. Nuclear 3. Extended & Compound
4	19	x41	3	Single Nominal	1. Divorced/Widow(er) 2. Married 3. Unmarried
4	20	x42	3	Single Nominal	1. 1 - 3 2. 4 - 5 3. 6 - +
4	21	x43	3	Ordinal	1. Less 30 2. 30 - 64 3. 65 - +
4	22	x44	3	Ordinal	1. Male 2. Female
4	23	x45	2	Single Nominal	1. Yes/children 2. No/children
4	24	x46	2	Single Nominal	1. Permanent 2. Temporary
5	25	x51	2	Single Nominal	1. Yes/contract 2. No/Contract
5	26	x52	2	Single Nominal	1. Yes/Salary 2. No/Salary
5	27	x53	2	Single Nominal	1. Spanish 2. Spanish-Native
5	28	X56	2	Single Nominal	

affected to increase the poverty in the country during the nineties. Regrettably, from the fourteen variables in the set, (Vulnerability) only four were directly applicable.

b. The definitive data-sets (variables and indicators) chosen.
The criterion for the final selection of the variables has been whether they correspond to the thematic issues. These were the key parameters for their selection. There

is not only statistical analysis, but also the preliminary analysis of the features of the data set, which cannot be carried out without a model, and the basis of every model is a theory. For each thematic set a number of explanatory variables was chosen that form part of the conceptual reconstruction of the exploration.

After the data was studied more carefully, the decision could be made as to how to compose data sets for each basic variable. The definitive data sets produced a total of 28 variables in 72 analytical categories. These became the input for the GCCA.

There are four variables for Set 1, the Socio-economic Status. There are three in Set 2, the Spatial Status. In Set 3, Living Conditions and Deprivation eleven variables were identified. Set 4, the Position in the Life Cycle uses four variables and, finally, there are four variables in set 5, Vulnerability. The goal is to find a simultaneous relationship among the five sets of variables while reflecting, with a high reliability, the magnitude of the multi-dimensional face of poverty and social exclusion in Cochabamba. For the list of the variables finally chosen, see Table 5.1.

It is important to indicate that a series of operations has been carried out on each selected variable, separate and simultaneous inter-sections, as a function of the theoretical approach. This is another way of saying that the expectations, which dominated the previous step, have been tested. The distribution has been analysed in absolute terms of the numbers (frequencies) or in relative terms (relative frequencies, percentages or proportions). This has led to grouping those categories where the sample was very small, and, therefore, had no statistical significance. It has been checked by the analysis of homogeneity (HOMALS). In the grouped variables it has been observed whether the process of reducing the number of categories was suitable. They had been reduced so as to better visualise the distribution when they had a very large number of possible values. A number of synthetic indicators have applied using central tendency and dispersion. This was highly useful in observing the way data represent what is essential in the distribution.

Each stage of handling data was slow and tedious, they were carried out step by step, in a systematic way in the

creation of variables (garbage in – garbage out). It became completely obvious that an adequate preparation of the inputs would ensure success in applying the GCCA.

c. Statistical procedures of definitive data sets

The statistical procedures are classified into two groups: descriptive and analytical. The first procedure is limited to arranging data in a table or to describing one datum element at a time (a variable at a time) in a simple fashion, or, two or more variables at the same time in the composite form and they do not contribute to finding or to visualising the inter-actions. The second group, the analytical procedures, are those which show to what extent data could be accounted for by a given model, hypothesis or theory.

An important stage is that of evaluating the relationship existing among the variables. There are several ways of measuring this relationship. The most popular one is Pearson's lineal correlation co-efficient. It is usually designated by $P(r)$ in the population and r in the sample. This indicator gives an idea of the way data is arranged and the relations between items. It permits, therefore, diagnosis of the internal association and avoids the incorporation of variables that exhibit a similar explanation of the object of study. However, after observing the way data inter-relates, it becomes necessary to identify a model that reduces the wide range of data available to a more manageable amount, that sheds new lights for interpreting the complex inter-actions that reality displays.

There are also wide the variety of multi-variate models that can be applied to this end. Multiple regressions permits the evaluation between a dependant variable and a set of independent variables, (REGRESSION obtains regressions and linear correlations), CLUSTER groups cases according to their similitude to certain variables, ANOVA, ONEWAY and MANOVA carry out variance analysis and factor analysis or principal component analysis. This latter calculates the values of underlying hypothetical variables, or factors, that explain the correlations among the observable variables. Finally, the Multiple Correspondence Analysis is useful to explore the relationships between set of categorical variables. The mathematical function that represents a given

relationship limits the association between a response variable and a set of explanatory variables. It is obvious that in the field of social research the only thing that counts is the relationship between variables and the framework of a given theoretical body. The model that best approximated to the proof of the answer of the hypothesis under study was identified. After an exhaustive analysis of the models, the Generalised Canonical Correlation Analysis (GCCA) has been selected, because it fits the analytical requirements of exploration and also it is compatible with the need to demonstrate the 'multiple dimensional face of poverty' in Cochabamba.

The purpose of the GCCA method is to determine to what extent the various groups of variables are essentially the same. GCCA is based upon developing linear combinations of the variables of each set such that the sum of the correlations between the sets (i.e. the weighted sums) is maximised. GCCA uses the alternating least squares method to alternate between solving the canonical correlation problem and solving an optimal scaling problem, which takes the measurement qualities of the variables into account. This means that the data are allowed to be categorical¹⁵⁹. The GCCA technique seeks to identify the simultaneous relation of *response variables* as a function of different sets of *explanatory variables*. It is a robust model that combines 'special cases' to the methods of multiple regression and correlation, MANOVA, discriminant analysis and principal components analysis (PCA) that were des-

cribed above. Consequently, GCCA is a useful tool for research since it strengthens the multi-dimensional relationships among several sets of variables. The greatest canonical correlation corresponds to the strongest relationship between *explanatory* and *response variables*; the successive canonical correlations correspond to relationships of decreasing force.

As mentioned above, the GCCA analyses the relationship, not of a isolated variable, but rather from a set of variables (Y_i) with a set of variables (X_i) in a simultaneous fashion. This procedure permits both evaluation of the relationship between sets of variables and investigation of the relationship between several thematic issues. The advantage of the GCCA is that it offers a set of explanatory variables directly analysable after a systematic, step by step process of data reduction. This needs to be stressed since it prevents bias and arbitrary interpretation of the data. Its results appear in a lower number of variables and analytical, explanatory categories that facilitate the understanding of the problem.

d. Application of the GCCA's reduction of data technique

The data for this application comes from two surveys. The first one, '*Migration, Urbanisation and Employment in Cochabamba*' carried out in 1988 before the application of the Structural Adjustment Program, consisted of 124 questions. The survey included 10,250 respondents from 2,313 households. The second, '*National Labour Sample*' carried out in 1996 after its implementation, including the second generation of

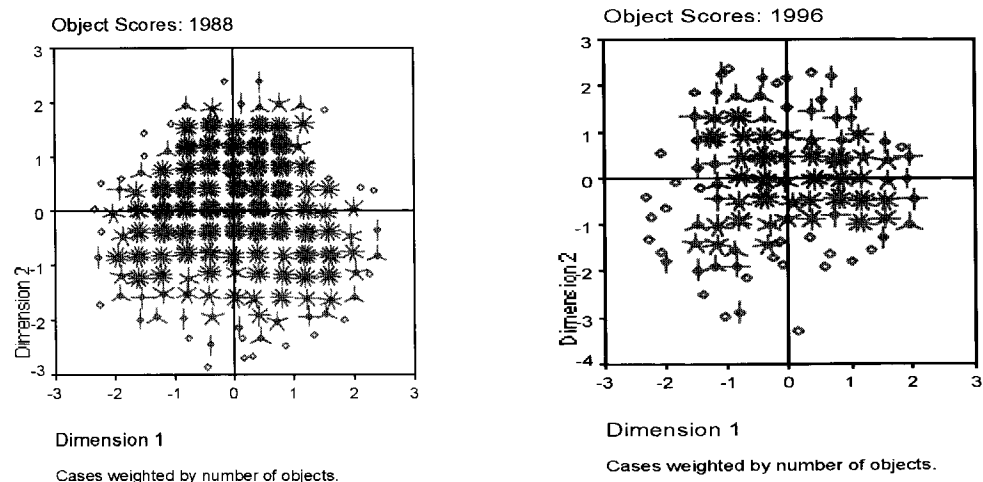


Figure 5.1: Object Scores,
1988 – 1996

Structural Adjustment Reforms, consisting of 80 questions. The survey included 2,374 respondents from 532 households. Both are a representative sample of the Cochabamba population.

The analyses start with 28 variables: twelve single nominal and sixteen ordinal. After applying three-dimensional solutions, as they are difficult to interpret, only two-dimensional solutions were considered. The application of the GCCA was applied to the universal of the households in Cochabamba and reduced the number of variables from 28 to twelve.

The information is not affected by anomalous cases (outliers) that might have altered the final analysis. The graphic chart of the Object Scores (see Figure 5.1) reflects a concentration in the centre of the Cartesian coordinates. This means there are few atypical cases. This, in turn, means that the data is consistent and explained by the cautious preparation of the data, carried out previously by the application of the GCCA model.

In the GCCA analyses, a minimum of two dimensions was needed for a reasonable integration of all selected variables. In 1988, resulted in a fit value of 0.92 in two dimensions. The eigenvalues in this two-dimensional analysis are 0.512 and 0.408. In 1996, a fit value of 0.93 and the eigenvalues are 0.518 and 0.412¹⁶⁰.

The correlations have been evaluated between the selected variables. This has two reasons: the first is that in technical terms, GCCA can handle dependent variables, no statistical independence is necessary. If

there are variables with high correlations within a set, there is redundant information. Thus skipping a variable that is highly correlated with another variable, within the set, leads to the same result. However one does not have to skip highly correlated variables, GCCA still can be applied. Dependence of variables from different sets is preferred, otherwise the sets cannot predict each other.

The second is theoretical in nature. A proper translation of the concepts into variables and indicators must not be repetitive. The results of the correlation matrix are illustrative. There was no correlation in 1988 and only two in 1996 with values close to 0.70, very few higher than 0.40 and the rest with low values. This ensured the incorporation of the variables that had no correlation and the application of the GCCA. They confirm, in addition, the quality of the variables chosen for the analysis. Both the theoretical reduction chosen and the correct translation of the variables prevented these from being repeated.

The generalised canonical correlation analysis led to five new groups of variables resulting from the linear combinations of the input variables. These linear combinations per set maximise the sum of their mutual correlations, representing the whole of the results. The analysis consists of constructing successive groups of variables. These are linear combinations of the original variables so that each successive group represents the best explanation so far. The issue here is to obtain weighted vectors that ensure that correlations are the highest possible. One can identify *r* solutions (dimensions) of artificial variables, called canonical

	1988			1996		
Loss	DIMENSION 1	DIMENSION 2	SUM	DIMENSION 1	DIMENSION 2	SUM
Set 1	0.3646	0.3889	0.7535	0.31358	0.40464	0.71822
Set 2	0.4597	0.9191	1.3788	0.52659	0.89857	1.42515
Set 3	0.2703	0.6503	0.9207	0.23724	0.70759	0.94483
Set 4	0.7559	0.5820	1.3379	0.81717	0.49884	1.31600
Set 5	0.5891	0.4188	1.0079	0.51388	0.43085	0.94473
Mean	0.4879	0.5918	1.0797	0.48169	0.58810	1.06979
MIN LOSS	0.2703	0.3889	0.7535	0.23724	0.40464	0.71822
MAX LOSS	0.7559	0.9191	1.3788	0.81717	0.89857	1.42515
Eigenvalue	0.5121	0.4082		0.518310	0.41190	
Fit			0.9203			0.93021

Table 5.2: Analysis per Dimension and Loss per Set, 1988 – 1996

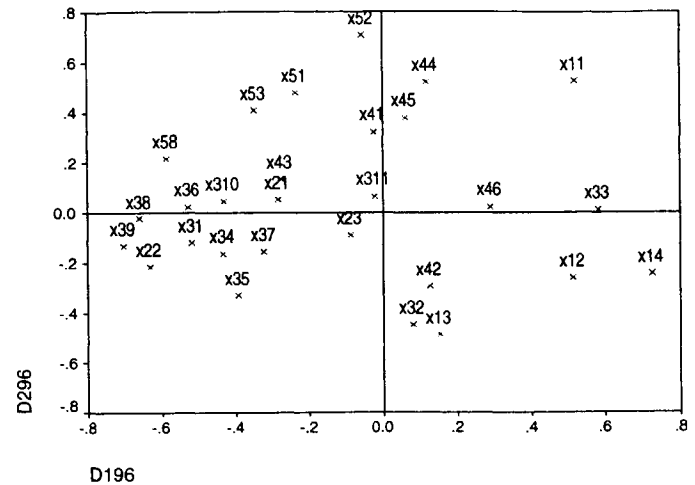
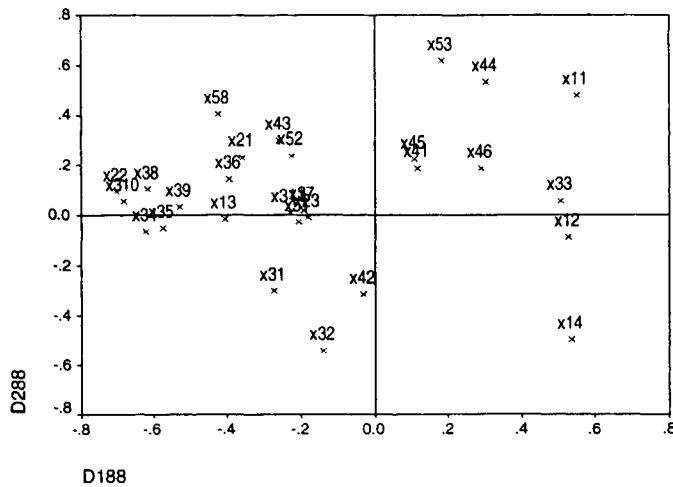


Figure 5.2: Component Loading, 1988 – 1996

variables, by executing the above procedure in a recursive manner. The process is repeated until the proportion of common causes among the variables – endogenous and influential – is sufficiently large.

5.2.3 Interpretation of the GCCA results

The application of the GCCA has permitted establishing simultaneously multiple relations among variables. Therefore, specific variables are not accounted for, but rather the relationship among the variables. The application has enabled the identification of the face of poverty and vulnerability in the City of Cochabamba.

1. Global Vision

An exhaustive analysis of the information has led to the definition of a theoretical model that enables determination of the relations among various factors simultaneously. It is clear that it is difficult to measure and evaluate the impact each factor may have on the final outcome, yet it was essential that an operational definition be formulated and also the impact the various factors may have as a whole was measured. In the process the wide range of variables to a meaningful and explanatory number of variables was reduced. These would then outline the features this phenomenon, which takes on in a context whose historic, structural diverse forces searches for interpretations that lie within a multi-dimensional and systemic perspective.

An overall impression of the analysis is obtained from

the component loading: these are the correlations between object scores and transformed variables as plotted in Figure 5.2 for both analytic periods. The results of the GCCA present two main dimensions: a first dimension shows quite clearly the face of poverty, spatial segregation and deprivation, while a second dimension reveals risk factors in terms of the determinants of the position in the life cycle and the vulnerability of the households. This will be the rationale of the next sections.

2. A vision by sets of individual quantification

Once the data was reduced to obtain more insight in the plot of object scores with respect to the other variables centroids of quantification of all variables onto the space of object scores. (Figure 5.3) were projected. These projections were referred to above as average rank one-quantification, it is clear to see the multi-dimensional face of poverty in Cochabamba, but when the whole model is presented they are difficult to identify. For this reason was considered important to show 'sets by sets' for a clearer explanation and also to show the results by dimensions.

Without wanting to exaggerate the strengths of the procedure in terms of statistical inference, it is worth noting two basic patterns in the structure of the canonical scores found in Set 1. a) the weight corresponding to company executives and office

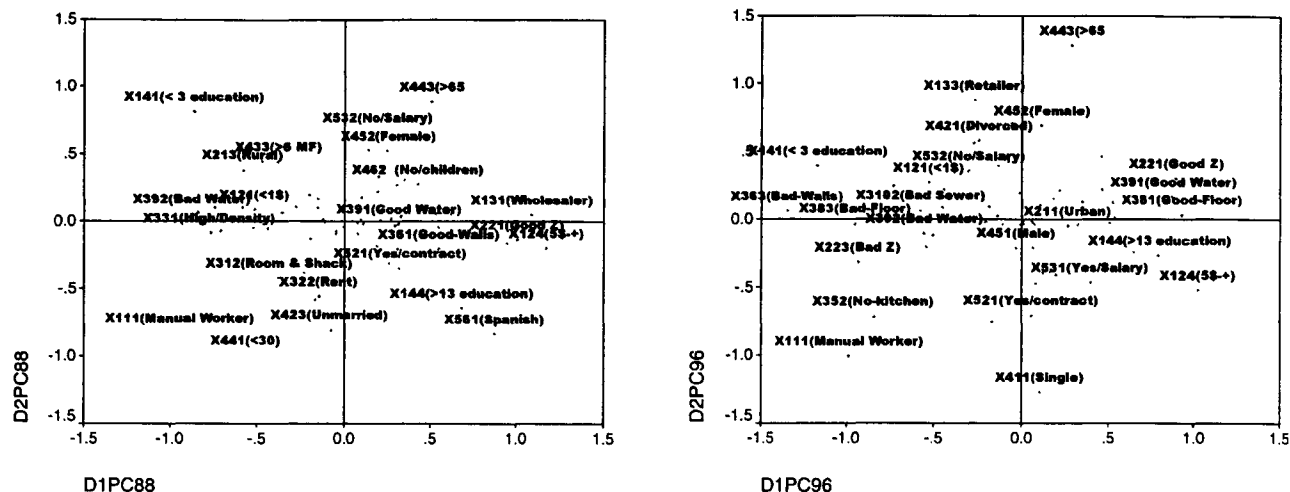


Figure 5.3: Projected Centroids, 1988 – 1996

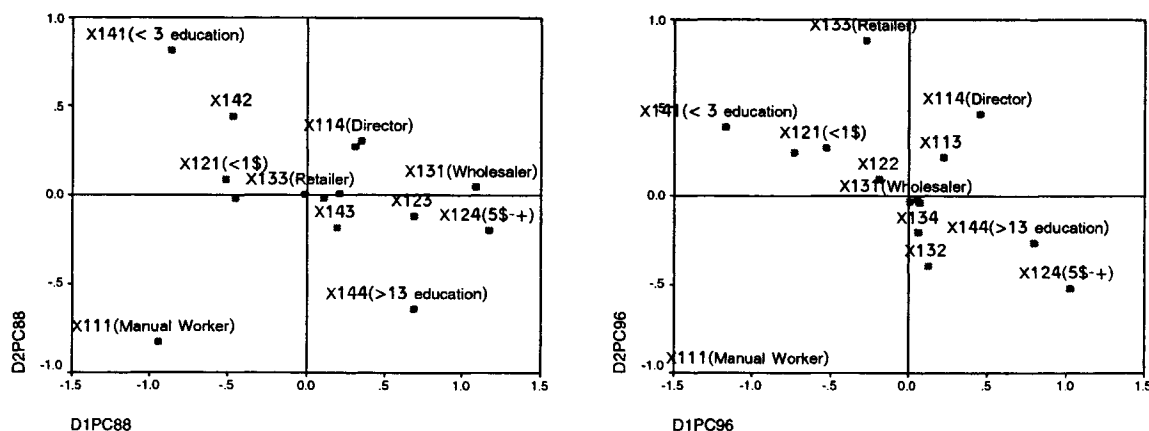
workers are negatively associated to non manual workers. These latter were hardest hit by the application of the Structural Adjustment Program, and b) the stratum of households dedicated to retail trade and personal services tends to have a co-variance with the strata of company executives and office workers. The first pattern would seem to indicate the effects of social segregation in the residential space, while the second would symbolise the dependence of personal service providers in relation to the place of the groups with high-income levels.

Set 2 is a clear manifestation of the significance of the rôle space plays in accounting for inequality and segregation in the use and appropriation of the urban

space. A clear dichotomy exists between the neighbourhoods to the north-east and those to the south of the City.

Set 3 shows the results in the two dimensions. In Dimension 1, there are two polar groups. On the one hand, those whose living conditions are the best and, on the other hand, those households lacking basic sanitation services and proper housing. In dimension 2 one finds quite clearly the risk situation of the households in rented and makeshift accommodation.

Set 4, where the position of the household heads is shown in the life cycle provides some interesting findings. Small families have no children while large



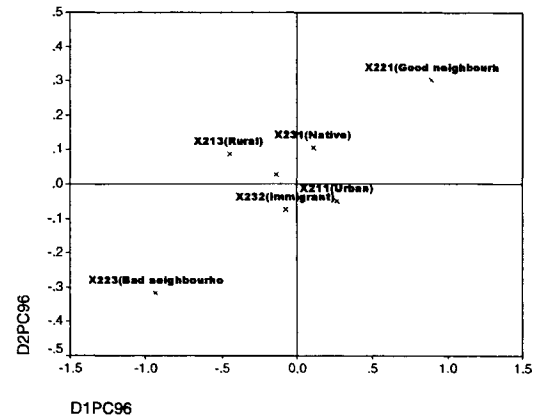
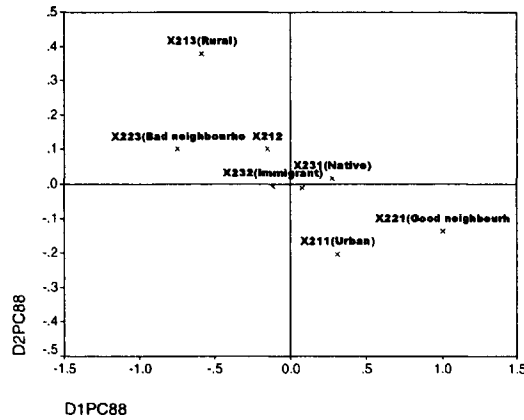
First set: (X1) Socio-economic Status

families are of the extended type and have children under twelve. Dimension 2 in this set neatly reflects the presence of young adults, single people and older women, over 65 who are widows or divorces.

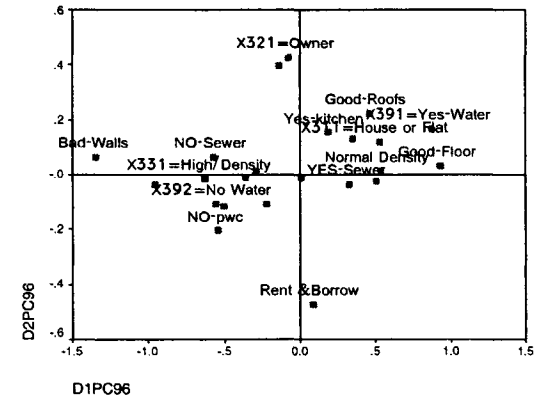
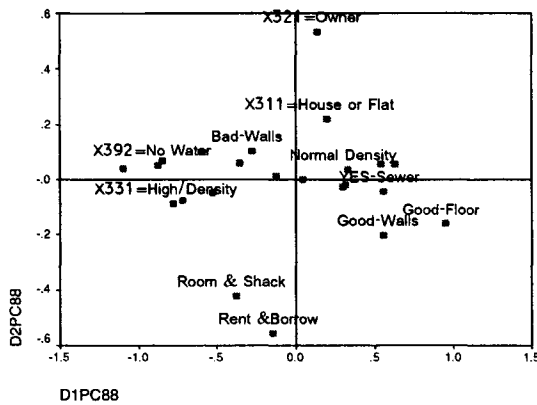
In Set 5, two groups are clearly established. The first is

that of the households at risk on account of using a native language in their daily inter-actions and not having a permanent job. The second is made up of Spanish speakers who hold permanent, paid jobs. One cannot fail to notice that before the execution of the

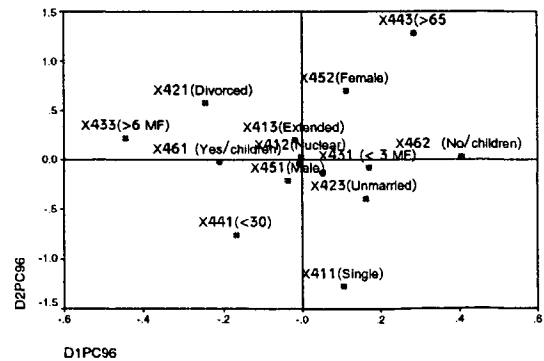
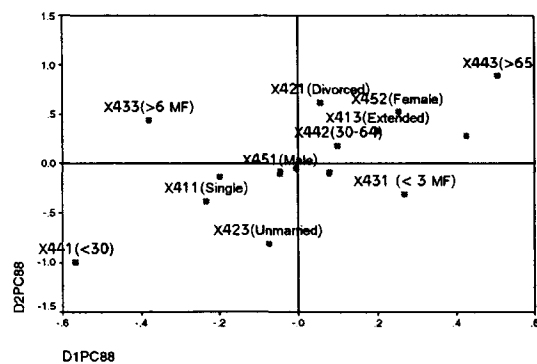
Second set: (X2)
Socio-spatial Status

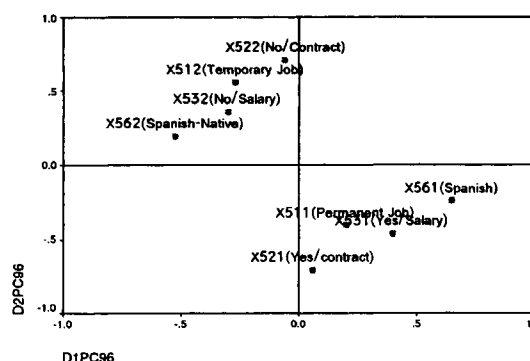
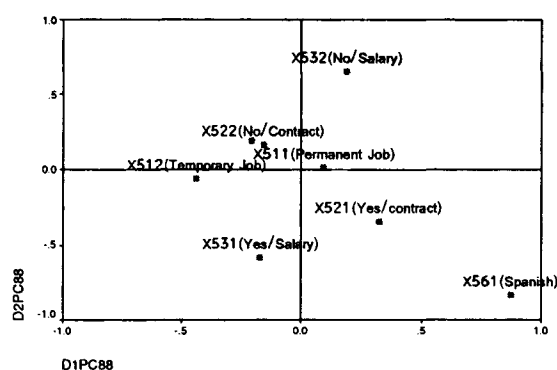


Third set: (X3) Living
Conditions – Deprivation



Fourth set (X4):
Position in the Life Cycle





Fifth set: (X5)
Vulnerability

Structural Adjustment Measures, that is, before 1988, the variables regarding vulnerability were to be found placed in an irregular pattern in the Cartesian quadrants. In 1996 one notices these are antagonistic. This helps to demonstrate the structural reform programmes, which have greatly affected the most depressed groups; hence, one sees the fact that the variables for the vulnerability group are seen as two polarised, dichotomic groups.

This multi-dimensional face of poverty, inequality and vulnerability in Cochabamba, would enable one to imagine hypothetical scenarios for the human groups living in the Cochabamba valley. For this purpose the results from the two dimensions of the GCCA have been linked simultaneously and two additional groups have been identified that be given priority in future interventions of the Municipal Government. It is important to remark the outcome of the second dimension in the GCCA is both a finding and a challenge.

Such information could lead to an integrated program that would go beyond tackling mere deficiencies, according to universal standards for minimal service provision, to making use of indicators associated with men and women, endowed with skills and strengths, but unable to use them through not having all the opportunities implicit in their rights as citizens. Were this to change, it could change their negative situation and make possible mid- and long-term hopes and expectations.

In the following paragraphs the analysis of the two resultant dimensions of the application of the GCCA is presented, in each dimension the explanation of the

results is included for each characteristic of the variables and of the categories used. Finally, the integrated typology of both dimensions is presented.

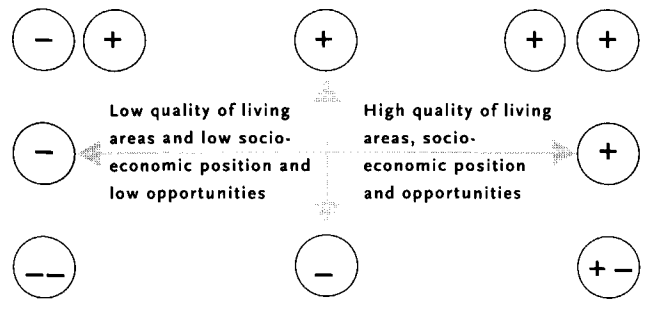
a. First Dimension: Segregation, Deprivation, Opportunities

a.1. Characteristics of the variables:

Poverty and inequality in Cochabamba households can be characterised by four variables. Three belong to Set 1, labelled 'Socio-economic Status: achievements schooling, social stratification and per capita income. The fourth variable belongs to Set 3 'Living conditions and Deprivation'. Together they make up the positive quadrant in this dimension. In 1988 and 1996 one notices the change in the order of importance between the variables 'social stratification' and 'schooling'. The latter occupies the first place in 1996. Access and permanence in the formal educational system seem to be determined by belonging to a given social stratum which, in turn, permits achievements and provides opportunities for quality education, associated with the standards of the modern world and is a means of access to Information and Communication Technology Networks, an access that is limited to a few households. Hence, schooling is definitely another exclusion mechanism.

The determining factors 'deprivation' and 'social exclusion' can be found in the negative quadrant. The variables here are: access to drinking water facilities (Set 3), location of the dwelling (Set 2); type of flooring (Set 3); mother tongue (Set 5); the material used for building the walls (Set 3); and the type of housing. Note that while in 1988 the variables 'availability of toilet

Dimension 1 differentiates the household between:



facilities', 'access to the public sewer system' and 'availability of a kitchen' were relevant, the first place in statistical terms is 'access to drinking water services' in 1996. It is obvious that the lack of a network of piped drinking water is detrimental to the health status of the household and that this depends, in turn, upon a permanent supply of water.

GCCA 1988 – 1996 First Dimension:

The first dimension is mainly defined by variables:

In fact it can be shown that most variables belong to Set 3: 'Living Conditions and Deprivation'. Also important is the 'location of the dwelling' variable that is part of Set 2: 'Socio-spatial Status' since it refers precisely to the subject of segregation and social exclusion. Finally, it is important to stress the presence in this group of the variable 'mother tongue' that is included in Set 5: 'Vulnerability' because 'mother tongue' is yet another social exclusion factor.

a.2. Categories for Analysis

With regard to the categories for analysis in the first dimension of the GCCA, it is demonstrated that the low levels of quality of life, limited opportunities and social exclusion can be found in those households where the head of the family works as hired labour, has low schooling levels (did not finish elementary school), low income levels (less than a dollar a day) and lives in slums displaying serious construction problems, particularly in walls and floors. The dwellings in the marginal areas to the north and south west of the city are not connected to water mains, lack sewers and do

VARIABLE NAME	DESCRIPTION	D1	SET	CODE
1988				
ZONARP	Neighbourhood Location	-0,7019	2	X22
SEWER	Public sewer system	-0,6814	3	X310
SHPR	Availability of private bathroom	-0,6186	3	X34
Vo5RR	Solid materials used to construct Floors	-0,6131	3	X38
V12	Readiness of room to cook	-0,5725	3	X35
Vo6Vo7R	Drinking Water	-0,5284	3	X39
HACINAR	Housing Crowding (persons/room)	0,5079	3	X33
CAPITAVA	Income per capita in American dollars per day	0,5264	1	X12
P14NEW	Formal Education Level (In years)	0,5342	1	X14
ESOVAL	Stratification of the socio-economic groups	0,5498	1	X11
1996				
Vo6Vo7R	Drinking Water	-0,7006	3	X39
Vo5RR	Solid materials used to construct Floors	-0,6571	3	X38
ZONARP	Neighbourhood Location	-0,6302	2	X22
P09RR	Language	-0,5840	5	X58=56
Vo3RR	Solid materials used to construct walls	-0,5273	3	X36
Vo1RR	Housing types	-0,5160	3	X31
CAPITAVA	Income per capita in American dollars day	0,5131	1	X12
ESOVAL	Stratification of the socio-economic groups	0,5179	1	X11
HACINAR	Housing Crowding (persons/room)	0,5802	3	X33
P14NEW	Formal Education Level (In years)	0,7255	1	X14

not have specific rooms for cooking or personal hygiene. These people have, typically, migrated from the countryside, are bi-lingual – they use their mother tongue with family members and Spanish at the work place. In addition, they live in confined spaces where they co-inhabit with a high number of people – an average of over six people per household and, therefore, overcrowded.

On the other hand, the dwellings which belong to those in the higher levels in the social hierarchy – company executives and professionals – i.e. those who have both better opportunities and also a superior quality of life – exhibit the following indicators: per capita income of over \$5 a day; their houses are well-built, using good materials, they are to be found in the north-east of the city, there is good availability of basic services (drinking water and sewers), high levels of schooling (over 13 years) and they are mostly Spanish speakers whose houses or flats are comfortable and have rooms for specific functions: kitchen, bathroom, bedroom. Their income is secure since they are the decision-makers. In short, it is a social group whose common denominator is a higher and stable income that enjoys a kind of 'halo of respectability' on account of their social status. It is because of their privileged position that they have the highest prerogatives in terms of access and use of all the benefits resulting from living in an organised society, mainly because they can easily take advantage of the health and education infrastructure, among other things. Given these 'comparative advantages' it is this social stratum that enjoys the best material living conditions available in the city of Cochabamba.

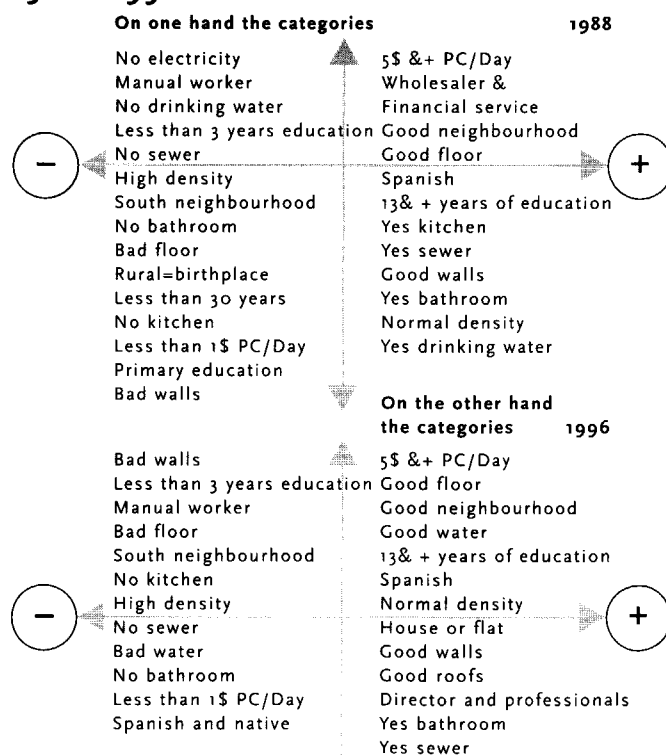
One can sum up by saying that the first dimension of the GCCA co-operates in a robust manner to synthesise the hell in which the lives of those most affected by poverty, deprivation and inequality unfolds. The heads of family, in the manual labour force, play an important part in the social process of production, yet they do so in very poor working and living conditions, mainly because of the low salaries and sub-standard work facilities. Industrialisation is weak and limited and scarce in terms of industrial plants. In some cases, there co-exist industrial undertakings run along capitalist principles next to family, cottage industries. Thus, while the first

group are partly capital intensive, the second relies heavily on manual work.

Another element that affects most the depressed groups is the drinking water shortage. This is the most dramatic issue in Cochabamba. It is obvious that access to drinking water cannot be seen as merely a need that requires a technical solution, but rather an issue that is also political and social given its close links to health, housing, education, welfare and quality of life of the population as a whole.

Only half of the homes in Cochabamba are connected to the water network. This means that the other homes must find alternative ways to 'solve' the water problem: unplanned water-well digging, delivery by tanker trucks and makeshift storage. In fact while these alternative solutions represent between 10 to 15% of the family income, for those connected to the mains and who receive an excellent service, the expense does not amount to 1% of their income.

Dimension 1 location/ position=bad-good 1988 - 1996



Thus, the issue of having access to 'drinking water' sums up in a dramatic way the inequality and social exclusion one finds in Cochabamba (see section 4.3.7.1). It is a cause for alarm to see that those with the lowest resources must pay high sums relative to their meagre family income for getting bad quality drinking water. This leads in turn to a chain of dis-satisfactions; the most worrisome of which is the high incidence of child morbidity and mortality in the neighbourhoods not connected to municipal water mains.

Although the issue of water availability goes back a long way, it is only in April 2000 that the 'Water War' burst out. This citizen rebellion showed how tired people are with the deceit and corruption prevalent in the process of structural reforms in general and, specifically, in the concession of the drinking water utility to *Aguas del Tunari* a trans-national corporation, made up of *Bechtel*, *Abengoa* and other companies. Unfortunately the contract was riddled with errors and stipulated an increase in the cost of water right from the beginning. And, this is what, in fact, happened! What is unacceptable is that such an increase took place even before a penny was invested either on improving the quality of the service or on extending it to poor districts.

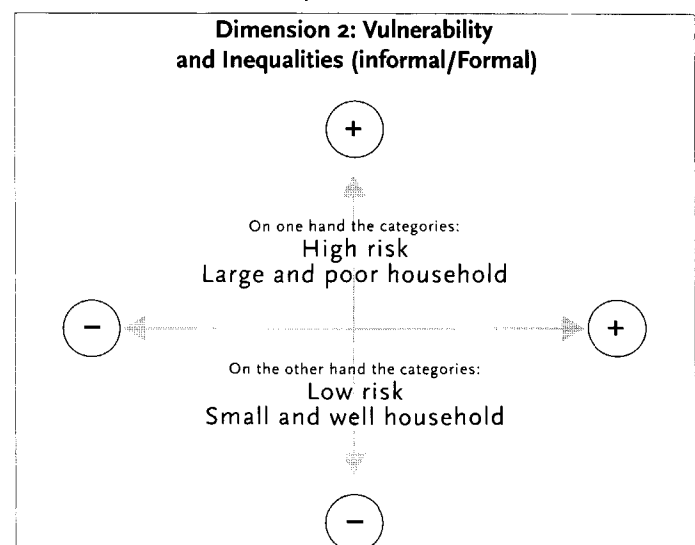
The 'Water War' forced the National Government to break the contract with *Aguas del Tunari* less than a year after the concession was made. What brought everyone together was a rejection of the excessive increase in the water costs. The movement linked City and country, slum and middle class city residents, right and left wingers, water speculators, etc. who made explicit their dis-satisfaction with both the local and national Government. As a result of the 'April Victory', the leaders of the *Coordinadora* took on executive positions in the municipal drinking water facility, for it was thought their administration would solve the crisis. Unfortunately this has not happened. The water deficit is worsening; the poor are still paying too much for a bad quality service. Consequently, it is still the groups with the larger economic power that have gained from the conflict, the people who still make use of a cheap service, subsidised by the poorer sectors of the community. This is one of the most dramatic proofs of social inequality and injustice in the City of Cochabamba.

b. Second Dimension: Vulnerability

This second dimension is dominated by the variables 'Position in the Life Cycle' and 'Vulnerability', where risk factors have become significant. This helps to transcend the merely descriptive aspects of analysis and interpretation of poverty as well as to identify elements of an explanatory nature that lead to imagining situations of a multi-dimensional nature that focus on the explanation for poverty. The Programme of Structural Adjustment is synthesised in 'vulnerability'. This can be demonstrated when one observes that in 1998 (close to the introduction of the adjustment measures), the variables most significant as explanatory were 'the type of income' and 'age' whereas by 1996 (when even the second generation programs were implemented) the data available reflect a worsening of insecurity and defencelessness. It is precisely variables related to labour insecurity, social stratification, age, productive baseline and house ownership that are statistically most significant. It is evident that vulnerability is a phenomenon that affects various social sectors and also has very dangerous implications for the future.

b.1 Analysis of the Variables

On one hand, they highlight two variables with a positive association: The first is 'Branch of Economic Activity', this variable describes the productive structure and it defines the economic, juridical activities – political and ideological, that conform the social processes of production. The justification for its presence in the second dimension is because it provides information on the



economic baseline and on the way the various social groups are organised in the productive structure, their relation to the means of production, the rôle they play in the organisation of labour and the axiological contents they have internalised. Furthermore, a weak economic baseline is not likely to bring about changes in the structure of employment, nor in the distribution of income. The second variable, 'Ownership: Types of the Housing', is an indicator of security in terms of use, that is, the legal structure that gives house holders a minimum of security regarding the availability of their dwelling and their permanent and indefinite use. This is in contrast with the situations of risk that face tenants whose rent contracts must be renewed periodically and are thus subject to changes in the rent they pay and eviction from the house at the termination of a contract. Thus, while the dwelling may be physically suitable, the use may be precarious and insecure.

On the other hand, in the negative association, three relative variables appear to the vulnerability to the work: These are *Contract of Employment*; *Type of Employment* and *Type of Income*. Prior to the structural adjustment program (in 1988), these variables were not statistically significant except for 'type of income'. The first two became significant in 1996. Employment is undoubtedly the most important risk factor. The adjustment measures meant a blow to workers that translated into more job insecurity and uncertainty. This, added to the new forms of production that involve a low demand for labour and the incapacity to generate new jobs, mean people become unemployed and/or are employed in low

productivity sectors characterised by instability resulting from more flexible policies. The overall situation is even worse when one takes into account age and gender risk factors and being part of a given social stratum.

Levels of vulnerability have risen in Cochabamba because this is a dynamic process of private and public interactions that trigger and maintain the exclusion of a high number of households. In addition, as a result of globalisation, market laws impose a certain understanding of reality, with individuals who no longer fit in and people who have been deprived of the rights they have as citizens. But, if one approaches the issue from the angle of vulnerability, one can include in the analysis components such as 'wishes' and the transforming capacity of individuals, for all human beings have the skills and strengths and strong links of social solidarity. It is here where there could be measures that permit people to recover or gain access to their rights as citizens'. Such measures could become elements which allow for a recovery of hope and, hence, for a more sustainable future.

b.2 Analysis of Categories

The lowest levels of vulnerability are associated with households headed by men who work in the areas of information and communication technologies, are young adults, have a university education and have levels of income greater than \$5 a day for each member of the household.

One needs to point out the dynamism of the communication sector since 1998. This boom results from the

VARIABLE NAME	DESCRIPTION	D2	SET	CODE
1988				
P66NEW	Type of income?	0,61886	5	x53
EDADR	Age Composition	0,53191	4	x44
ESOVAL	Stratification of the socio-economic groups	0,48159	1	x11
P14NEW	Formal Education Level (In years)	-0,50097	1	x14
V14RR	Ownership types	-0,54378	3	x32
1996				
P63NEW	Contract of employment?	0,70776	5	x52
ESOVAL	Stratification of the socio-economic groups	0,52759	1	x11
EDADR	Age Composition	0,52408	4	x44
P62NEW	Employment type	0,47735	5	x51
RAMAVALU	Productive Structure	-0,48684	1	x13

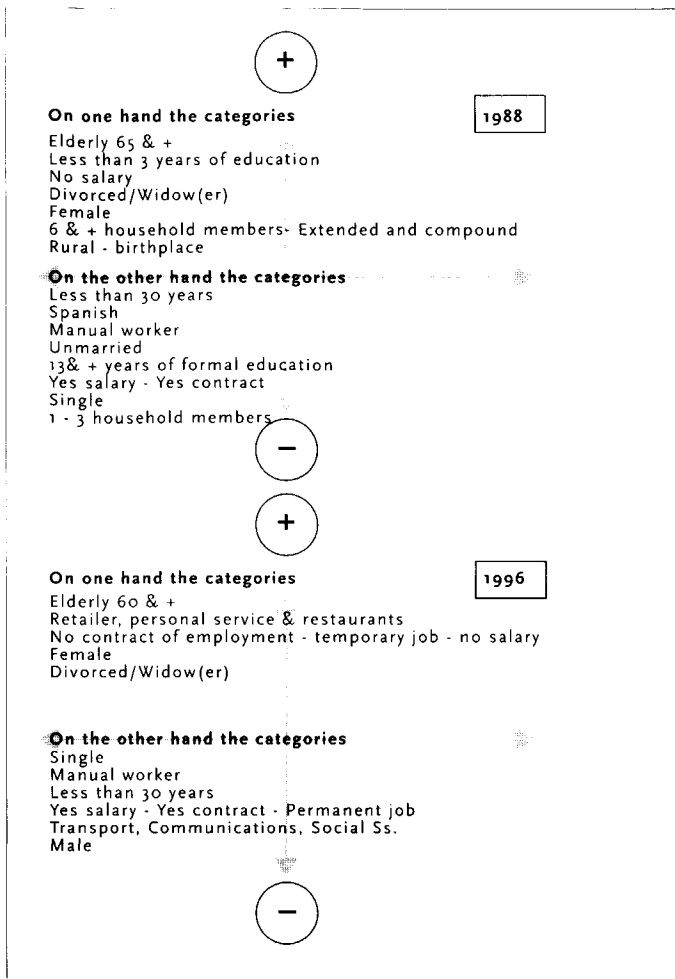
GCCA 1988 – 1996:

Correlation 2

Name: Vulnerability / No

Vulnerability (high – low)

The second dimension is mainly defined by variables.



growth in local, national and international communications due to lower telephone call rates. This, in turn, has led to a proliferation of services linked to communications such as Internet. Thus, one can find Internet cafes all over the city. Young professionals in the areas of computer science and ICT mostly manage these facilities. It is an example where access to scientific and technological infrastructure and a high level of education combine to raise their competitiveness

In contrast to this, households that exhibit high-risk levels (of vulnerability) are households headed by older women. Their members work in the retail trade – usually in street markets – or hold temporary employment (insecure and precarious) without a job contract or are self-employed, have low schooling levels and either divorcees or widow/ers.

The retail trades have shown more interesting characteristics in Cochabamba. It is the sector of the economy

that employs mainly female labour. Over 94% of retail trade follow the structure of a family organisation. A significant part of retail trade happens in the open markets in La Cancha and La Pampa and along sidewalks. More than half of what is sold is foodstuffs and the income earned is negligible. It is akin to “the last link in the chain of social exploitation.”

3. Typologies derived from GCCA

Alarming levels of poverty, deprivation, social exclusion, vulnerability and housing segregation are evident in the process appropriation and use of the urban space in the City of Cochabamba. The analytical categories establish degrees of correspondence among a wide variety of dimensions. One key element is the type of socio-occupational and socio-spatial group to which the household belongs. These define the position in the cycle of life and vulnerability. This fact evidences the existence of a vicious and dangerous circle.

The scores per dimension resulting from the application of the GCCA have been used to build a new variable that enables to synthesise the typologies of the application. The household groups in this new variable provide a profile that could be used in the definition of urban planning policies.

This procedure identified four typologies. These have been named according to the result of the GCCA, as follows. Households that suffer simultaneously high risk deprivation and vulnerability; households at inertial risk derived from the lacks in their living conditions; households with good living conditions, but with an indicator of risk or vulnerability and households with good living conditions and no risks. The data for the above is shown in Table 5.3.

When classifying households according to the typologies, it is noticed that 70% of households have deficiencies. (See Table 5.3). A similar magnitude came from other methodologies including the analyses of poverty and Human Development Index (see Tables 5.4, 5.5, 5.6 and 5.7, respectively). GCCA shows a similar distribution, but this tool also identifies the variables and the categories that account for these deficiencies. In other words, it is not just a diagnostic tool; it also shows the pathology in a clear and evident manner.

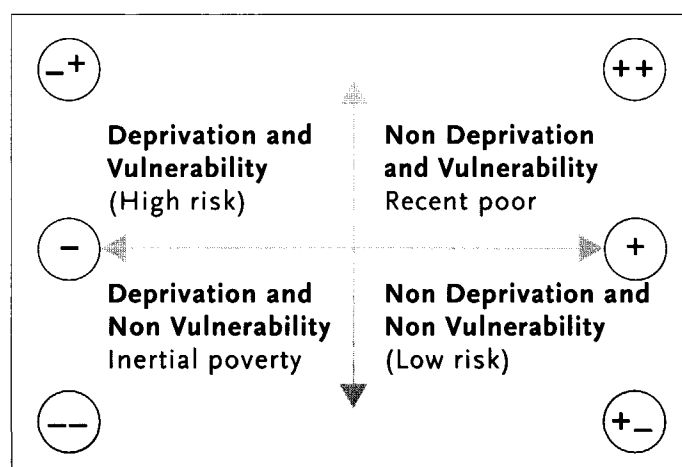
GCCA – TYPOLOGY

	1988		1996	
	FREQUENCY	PERCENT	FREQUENCY	PERCENT
No Deprivation and No Vulnerable (ND&NV)	19477	26.7	26861	23.6
No Deprivation and Vulnerable (ND&V)	17118	23.5	24271	21.3
Deprivation and no vulnerable (D&NV)	17316	23.8	28102	24.6
Deprivation and vulnerable (D&V) (High Risk)	18960	26.0	34821	30.5
Total	72871	100.0	114055	100.0

Source: Elaborated on own account from the re-processed database of the National Census of the Population and Housing 1976, La Paz, Bolivia.. survey

'Migration, Urbanisation and Employment in Cochabamba, (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996

used the survey 'National Labour Sample', INE, La Paz, Bolivia



The Multi-dimensional Face of the Poverty, Vulnerability, Deprivation and Social Inequality in Cochabamba

There can be no doubt about the instability of the families in Cochabamba. The GCCA, the composite poverty indicator and the HDI all co-incide to show that approximately three out of every four households face difficulties be it in the material or in the monetary order or in both. However, the only tool that shows the issue of risk is the first one.

In Cochabamba, the percentage of households in a situation of 'high risk' is 30%. They are households caught in a vicious circle of deprivation and risks. A second group making up 25% of the households is in a situation of 'inertial risk'. A third group also making up 21% of the households while enjoying suitable living conditions is in a situation of 'risk'. The latter is due to the insecure and unstable type of jobs they hold in the Informal Urban Sector. One of the factors for greater vulnerability is the age and gender of the Household Head. The following sections provide more information on this.

1. Households in a situation of Deprivation and Vulnerability (high risk)

The face of the poverty, inequality and social exclusion is reflected in this typology. They are households with a high risk and insecurity in diverse aspects of its life. The most notable are the poor quality of housing, the lack of even basic services, low schooling levels and low per capita income. A good many are made up of immigrants from rural areas whose language is Quechua or Aymara – the native languages. They scrape a living peddling in the streets and hence have no stable or permanent income. Another characteristic is broken families, due to divorce or death of the spouse. And, since belonging to these types of households increases the likelihood of forming new households with the same or even worse characteristics, it is imperative that policies are designed that reduce the suffering of the poor.

The percentage of households affected simultaneously by deprivation and vulnerability rose from 26% to 30% between 1988 and 1996. The households have experienced dis-satisfaction in economic, social, spatial or permanent risk terms. Another characteristic is the average family income and the per capita income: these are the lowest in the city. In fact, they are four times below the level of the households at the other extreme of the scale and half the city average.

High-risk issues affect broken down families due to divorce or death of a spouse in a special way since they tend to lead to rather large extended and composite households. The more complex family relationships may also be another obstacle to change.

Households headed by a woman are more prone to vulnerability. This was more evident in 1996. One tends

Table 5.3: Distribution of Households by Typologies derived from Generalised Canonical Correlation Analysis (GCCA) 1988 – 1996

to find that the heads in these households are older and have little schooling. In fact, women tend to lag behind regarding schooling. This is strongly associated to the socio-economic profile where women are excluded from access to formal education. Conversely, the men that support their household tend to be younger and better educated.

It could be stated, up to certain point, that risk and deprivation are associated with 'casual' jobs and, in general terms, with an under-employment of the labour force. In a sense, these people do not make a living in the activities they generate themselves, but rather find a 'shelter'.

Since all the indicators used give negative readings, it is safe to conclude that the households affected have a long history of hardship in various dimensions. A situation arising most likely from unstable, badly paid, jobs. This, in turn, makes it impossible to satisfy basic needs. But, another cause is the neglect on the part of the authorities to meet the multiple demands, which this sector has. One also finds households headed by fully employed heads and yet at high risk. This would seem to indicate that the issue of poverty in Cochabamba is a structural phenomenon generated by the way the economy moves rather than by State policies or measures that do no more than worsen the panorama of privations.

The GCCA identified interactions between the social patterns that organise the urban space and inequalities in housing, basic sanitation, provision of basic services and availability of a toilet as variables that intervene in the process causing the high levels of poverty and vulnerability, hence, the negative correlation between the variable x11 (socio economic status) and x39 (availability of water) for the year 1996. This reflects the negative association between belonging to one of the strata of the hierarchy and lacking a supply of good-quality water. This would show, in a synthetic way, that the better living conditions correspond to better socio-economic situations and conversely.

2. Households in situations of Deprivation and No Vulnerability

The households in this typology amount to a quarter of

the total, both in 1988 and in 1996. This category helps one to understand the characteristics of the worsening in the living conditions of the population, since even households that have secured a relatively safe job position are at risk. The characteristics derived from the GCCA show that the household heads are manual workers, immigrant, male and young adults who fail to meet all their basic needs and whose housing is not up to standard. Their monthly per capita income is somewhat higher, but not high enough to be over the City average. This implies a certain precariousness. The households have fewer members and more of them are wage earners, yet their income is three times lower than that of the non-poor.

3. Households in a situation of No Deprivation and Vulnerability

This typology represents middle class or intellectual bureaucracy. It amounted to 24% in 1988 and a little over 21% of all households in 1996. These households faced no hardships in terms of quality of life indicators (housing, basic sanitation, school attendance, income, etc), but stated they were insecure in terms of job security. Many of them could not even take up another job on account of their age. There is also an important number of female heads here who could not find another job either.

It is here where one sees most clearly the impact of the programmes of structural adjustment. Here one sees households suffering from uncertainty and risks. They are what some academics have called 'the new poor'. They are sectors from the old middle classes that are experiencing a slow process of impoverishment. The processes of adjustment of the national economies and the subsequent integration of the economy to the global market have had a significant impact on the collapse of the middle classes. Thus, the State has had a negative impact on the labour market by reducing its rôle as an employer. And it is the middle classes that have been hit the hardest.

Until the Measures of Structural Adjustment, the State operated those sectors of the economy it considered to be of strategic importance. These were public services, main natural resources and basic industry. What has

happened to the erstwhile state employees is not clear. Some used the severance pay to set up their own business. Others were condemned to downward mobility; especially those who had no profession or skill¹⁶¹.

The average income of these households is somewhat higher than the mean for the city. The average per capita income is twice that of the depressed households. Their problem lies in uncertainty and vulnerability. Their determining factors can be found in the strong economic imbalances that have affected Bolivia for most of the eighties and nineties.

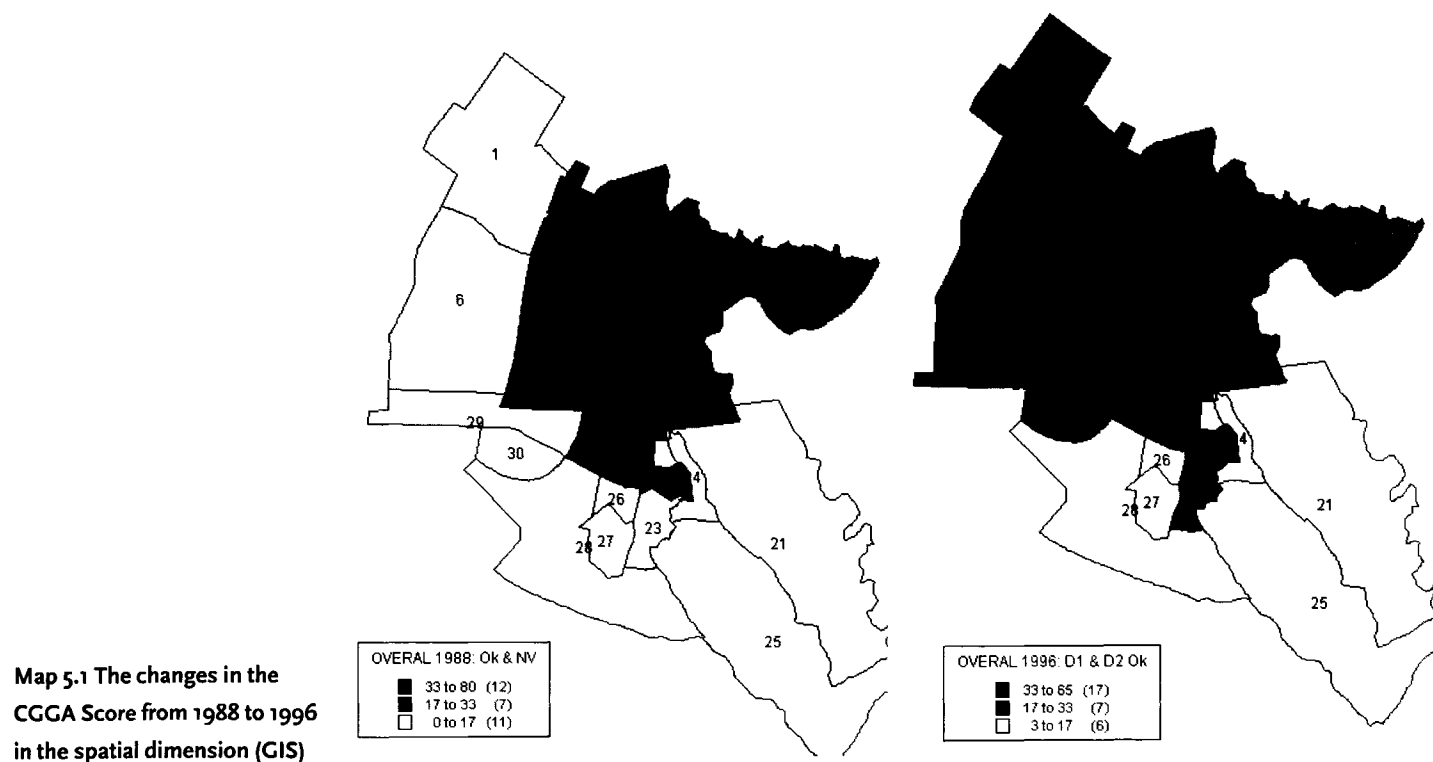
4. Households with no deprivation and no vulnerability

The face of wealth, equity and low risks represented 27.5% in 1988 and about 24% in 1996. Their income enables these households to meet their all necessities. Regarding the work profile, an active member is certainly young and far more educated than the household heads of families with high risk. The proportion of immigrants in this group is low. The disparities are more remarkable and they are in the form of their job. About 60% of the household heads are some top position in the

companies, executives or have positions in the hierarchy in education, services or trade. Many work as independent professionals.

Map 5.1 shows the regions for the City of Cochabamba. This has been drawn on the basis of the GCCA results. It also includes the zones the City is divided into for census purposes. The segregation of the residential urban space, valid until 1988, has experienced certain changes. One can notice, that by 1996, the dichotomy: north-east and old city versus south has become more clearly marked.

The gap between the two is getting larger and both districts are still growing. This is no mere random product. Many factors have played their part; among them are the State and the Municipal Government. The latter, being directly responsible, has concentrated its efforts in the central and north east of the city. Hence only zones 29 and 30 are the zones that change their position between 1988 and 1996.



5.3 Poverty and Human Development

In order to test the GCCA results, the two main tools used to measure poverty were applied: the Analysis of Unsatisfied Basic Needs and Poverty Lines. The first takes as its parameters housing, infrastructure, access to education and health as well as the capacity of a household to generate income. It reflects conditions that are likely to last. The second compares the current household income against the estimated subsistence minimum. This refers then to the current situation.

Also applied was the HDI because it combines in a simple way a set of variables and indicators referred to economy, health and education. It indicates results. It has been seen that it is viable in its use to compare and evaluate processes in time and space. Double-checking the GCCA's results with these other tools strengthens the findings. This is quite significant since GCCA not only indicates the magnitude of the problem, but also establishes limits for the analytic categories. This is a key element for planning since this instrument could become the framework for the design of long-term programmes and projects. In addition, it can be applied to monitor achievements over time.

5.3.1 Incidence of Poverty in Households

About sixty per cent of the households surveyed in 1988 and 1996 had an income below the poverty line. (see

Table 5.4). This means that a vast number of them make less than a dollar a day, and, that even if every cent earned is spent on food, this will still not meet basic nutritional requirements. In the High-Risk group as identified by GCCA, over 80% are in this situation.

The analysis of poverty lines co-incides with the results obtained through GCCA, but does not elaborate on the factors that lead to social exclusion and vulnerability.

With regard to the methodology for unsatisfied basic needs, one notices an equal distribution in 1988. In 1996, on the other hand, about 75% of the households stated they had one unsatisfied need. Among the households classified as 'high risk' by GCCA, over 80% lack at least one basic need. In general, the households that have managed to meet their basic needs are more than 50%. This is evident since the housing and basic service indicators have also been included in the multi-variate model.

The composite poverty indicator combines simultaneously dis-satisfaction of basic needs indicators with income levels. It has shown that poverty, in its various dimensions, affected a vast number of households towards the end of 1996 (See Table 5.6).

GCCA has shown conclusively that the most serious overall issue facing households is the absence of basic sanitation. It is the most significant problem in Cochabamba.

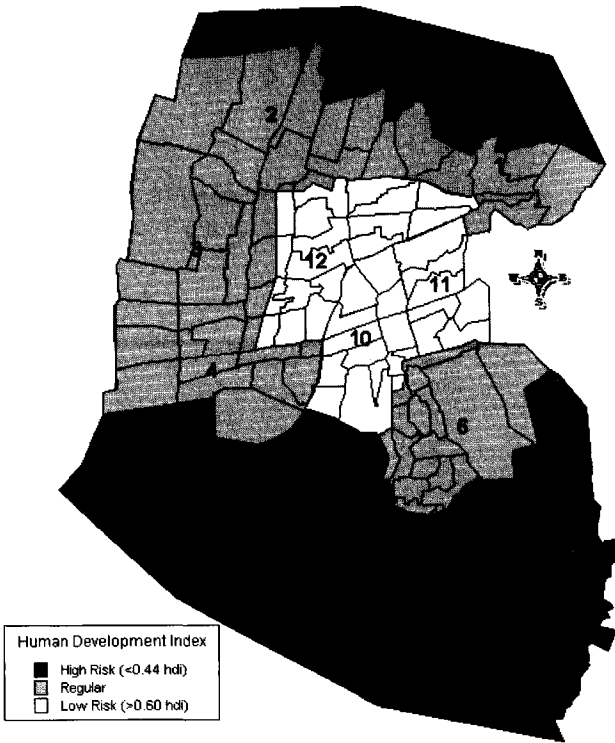
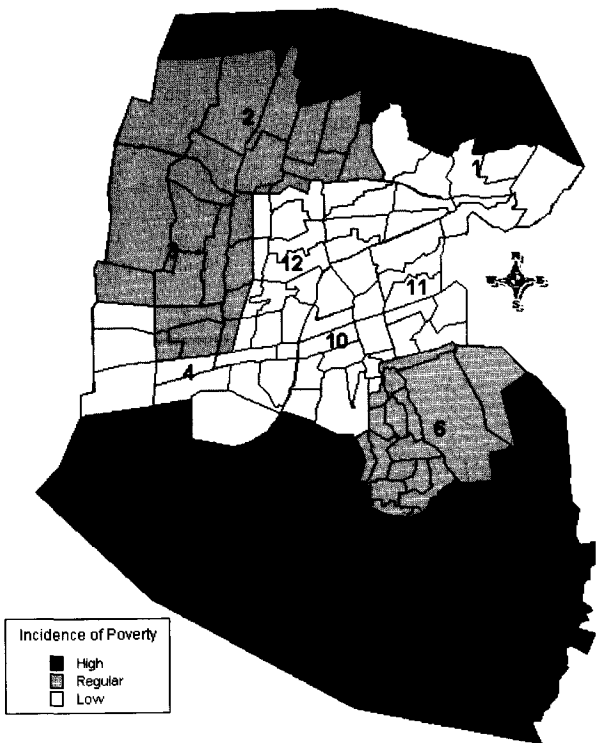
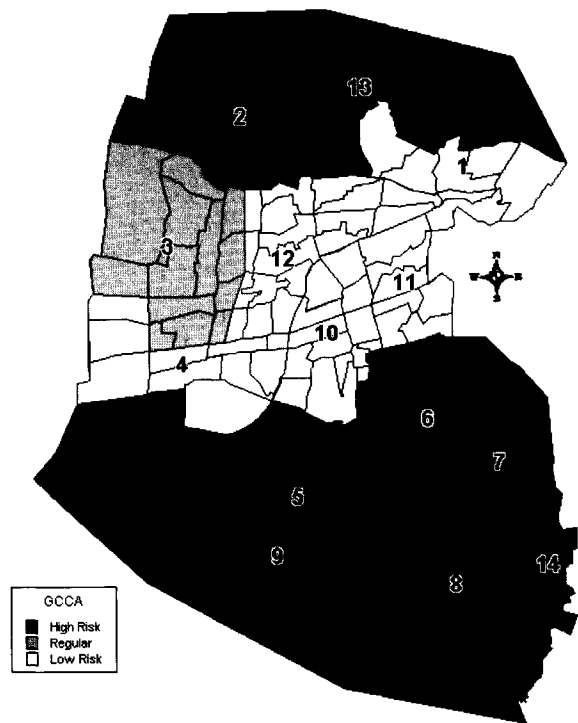
Table 5.4: Distribution of heads of Households by Poverty Condition according to Typologies derived from GCCA, 1988 – 1996

	POOR	NO POOR	TOTAL	POOR	NO POOR	TOTAL	POOR	NO POOR	TOTAL
ND & NV=ok	6449	12631	19080	34%	66%	100%	15%	45%	27%
ND & V	7878	9036	16914	47%	53%	100%	18%	32%	24%
D & NV	13596	3289	16885	81%	19%	100%	31%	12%	24%
D & V=BAD	15788	2992	18780	84%	16%	100%	36%	11%	26%
Total 88	43711	27948	71659	61%	39%	100%	100%	100%	100%
ND & NV=ok	7289	18987	26276	28%	72%	100%	11%	41%	23%
ND & V	10046	13707	23753	42%	58%	100%	15%	30%	21%
D & NV	20452	7432	27884	73%	27%	100%	31%	16%	25%
D & V=BAD	28692	5875	34567	83%	17%	100%	43%	13%	31%
Total 96	66479	46001	112480	59%	41%	100%	100%	100%	100%

Source: Elaborated on own account from the reprocessed database of the National Census of the Population and Housing 1976, La Paz, Bolivia.. survey 'Migration, Urbanisation and Employment in Cochabamba', (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia.

Map 5.2 Location the GCCA, Poverty Score and Human Development Index in the spatial dimension (GIS)

Source: Table 5.7.



	BNI	BNS	CASES	BNI	BNS	TOTAL	BNI	BNS	TOTAL
ND & NV=ok	2314	17163	19477	11.9	88.1	100.0	6.4	47.1	26.7
ND & V	2602	14516	17118	15.2	84.8	100.0	7.1	39.8	23.5
D & NV	14397	2919	17316	83.1	16.9	100.0	39.5	8.0	23.8
D & V=BAD	17120	1840	18960	90.3	9.7	100.0	47.0	5.0	26.0
Total 88	36433	36438	72871	50.0	50.0	100.0	100.0	100.0	100.0
ND & NV=ok	12885	13976	26861	48.0	52.0	100.0	15.7	44.0	23.6
ND & V	8723	15548	24271	35.9	64.1	100.0	10.6	48.9	21.3
D & NV	27663	439	28102	98.4	1.6	100.0	33.6	1.4	24.6
D & V=BAD	33005	1816	34821	94.8	5.2	100.0	40.1	5.7	30.5
Total 96	82276	31779	114055	72.1	27.9	100.0	100.0	100.0	100.0

Source: Elaborated on own account from the reprocessed database of the National Census of the Population and Housing 1976, La Paz, Bolivia.. survey 'Migration, Urbanisation and Employment in Cochabamba, (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia.

Table 5.5: Distribution of Heads of Households for Poverty Incidence on Basic Needs Dis-satisfaction (BNI*) to Typologies derived from GCCA, 1988 – 1996

* BNI refers to the household share with unsatisfied basic needs, a composite index based on qualitative housing conditions, access to the drinking water and sewerage and school attendance.

Table 5.6: Distribution of the head of Households for the combination of index of poverty according to Typologies derived from GCCA, 1988 – 1996

	Critical	Inertial	Recent	No Poor	Total	Critical	Inertial	Recent	No Poor	Total	Critical	Inertial	Recent	No Poor	Total
ND & NV=ok	828	1440	5621	11191	19080	4.3	7.5	29.5	58.7	100.0	3.0	17.6	35.2	56.6	26.6
ND & V	1551	1033	6327	8003	16914	9.2	6.1	37.4	47.3	100.0	5.6	12.6	39.6	40.5	23.6
D & NV	11196	2857	2400	432	16885	66.3	16.9	14.2	2.6	100.0	40.4	34.9	15.0	2.2	23.6
D & V=BAD	14147	2845	1641	147	18780	75.3	15.1	8.7	0.8	100.0	51.0	34.8	10.3	0.7	26.2
TOTAL 88	27722	8175	15989	19773	71659	38.7	11.4	22.3	27.6	100.0	100.0	100.0	100.0	100.0	100.0
ND & NV=ok	4105	8397	3184	10590	26276	15.6	32.0	12.1	40.3	100.0	7.1	35.0	35.2	48.1	23.4
ND & V	6260	2463	3786	11244	23753	26.4	10.4	15.9	47.3	100.0	10.9	10.3	41.9	51.1	21.1
D & NV	20013	7432	439	0	27884	71.8	26.7	1.6	0.0	100.0	34.8	31.0	4.9	0.0	24.8
D & V=BAD	27060	5691	1632	184	34567	78.3	16.5	4.7	0.5	100.0	47.1	23.7	18.1	0.8	30.7
TOTAL 96	57438	23983	9041	22018	112480	51.1	21.3	8.0	19.6	100.0	100.0	100.0	100.0	100.0	100.0

Source: Elaborated on own account from the reprocessed database of the National Census of the Population and Housing 1976, La Paz, Bolivia.. survey 'Migration, Urbanisation and Employment in Cochabamba, (BOL/87/PO3). CEP – UMSS, UNFPA – ILO – PREALC, 1988, Cochabamba, Bolivia. In 1996 used the survey 'National Labour Sample', INE, La Paz, Bolivia.

5.3.2 Human Development in Cochabamba

Human development is a process that seeks to expand the opportunities for personal and collective fulfilment. This is achieved by raising the structural capacity of society to convert or to translate economic growth into social well-being and resources into quality of life. As an integrated approach, it makes visible the inter-actions between what is economic and what is social. It helps understanding these inter-actions and the development processes¹⁶². It attempts to go back to the universal essence of the value of a human life by focusing on real people: men and women. It permits evaluation of the population's long-term achievements and also its skills and strengths. This means that *'to fight against poverty is to struggle for removing every single human being in every Municipal District from the internal or external causes that*

*have degraded them, where they suffer and die because they can not live, withering because they bear no fruits'*¹⁶³

UNDP has proposed the HDI. This is simple and easy to calculate. It synthesises a multiple and complex perspective in the analysis of development. It facilitates the incorporation of key elements that somehow balance a purely economics oriented point of view that has long dominated the field. Hence, it permits evaluation of the structural capacity a society has to grow in economic terms and, especially, how it can translate the economic growth into qualitative improvements in the lives of its members.

The most frequently used indicator measures the economic situation. This is the GDP, or product per inhabitant. This is based on the supposition that there is certain correlation between consumption and well-being. The life expectancy indicator indicates health at birth. This combines mortality rates, living, health and nutrition conditions, and access to healthcare and other variables. In countries such as Bolivia with high

Table 5.7: Distribution of the head of Households for Human development index, Poverty incidence, Typologies derived GCCA, investments executed according to districts of residence, 1992 – 1996

	HUMAN DEVELOPMENT INDEX				GCCA				POVERTY INCIDENCE				INVESTMENT			
	ALR	CLGE		GDP PC PPA					D&V=	No				INVERSIONES		
DISTRITO	15Y+	6-24	E0	94	IDH	ND&NV	ND & V	D & NV	BAD	POOR	RECENT	INERTIAL	POOR	99 (Bs)	%	CUM. %
7	86.0%	69.5%	65	1638	0.31	0.0	0.0	39.7	60.3	0.0	0.0	0.0	100.0	292358	0.22%	0.22%
9	82.5%	68.0%	59	2629	0.33	0.0	0.0	41.0	59.0	0.0	0.0	0.0	100.0	43900	0.03%	0.25%
13	73.1%	67.1%	63	2629	0.36	0.0	0.0	42.0	58.0	0.0	0.0	0.0	100.0	0	0.00%	0.25%
6	89.4%	68.7%	65	4354	0.46	11.1	4.3	41.0	43.7	4.1	0.0	35.9	60.0	9872736	7.36%	7.61%
5	91.2%	72.7%	69	3233	0.42	12.4	5.3	40.2	42.1	1.8	7.3	21.7	69.3	14485511	10.80%	18.42%
2	91.7%	76.1%	70	3810	0.46	23.6	12.9	22.2	41.3	20.1	7.9	17.3	54.6	13055835	9.74%	28.15%
3	93.6%	76.6%	72	3266	0.44	19.1	18.6	27.3	35.0	8.0	5.3	23.9	62.7	3693121	2.75%	30.91%
8	87.2%	73.2%	66	3620	0.43	0.0	0.0	66.7	33.3	0.0	0.0	33.3	66.7	553297	0.41%	31.32%
4	93.8%	74.1%	71	3933	0.47	38.5	24.6	21.4	15.5	17.1	14.9	27.0	41.1	32372860	24.14%	55.46%
1	92.9%	75.1%	71	4354	0.49	24.1	49.2	9.7	17.0	27.2	6.7	18.1	48.1	1633777	1.22%	56.68%
11	95.5%	79.3%	74	6299	0.62	38.3	15.7	21.6	24.3	23.9	9.9	30.3	35.9	16773748	12.51%	69.19%
12	95.6%	76.7%	75	7198	0.67	30.2	58.9	0.0	10.9	61.3	23.0	0.0	15.7	3339703	2.49%	71.68%
10	94.6%	75.2%	73	7770	0.69	44.7	48.9	4.8	1.5	47.8	13.7	18.6	20.0	37975585	28.32%	100.00%
Total	92.8%	69.0%	62	3239	0.66	23.6	21.3	24.6	30.5	19.6	8.0	21.3	51.1	134092431	100.00%	

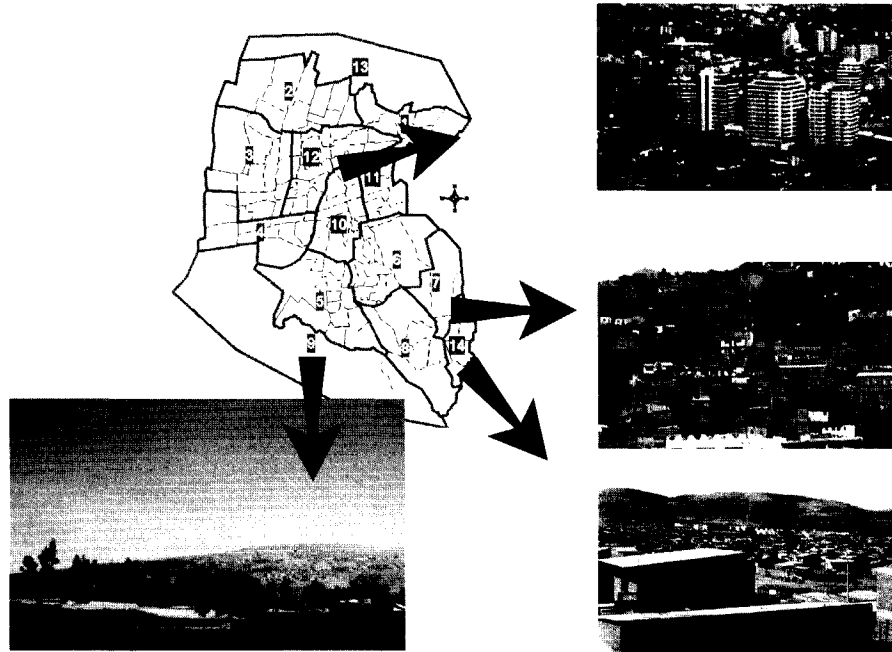
ALR=Adult literacy rate (15Y+)

CLGE=Combined 1, 2, 3 level gross enrolment (6-24 years old)

EO= life expectancy at birth

Source: Own elaboration, carried out on the base of the information of Population's National Census and Housing 1992, Interviews National of Employment 1996 and National Survey of Demography and Health ENDSA 1994, INE. Information of the Operative Annual Plans of the Municipal Government from Cochabamba, 2000.

Map 5.3 Location of Municipal Districts



mortality rates it is an indicator that synthesises development. It is a long-term indicator since its changes are slow, changes that follow on from structural changes¹⁶⁴. Education or availability of knowledge is incorporated into the HDI through two variables: the literacy rate of adults aged 15 and over and combined 1, 2, 3 level gross enrolment between ages 6 and 24.

The application of the HDI to the districts in Cochabamba confirms the existence of wide gaps resulting from a sort of dichotomy in the achievement of needs and desires between the north-east and the south and west of the City. The following paragraphs evidence the degree of inequality existing at the level of human development.

Districts 1, 4, 10, 11 and 12 to be found in the old city and north-east exhibit the highest HDI¹⁶⁵. Conversely, districts 7, 9, 13 and 14 exhibit the lowest HDI. The latter are similar to indices for Ethiopia or Burkina Faso.¹⁶⁶ Both HDI and GCCA classify them as high risk. Attention and policies should concentrate on them. Both districts are in the south (See Table 5.7).

Districts 5 and 6 are in between the above two groups, but closer in profile to their neighbours to the south. The

inhabitants in district 13, in the very north of the city exhibit certain hardships. Districts 1,2,3 and 4 surround the more consolidated spaces and have a mixed, heterogeneous performance. They are in second place on account of educational achievements and average income, as classified by GCCA. Of these 1 and 4 are relatively better than 2 and 3.

Only District 6 changes positions when one considers only income levels. In that case it goes up three positions, thanks to the economic indicators, because it houses the most important open market of the City. The unwelcome, dirty surroundings, however, do not provide suitable residential environment and this contributes to lowering the overall position of this District.

The districts 5 and 6 contain some important elements for the City: the market, Lake Alalay and the airport. Yet, until recently, they had been neglected. In 1996 there were serious health problems – hence low indicators for life expectancy and 40% of the households were in the high-risk category (Map 5.1).

It is interesting to note that regardless of the analytical method employed, district 7 is, in relative terms, the one at greatest risk (GCCA). These findings should help to

identify areas for priority development interventions. The Municipality can no longer continue to invest in the traditional areas, but must re-orient its policies to the Districts that really need investment.

The classical options for measuring poverty focus their analysis on the inter-section of variables describing the situation at a given moment: it is a static panorama. In this research it has been possible to find the mechanisms that generate exclusion. This means that social exclusion, rather than representing a state, represents a process that may lead to distinct outcomes: poverty, inequality, and marginality. Social exclusion refers to the mechanisms that generate poverty. For this the poverty needs to be analysed as a function of social exclusion to account for its origins and to be able to design policies to reduce it.

Some elements have been identified that could make it possible that development is centred on people. This means that one acknowledges that individuals are bearers of potentiality and material resources (knowledge, inputs and tools) and of non-material resources (belonging to social networks and links). The social actors have needs that require that have been defined historically by defined norms. These determine, in the long run, the success or failure of the actions chosen to overcome problems. In consequence, the outcome of a fight strategy against the poverty should offer equality of opportunities the dexterities and potentialities so that all the individuals can take advantage.

Here the issue of aspirations has played a transcendental rôle. It is an action that is not absent from the daily lives of the poor, but it is missing in some theoretical short cuts made by the researchers who pretend to summarise it. As a result, their conclusion is merely a dramatic presentation of numbers, facts and figures, with no perspectives for a way out of the tunnel. What is clear is that there exist material assets that increase or reduce the vulnerability and insecurity (access to housing and basic services), social assets (public places where people can meet), political assets (alliance between political parties, cultural or social groups), environmental assets (conservation of natural resources) and infrastructure assets (schools, hospitals, roads, public transport, amongst others).

This new approach seeks to recover the climate of aspiration and to take up the daily actions of the poor to overcome the various levels of deprivations and unsatisfied needs, both material and non-material. It is important to bear in mind the poor do not need pity for their situation, but what do they need are good opportunities and concrete interventions. They overcome their problems, day by day, in a dignified and creative fashion.

5.4 Social Urban Movements

At the beginning of the 21st century, Cochabamba is a synthesis of cultures, diversity and segregation. The daily life of its inhabitants reveals this when immigrant, Creole, half chaste, Quechua and Aymará speakers, people from the east and west of Bolivia, as well as the native born and the tourist all share its dynamics. The heterogeneous nature is also evident in its infrastructure – beautiful parks and avenues contrasting with neighbourhoods where the sewage flows along the compacted soil streets. There are many apartment buildings, on average, six floors high and ramshackle, self-built huts. The diversity must be preserved in cultural terms, but not in misery and luxury.

Social movements have had their heyday along with the military dictatorships. These movements fought against the repression and corruption during the seventies and the first years of the eighties, but the return to democracy weakened such movements quickly, many of their leaders became members of the democratic parties or are public servants.

The State has invested in expensive infrastructure projects such as the statue to the Cristo de la Concordia and the cable car up the San Pedro hill. It has also widened bridges or built new ones and created parks. Even MacDonald's and Burger King have opened restaurants. All this creates a good impression and people feel their city is advancing. Yet, the other face of the city is evident in the south, where people improvise since they live by the moment and by the day. Here people survive with imagination; up north people live in leisure. In many cases, this urge to help themselves has led them to build tanks for the supply of water and distribution networks. This

type of community-enhancing work is done by the neighbours themselves and without cost. On occasions they receive help from development NGO's.

It is ironic that those social sectors that need most support should be the ones that solve the problems by themselves, whereas the State invests time and resources benefiting people with higher incomes. The local government builds or maintains the excellent infrastructure.

The poor have to organise themselves and contribute their little money and time to create infrastructure. They have to get their water at a higher cost than the water delivered by the water network to the better off neighbourhoods. They have to make do with cesspools or even open ground for the biological needs and breathe polluted and dusty air, and then they suffer overcrowding both in their houses and in the public means of transport. They lose half their children before they are five – often through lack of basic sanitation. They have to put up with unstable, ill-paid and temporary jobs just to scrape a living.

But, it is not only the State that acts against the best interests of some sectors of the population, there are also people who sell land they do not own or who sell land, but without the proper basic sanitation and road infrastructure. Their unscrupulous dealings contribute to the poverty and conflict of the City. Thus, people buy a plot to build their house only to find, some months later, when their house is half built, that the plot is not really theirs, or they cannot get the municipality to provide connections to the water or sewage systems because they lack the infrastructure within the sub-division. Yet another negative element is the high rates of interest, which make it impossible for low-income earners ever to lay their hands on a loan, even less to pay the interest.

The people in these new, marginal, areas tend to fend for themselves and build their houses little by little over time. As a result much of the housing in the poorer districts does not meet the standards set by the authorities in the planning department. Not only because people build what they can and when they can, but also because bureaucratic procedures are complex

and even out of place. People often choose to ignore the building permits and get on as they think best

The State has changed its own interaction with the community through two laws: first, the Law of Popular Participation in 1994 and then the 1997 Law of Decentralisation. Both have devolved power to the local Government and assigned it funds on the basis of the population of a city or district.

5.4.1 The State, the City and the Social Movements

The Law of Popular Participation has modified the structure and operation of the municipalities. It seeks to strengthen municipal government so it can better carry out its rôle. Yet, it can be seen as a way of institutionalising the community into a iniquitous form of social control. It is a way of engaging the poor into a neo-liberal State to solve problems of poverty and marginality, which the poor did not create

The State incorporates social organisations, neighbourhood committees, rural communities and indigenous populations under the term OTB, or Territorial Baseline Organisation, into its State structure. These participate by being in the Vigilance Committees in every municipal government. Since the law has transferred duties and the resources to perform them to municipal governments, in a sense, municipalising the national territory, the Vigilance Committees play an important rôle, as they make sure that the resources now available to the Municipality are spent on the priorities, which the community itself determines.

Consequently, the neighbourhood is now acknowledged as the mediator between each household and the public world of the city. This has always existed since neighbourhoods tend to have some sort of specialisation in the sense that the inhabitants have a profession or origin in common. This has enabled them to have a common entity right from the beginning and so fight for their rights. Now the State acknowledges the importance of the neighbourhood and institutionalises it, making it part of the political structure.

The Departments are under the control of a Prefect. He has a Council that helps him decide on the development

policies as well as ensuring their execution. But, while granting more freedom to each Department as to the way it spends its resources, the new laws have also put an end to the Regional Development Corporations. These had been the technical-political institutions that co-ordinated and executed development plans. Now everything returns to the Prefect's Office and his Council¹⁶⁷. The Prefect's Office aims to place the Department of Cochabamba in global markets by designing policies and contributing to their execution in three areas: micro-enterprises, industry and the fostering of the rural economy.

5.4.2 The Municipality and the Social Actors

The Reforms by the State have meant that the Municipality now has the control over local development. There has been a transfer of the function of decision-making. But, the change since 1996 really boils down to applying a new organisational chart. It is still the same social actors but in different rôles. There are three types of entities at the local government level.

State Institutions: There used to be three before the decentralisation law and popular participation law. Their function was that of promoting development and they acted in such a way that the State appeared to be an external agent, a regulatory mechanism for solving social conflict and seeking to integrate the various sectors, especially the lower classes. The first was the National Social Action Committee of the Presidency (or JUNAS, for short). Its contribution was negligible. Another programme, started in 1974, and had to do with the distribution of food to breast-feeding mothers and infants. Its intervention seems to have had limited success. Yet a third organism was DIRME, or the Office for Minors. It aimed at strengthening the family unit so as to reduce parents abandoning their young. Its real work was educational talks about breast-feeding, the bait for which was bags of foodstuffs.

The three institutions above are examples of the 'functionalist' approach. One that regards social development as a process of *'integrating marginalised individuals and sectors without doing anything to deal with the structural roots of poverty, not even fostering an effective participation in decision making on the issues that really affect those individuals and social groups'*.

Before the passing of the 1994, Law of Popular Participation, there had already been some experience of participation in urban management in the City of Sucre at its district workshops held in 1990. The democratic experiences in Cochabamba before 1994 are not so good because of the inability of the Council members to appoint a Mayor for more than a year but, once in the problem was solved, the Municipality set up the first District Houses (branch offices of the Council) and also an office in City Hall to be directly in charge of these houses.

The City Councillors finally appointed Manfred Reyes Villa as the new Mayor of Cochabamba after a one-year long period when there was no central authority in the City¹⁶⁸. He was then an 'independent', that is to say, that he was in politics, but did not belong to a given party. He had some success in the management of the City, and he banked on this and started his own Party in 1997. Unfortunately for the City, his Party and his administration have repeated the problems that have beset the history of politics in Bolivia – an infrastructure that benefits (his) supporters and as usual, not the areas that really require it.

Unfortunately, popular participation has been institutionalised and it has become yet another form of top-down, paternalistic government. Here, what matters is the political criterion before the technical, social or service functions of the Municipality. The spirit of the law has been ignored. In fact, the OTB's, the neighbourhood units that are at the very root of the Law of Popular Participation, have stopped being technical and social elements and turned into one more expressions of political organisation.

The private associations are elitist and seek, in their interventions, to benefit their members over the rest of the community. They exert pressure on the State to create an infrastructure that supports their life and work. One such example of this is JUNCO, or Community Board for Cochabamba. It represented many of the institutions of Cochabamba, but was started by the private sector. In 1973 it forced the Government to increase budgets for the State University in Cochabamba¹⁶⁹, the Municipality and Cordeco with the threat of a civic strikes.

JUNCO became the Civic Committee of Cochabamba. It has helped in the demand for rights for the region, and, in the deepening of the structural reforms as well as in the return to democracy. It also contributed to the laws on administrative de-centralisation in 1997. But, since 1999, it is suffering from the disease that affects the organisations that make it up. In other words, the fact those organisations have been taken over by NFR, the political Party founded by Reyes Villa. As a result all they seek is political presence and control. Such was the corruption of the institution that it was not able to stop the concession of the public water utility to a private company – *Aguas del Tunari* – with the most unfavourable terms for the City. It was this concession, which led to the “Water Wars”, and it epitomises the politicisation of our institutions.

Organisations that respond through religious orientation, though paternalistic in their approach, play important rôles in helping the poor and needy. They have concrete achievements in the areas of health and social services¹⁷⁰ Catholic priests help neighbourhoods in poor districts to set up small food processing plants. Another example is the setting up of *Defensa Internacional del Niño*, or *DNI*¹⁷¹ This has worked to give street children and children in general a sense of hope and dignity, giving them not only a roof over their heads, but also self-esteem. Another organisation is CONBASE. This is located in a populous district and provides food and medical help with money from the USA, UK and Canada.

Other sectors, which arose once the military dictatorships disappeared, are the Non Government Organisations (NGO's) or the Private Institutions of the Social Development (IPDS's). They have been present in the fight against poverty in particular through those that work in the poor neighbourhoods¹⁷² There are seven hundred in the country and about two hundred of these work in Cochabamba¹⁷³ They are financed through multi-lateral and bi-national support and they seem to be the preferred channel for development interventions. A lot of their work centres around what are now called 'poverty alleviation programs.

Much of the intervention implies that they work with a given community, providing technical co-operation and

guidance as well as becoming co-operators in financing projects. The new laws acknowledge their participation and incorporate them into the process of development and assistance. They have become the best place for the technical analysis of development issues and, therefore, strategic planning because politicians do not run them. One such example is IFFI which submitted to the Municipality of Cochabamba a document entitled: *Guidelines for Strategic Planning from a Gender Perspective*. This is a significant contribution to a key subject for Cochabamba.

Yet another example of the work of the NGO's is the setting up of a community bank with the financial support of the IDB – the so-called *BANCOSOL*. This provides low credit, small loans against a guarantee offered by work colleagues or associates of the borrower. This has helped to provide people with a small working capital for retail trade or micro-enterprises. Other NGO's work at neighbourhood level on the improvement of its infrastructure and on the training of community leaders so they become just and powerful speakers for their community¹⁷⁴

The Federation of Neighbourhood Committees has long been an active actor in the social process of this City and other Bolivian cities. It started as groups of neighbours working in a joint effort to provide their community with basic services such as water. Their members were initially workers. From being a local effort it grew into a national movement in the seventies. In Cochabamba it is organised into five Councils, representing the Old City, the north, the south, the west and the east areas.

In the last two decades its rôle has become more political and social than one simply seeking neighbourhood development. It has concerned itself with the price of basic foodstuffs and electricity and water bills and in the fight for democracy in 1982. As a member of the Civic Committee of the City of Cochabamba, it has been the organisation with the greatest drive.

The Law of Popular Participation (1994) turned this into an instrument, as we mentioned above, that forms part of the State. It became the channel for both the rights

and duties of the neighbourhoods, the way for them to channel their demands to authority. It was their right to exert vigilance over the way participation money was spent in each neighbourhood. Unfortunately, the interference of the political parties, specifically that of NFR, has meant that they have become an instrument of a Party that governs the City vertically¹⁷⁵

Another important element in Bolivian history has been the organisations made up of women. They have called themselves 'mothers clubs'. They first came into existence as a channel for the distribution of food provided by CARITAS, but later acquired a drive of their own setting up small production co-operatives or training efforts. They worked and shared efforts on a kind of *pasanucu*¹⁷⁶

Later, they become important in furthering their rights through the improvement of basic services and opening of roads through the programmes of the European Union called 'Food for Work'. Women became key elements here, perhaps because it is they who are most directly in contact with the lack of services and, hence, the ones most affected by this hardship. So it is women who are present both in protest marches and, as in this case, are working to achieve results, and, of course, this has led to women assuming leadership rôles in the community.

The Municipal Laws ensure that women can be members of the City Council, but their participation seems to slump: it was 11% in 1993, but only 8% in 1995.

Women want to participate, but they have limited time for it is they who have to run the home. Being so busy also makes it difficult for them to have access to information or to participate in the mechanisms the State has created to permit grassroots participation.

Cochabamba is a dual City: a City where the social and economic structures are (compete?) one against each other and yet are inter-linked in a hard-to-unravel mesh. However, this tranquil valley is turning into a place of violence, the fruit of discrimination and the stresses that affect people day in and day out. The ostentation of luxury must produce frustration and anger as well despair in a society that does not do anything to

overcome the widening gap. There is the beginning of a new economy of private security, of a new 'aesthetics of fear'. Fear of delinquency contributes to creating distances and separation among groups. There are enclosed neighbourhoods all around, especially in the well-to-do north. Meetings in public places are increasingly tense and even violent; fear and stereotypes are ruling people. These meetings are becoming the new code of public relations. A good, new, way of managing the City will imply passing laws and creating spaces where people can speak out their demands and interests and where people can negotiate and have creative influence in decision-making.

The Municipality is in charge of the urban policies. Its rôle is that of planning the distribution of the urban space, of regulating the exchange of goods and services among producers and consumers, of charging local tax to people and institutions, of providing infrastructure and basic services and of organising the sale of land, both for residential and commercial purposes. In the former it is faced with the serious issue of people who settle on areas where no building is allowed and also with people who sell land that is not theirs.

The new Municipality Law and other laws have given municipalities more control. As a result municipalities have become a kind of mini-states, which unfortunately reproduce the fights for jobs, and other perks resulting from having political power¹⁷⁷.

Before the new laws, this was not noticeable because most municipalities had negligible economic resources. There was little they did in the way of infrastructure in the areas of health or education, for instance. In any case, these depended upon central Government. The intervention of the Municipality went no further than work on streets and parks or the type of intervention that served as a vehicle for political propaganda at the expense of the strengthening of the institution. In the seventies, for example, the Municipality worked on satisfying the housing needs of bank workers – people with economic power¹⁷⁸ Yet they hired private consultants to make housing studies and left it at that, doing nothing for a housing deficit that has simply got worse over the years, a problem compounded by immigration.

But the rôle of the municipalities has changed as noted earlier. Now municipalities control an important share of the resources from the State. In 1992, the municipalities controlled only 0.2% of the total of the national investment, by 1998 this percentage rose to 25%. In fact, thanks to the Law of Administrative Decentralisation, it is the departments and the municipalities and a variety of funds that now manage most of the development resources.

Having analysed in general terms the presence of the State and the institutional mechanisms through which the various social actors intervene, it is important now to identify an agreed inter-institutional framework. It is the only way public policies and varying private sector and community interests can inter-act, since the State's intervention acts between a weak capitalism on the one hand and market forces on the other. The rôle of the State as an intermediary and regulatory agent in this asymmetric articulation, as far as urban policies is concerned, is permeated by the characteristics of this City that lacks a dominant class that might lead the process of inter-action between local administration and national Government. Instead, we find a repetition of the traditional relationship of dependency and privileges that reduces the chances of interaction.

The many issues analysed and the multi-cultural patchwork that makes up Cochabamba are certainly a challenge. It is necessary to find the institutional means to ensure inter-culturality in a peaceful and democratic way¹⁷⁹. The time has come for achieving consensus, sensitising and finding ways to build a City that becomes sustainable by, and for, people. As a rule, the State creates urban policies in an attempt to organise, regulate and reproduce, in most cases, the modalities of social differentiation. In general terms, then, urban policies reflect this and are directed at organising the replication of the labour force in space.

Unfortunately, there is a deep crisis within the social movements in this City. As mentioned above these movements played an important rôle in the past, influencing even national policies. Yet, the politicising of the civil service at the local, urban level means that citizens have less trust their local Government. There is

the risk of reproducing the loss of credibility that affects national institutions and that citizens prefer to deal directly with the Mayor for him or her to solve their problems, since they do not trust either the members of the City Council or civil servants.

The culture of inequality linked to a neo-liberal concept reflects the crisis in the very concept of citizenship in terms of having rights – political participation, education, health, and work. City dwellers in the marginal areas are losing control over their lives, their economy and their cultural identity. There is an imperative need to generate consensus, to persuade the better-off sectors towards the building of a sustainable, peaceful city that respects cultural diversity. It is necessary to build a culture of creative participation in the life of the city. Processes of equity and socio-cultural freedom, that is should accompany this, with the institutionalised acknowledgement to the right to live in a decent manner and to be different¹⁸⁰ Regarding difference, this is one of the key points for the construction of the City of the future. It is here where consensus and persuasion play a central rôle. Only thus, will it be possible to build scenarios for the future.

5.5 Conclusions

It has been shown the multi-dimensional face of poverty, social exclusion and vulnerability is prevalent in Cochabamba made possible through the GCCA and classical methodology for calculating poverty and the Index of Human Development. It has been pointed out how all the models used reflect the dramatic levels of inequality, but only the GCCA enabled the finding of elements conducive to the explanation of the phenomena. An important conclusion is that after this applying this process of gradually getting closer, one can see that the 'line of poverty' as a measuring tool for poverty is valid only in the short term. As economic growth and production and consumption of new goods take place, so the social concept of poverty changes. This requires raising the poverty line and hence the danger of using it as the only discriminating variable. On the other hand, the issue of poverty, as measured in terms of deficiencies and levels of income is a pathology of "haves or not haves". It is therefore endogenous and

static. The variables of exclusion and vulnerability are dynamic and exogenous.

Social exclusion can be represented as the accumulation over time and space of specific risks that make it difficult or impossible to achieve certain rights – be these citizenship, economic, social, cultural or political – and, therefore, the integration of an affected social group into its environment or society. Hence, it becomes an indicator of the results of a process over time. It is useful, therefore, to analyse its evolution and the accumulation of risk factors in specific historical circumstances. This leads one to ponder over the spatial or territorial dimension since the exclusion of certain groups is made possible and becomes manifest in certain times and spaces. The territorial domain does not refer just to the expression of the exclusion in a given space, but also to the existence of spatial phenomena that become risk factors and generators of exclusion. The spatial distribution of the population at risk of exclusion is a response to the inter-action of multiple factors. These issues have been clarified in this research and become a reality in the highly segregated territory of Cochabamba.

The inequality prevalent in Cochabamba results from social exclusion. This results, in turn, from a multi-variate range of access and quality issues of the markets for goods and services. Hence, the poor are scarcely integrated into the mechanisms of exchange of the market. But, it results above all from the threats of a socio-political, external system that has deepened this structural pathology. The misguided and mistaken programmes of structural adjustment have been imposed on the most depressed sectors and have also affected the urban middle classes. The impact of unemployment connected to the privatisation of public services which were once enjoyed by a goodly part of the population, the growing marginality is not only economic, but also social, political as well as structural and, finally, the incapacity of urban policies to answer these issues has generated a feeling of despair in civil society.

It has been shown that conditions of collective consumption in all areas of the City other than those in the Old City and the north-west are neither good nor

acceptable. Here one can identify places where prompt intervention is required. While it is true that the various social urban movements have managed to meet some of the demands by themselves, there is still the question of demands for infrastructure, especially regarding the provision of basic sanitation as a key element to improve the quality of their habitat. The issue of infrastructure should be part of a concept of 'minimal priority' given the horizontal and vertical linkages with the living conditions of the people.

The quality of the housing is closely related to the lack of basic sanitation. So it should be a task for all the institutions in Cochabamba to come up with an integrated development plan that focuses on this well identified hardship and it must be done according to a plan and not, as it has always been, as a response to crisis periods when providing housing was seen as a way of absorbing the unemployed, but using unsuitable land and so increasing the urban sprawl¹⁸¹

The fast growth of the urban population generates an endless pressure on the provision of basic services and sanitation and on urban infrastructure. In addition, it increases the housing shortage, both qualitatively and quantitatively. Policies have to be re-designed to make housing accessible to the people. In the meantime, the authorities have to provide schools; health centres and also police stations where they are missing.

Finally, the marginal city has been growing without any kind of control or regulation. It has low density and it implies large costs for urban infrastructure. Here lies the quandary. On the one hand the Municipality does not have the resources to provide the services to these distant, new settlements and yet, not doing so deprives them of their basic rights as citizens.

Notes

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The word key is used here not in the sense of important, but rather as an analogy to the key for a lock, or the key for deciphering a secret code.

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Unfortunately, SPSS works, initially, only on files that hold data from one level. It does not allow hierarchical files with two or more levels of information, as REDATAM does. Redatam is an acronym for Retrieval of DATA for small Areas by Microcomputer. The program uses a compressed hierarchical database, which can be created in R+G4, and which can contain microdata and/or aggregated information with millions of records for persons, houses, city blocks or any geographical division of a country. This data can come from any combination of census, survey or other sources. A database can be processed in association with external databases in common formats such as dBase. Very large non-geographical hierarchical databases have also been created in such fields as International Trade. Redatam has been developed and maintained by the Latin American and Caribbean Demographic Centre (CELADE), which is the Population Division of ECLAC. Regrettably, in the version REDATAM for the databases of Bolivia, it only has for the censuses 1976 and 1992, but the surveys that are those that include the necessary variables conceptually for the demonstration of the hypotheses as they were in SPSS version.

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HOMALS (HOMogeneity analysis by Means of Alternating Least Squares) estimates category quantifications, object scores, and other associated statistics that separate categories (levels) of nominal variables as much as possible and divide cases into homogeneous subgroups. See SPSS 10.0 for windows (Categories).

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See Maletta Hector, Proyecto BOL/87/PO3, FNUAP, OIT-PREALC, CEP, 1989. The original manual of the SPSS gives a good guide for the analysis of surveys and for the use of its diverse statistical procedures. A good treatment of the topic in Spanish can be in the text *Social Statistic* by Hubert Blalock (México, Fondo de Cultura Económica). Another very instructive text on this class of analysis of data, published in Spanish by the same publisher, is *Say it with numbers* by Hans Zeisel

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Application of the pattern the data of the Censuses of 1976 and 1992 is excluded, because it lacked all the main variables selected for the demonstration of the hypotheses

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Main variables that are often not available in the social research, and which are indispensable to find those groups/households are: origin and location (Drewe, Hulsbergen, 1983) define deprivation as: shortages in the physical space to provide for one" household, etc. (see Drewe Paul, & E. D. Hulsbergen 1983, *Vulnerable Groups and Deprivation in Cities. A secondary analysis of individual data for the Netherlands*. Delft Technology. University Paper presented at the 23rd R.S.A. European Meeting, August 31, 1983, in Poitiers (France)).

159

See Van der Burg Eeke (1988), *Non-linear canonical correlation and some related techniques*, pages 12 – 15 and page 129, Department of Data Theory, University of Leiden,.

160

See Van der Burg Eeke, *Non-linear canonical correlation and some related techniques*, pages 12 – 15, Department of Data Theory, University of Leiden, 1988. Verdegaaal Renee: Overals, pag. 28, Department of Data Theory, University of Leiden, 1986. The

Fit or the Stress is a measure one can look at to see how good (or bad) the OVERALS solution fits the original data. The Eigenvalues of each dimension let us know how much of the variance is explained by each dimension

161

Emilio Klein y Victor Tokman, 2000, *La Estratificación Social Bajo Tensión en la Era de la Globalización* • Revista de la CEPAL 72 o Santiago Chile

162

PNUD, *Claves, Dossier 3, El Empleo* pág. 3, *Revista bimestral sobre el Desarrollo Humano Sostenible, Talleres Gráficos Huellas S.R.L.*, La Paz, Bolivia

163

PNUD, Roberto D. Calamita, Pag. 15, *Revista Claves Dossier # 1* 1995

164

Se debe indicar que las versiones recientes del HDI han incluido cambios en este indicador, pero por permanecer alta la mortalidad en Bolivia, se continua utilizando la esperanza de vida al nacimiento por ser muy robusto en desentrañar de manera sintética una serie de problemas derivados de la muerte, particularmente la infantil

165

Los Distritos 10, 11 y 12 tienen una sola Casa Municipal que funciona en las oficinas centrales de la Alcaldía. En dichas casas funciona un equipo de técnicos con responsabilidades administrativas y de planificación distrital

166

Human Development Report, 2001, page 144

167

Entidades controladas por la CBF. La primera de ellas, PIL, inició sus actividades en los años sesenta y las otras dos datan de mediados de los setenta.

168

Mayorga, Fernando, 1997, *¿Ejemonias? Democracia representativa y gobiernos locales*, PIEB, La Paz - Bolivia. Page. 199.

169

Es necesario recordar que durante este período la Universidad se hallaba intervenida e incluso los programas mínimos de enseñanza fueron modificados; fue un período de oscurantismo en las aulas de la Universidad.

170

The centres of sanitary attendance are: Vicentino Centre, in Tupuraya; Policlinic Pío X, in the south-west of the city; Bolivian Red Cross, to the north-west; San Pedro Clinic in the city centre; the health centre of Loreto church in the area of Lacma and the health centre of Condebamba Church.

171

The priest Jorge Vila Despujol, founded the Bolivian 'Defence of the International Children' (DIC) that is affiliated to the International organisation with its headquarters in Geneva, Switzerland, since 1988. This organisation carries out important work with the children and teenagers.

172

In Bolivia four institutional networks exist: the *National Union and Institutions for the Social Action Work* (UNITAS), the *Association of Institutions for Promotion and Education* (AIPÉ), *Radiophone Education of Bolivia* (ERBOL) and the *National Secretariat of Social Pastoral* (SENPA). These networks in turn contain NGOs but they lack an integrated focus for their actions and also strategies for development at micro-regional level.

173

However, this growth has continued to give privileges in the National Economic Corridor of the country, that is to say that most of the NGOs (300) are located in La Paz, with 200 in Cochabamba and 100 in Santa Cruz.

174

The Ministry of Sustainable Development and Planning through the Vice ministry of

Strategic Planning and Popular Participation and the German Technical Co-operation (GTZ) in 1998, have carried out the "Study of Systematising the Methodological Experiences in Participation in Municipal Planning."

175

Touraine Alain, 1997, *De la mañana de los regímenes nacional-populares a la víspera de los movimientos sociales*, LASA Forum, Fall 1997, École des Hautes Études en Sciences Sociales, Paris.
<http://lasa.international.pitt.edu/fall97.htm>

176

The "*pasanacu*" is a form of self-help: it gathers and distributes money or goods (fundamentally foods) among a certain number of people, in general women, in each stage of the distribution.

177

PNUD, 1998, *Desarrollo Humano en Bolivia*, La Paz - Bolivia, Pag. 128

178

The National Technical Commission for Housing, created in 1961, produced a Plan for the decade 1962-1971. This indicated that the lack of workers' purchasing power made it impossible for them to have such benefits because they could not finance the construction expenses..

179

Jelin Elizabeth, 2000, Capítulo 7: Ciudades, cultura y globalización, Socióloga e investigadora del Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET) y de la Facultad de Ciencias Sociales de la Universidad de Buenos Aires (Argentina); con la colaboración de Alejandro Grimson.
<http://www.crim.unam.mx/cultura/informe/art7.htm>

180

Calderón Fernando, 1999, *Sociedad y Globalización, Cuaderno De Futuro 1, Programa de las Naciones Unidas Para el Desarrollo (PNUD)*, La Paz - Bolivia. Pag.17

181

Para una información más completa sobre este particular ver: SOLARES, Humberto: "Las políticas de vivienda del Estado Boliviano", IIA-UMSS, 1990

6. Conclusions and Recommendations

The urbanisation of the planet has been intensified and urban quantitative pre-dominance has been quickly increasing. It is also noticeable that this urbanisation is not homogeneous. This refers to the deep and hidden internal linkages as well as imbalances in the various countries. In the nineties the patterns of urban development have changed throughout the planet, becoming more complex and exhibiting a worrying increase in segregation, social exclusion and poverty. It has been demonstrated that given the complexity of the changes, many of the traditional indicators have become obsolete. This is not only because they are static and do little to explain of their approaches, but also, and mainly, because they are based on a partial reading of the reality. What is needed now is to work out, unravel the issues of poverty, social exclusion and vulnerability to form a renewed multi-dimensional reading. This new paradigm demands the amplification of objectives and instruments of development with wider coverage. It also demands elaborating diagnoses that contribute to a correct reading of a wide range of multi-variate problems. All this constitutes a challenge arising from the situation of complexity prevalent in cities and which local government and city planners must deal with from a multi-disciplinary and two-dimensional perspective. The only way to find long-term solutions is through a sustained fight against social exclusion through the strengthening of social cohesion.

It has been shown that the prevailing accelerated rate of urbanisation in most Latin American cities is also applicable to the process of change of the new model of urban development in Bolivia and in Cochabamba (case study). It has observed that the same problems appear, but are made more unique by the structural and historic heterogeneity prevailing in the process of formation of society in Bolivia. The high incidence of poverty in Bolivia is a well-known and often mentioned fact. Yet, several researchers and statistical data tend to place poverty in rural areas. This research has managed to show that poverty is not restricted to rural areas, but is also present in the City of Cochabamba, albeit at a somewhat lower level.

It has also been possible to show that tertiarisation in the prevailing productive structure in Bolivian cities is

part of larger-scale change. In Bolivia, the heterogeneity of the tertiary sector has contributed to widening the gaps of inequities between the "haves" and the "have-nots" and it has also feedback into the urbanisation of poverty. The great advances in the technologies of information and communication are only available to a small number of Bolivians. They are the only ones who have managed to capture the external elements of globalisation while the population at large share only in the deterioration, instability and precariousness of employment and proliferation of the informal sector of the economy. The workers have been suffering the drastic effects of structural reforms and labour flexibility. The city dwellers have to endure, in addition, the influx of desperate immigrants looking for new horizons.

In this context, the acceleration rate of urban segregated growth and the despair of residents demands a search for social cohesion. It can only be so since the multi-dimensional face of poverty and effective social exclusion in Cochabamba, it is possible to notice this according through the diverse approaches to social reality. The simultaneous application of the several dimensions that take into account the specifics of socio-economic formation of which the city is part, has shown quite dramatically the deepening of the gaps and inequalities in urban development. Thus, one can observe that the levels of social exclusion and segregation vary considerably depending upon where the households are sited, with the worst indicators in the marginal periphery of the city.

Due to the complexity in the urban development of the City of Cochabamba, it is necessary to look for "social cohesion". as a strategic action. It is not possible to imagine a sustained growth with the deep and prevalent segregation gaps now existing in the City. It is imperative to re-distribute public investments in society and infrastructure as well as the interventions resulting from a deep concurrence among the various actors in the development, both public and private. It must occur in such a way that generates the necessary consensus to move forward in a sustainable and long-term development program without overlooking solutions to pressing needs. Since many interventions take place over time, the only way of ensuring their successful

execution is through agreement, through a renewed vision on the part of city planners and decision makers, all of whom must work alongside popular participation in a obvious way. It is imperative that quality of life for all the inhabitants is ensured, the formation of human resources strengthened and municipal authorities are mandated to seek social cohesion.

6.1 The Hypotheses and Facts

This research rests upon three hypotheses. These have served as reference for the empirical exercise. The scope of each hypothesis is submitted below

The first Hypothesis concerns the various phases in the Articulated Areas of Economic Development:

1. In the twentieth century there have been changes in the territorial organisation of Bolivia. These have modified the model of urban development and the relative importance of the cities involved.

It is a fact that there have been changes in the territorial organisation of Bolivia. The first change corresponds to the Feudal Mining State (1900 to 1953). During this period, the Western region of the country developed economically as an enclave (this is the North-South Articulation). The characteristic of this period is 'Urban Primacy'. The city of La Paz is the seat of power and domination and Potosí and Oruro are the two mining towns – the sources of the mineral wealth. In this context, Cochabamba fulfils a linking, articulating, rôle as a supplier both of labour and agricultural produce for the population living in the mining districts.

The second transformation dates from 1952. It corresponds to the construction of the State and the Capitalist Society. Its territorial expression is the East-West Articulation. This facilitated the emergence of the singular processes of metropolisation in the cities of La Paz, Cochabamba and Santa Cruz generating a new model of 'Urban Corridor'.

Cochabamba has been part of both articulations, changing its rôle in the course of time due to its capacity to link and integrate the nation. In the first model of

articulation, for its rôle was that of supplier of labour for the mines and also of foodstuffs given its significant agricultural production. In the second model of articulation, Cochabamba is a link in the West - East chain on account of its key geographical location – bordering with six out of the nine departments of Bolivia. Its main characteristics are flexibility and versatility. Its productive mechanism is highly sensitive to market changes having a great capacity for adjustment and assimilation so as to make the best of the economic opportunities available

2. Public investment, capital flows, productive activities (industrial, commercial, financial services, among others) as well as most of the population are to be found in the new articulation of national economic development (La Paz, Cochabamba and Santa Cruz).

By the year 2000, the new national economic articulation concentrates two-thirds of the urban population, three-quarters of the GNP and 66% of the economically active urban population of the nation. Likewise, direct foreign investment and co-participation in the monies from taxation (68%) are concentrated in the above cities.

The setting up of this articulation results from the direct, intensive participation of the State. It plays a transcendental rôle when it supports the development in the east of the country by concentrating and dedicating technical and financial support from national and international sources. The transcendental factors in these process have been the transfer of the surpluses generated by the mining activities in the Altiplane (in the west of the country), the increase in the local share of the income generated by greater volumes of petroleum extraction and an increase in prices – a fruit of the international energy crisis, the flow of most of the international aid, the favourable market conditions for cotton as well as the multiplying effect of the costly road infrastructure. Yet another factor is the plans and programs for migration from the west and settlement in the east in the so-called 'empty areas'. All of these lead to a process of articulation that becomes, in addition, a further step in the inter-communication between the Pacific and Atlantic oceans.

3. Migration processes and territorial re-distribution of the productive population result from economic imbalances generated by the productive structure, further benefiting the La Paz, Cochabamba and Santa Cruz articulation.

The crisis in the 1952 accumulation model, urban economic recession, the orientation of economic policies, structural adjustment and the prolonged droughts in the central region of the country are facts that have led to an intensification of the migratory flows from about the mid eighties. Thus La Paz (Altiplano), which had been the main immigration target in the seventies, is replaced by Cochabamba (Valleys) and Santa Cruz (Plains). These two cities have become the main targets for migratory flows.

The application of the Programme of Structural Adjustment has accelerated the process of re-distribution of the population in Bolivia. The process is particularly evident as a result of the closure of mines and the massive lay-offs in the State sector (August 1998). People migrated in every direction, but they tended to move to the cities in the East - West Articulation. Thus, it is not surprising to find that Cochabamba harbours the greatest proportion of Potosi immigrants in 1986 and that of people from La Paz in 1992. At the same time, there is a migratory flow from the valleys towards the plains and to the Argentine Republic. All these factors, *in addition to strengthening the rôle of Cochabamba in the East - West Articulation, have also lead to intensification in urban growth that shows a deeper social spatial segregation*

The second hypothesis involves spatial and social segregation and job opportunities

1) *The productive structure is mainly of the tertiary type.* The measures of structural adjustment have changed the rules of the game for the various economic actors. The State is no longer a player in the productive sector. Privatisation, de-regulation and open markets have had cataclysmic effects in the weak Bolivian economy and have dramatically increased labour insecurity. Thousands lost their jobs as employees of the State because of the privatisation of the State undertakings. These workers have had no choice but to adjust to the

new demands of the labour market where they work in conditions that are absolutely disadvantageous. Many defenceless workers have to put up with abuse from the new employers since labour insecurity stops them from fighting for labour rights. Such abuses include working hours, salaries, social benefits, etc. The workers' unions have been broken up and so workers have lost the organisations that advocated and fought for fair working hours and salary. This accounts for the many workers who have opted for making a living in the tertiary sector.

The tertiary sector represents about 68% of the economic activity. The most important categories are distribution and social services. The percentage is similar in the three cities in the articulation.

The profile of the city of La Paz is mainly that of a tertiary economy, i.e. prevalence of the non-productive sector, administration of the state, financial institutions, public transport, communications and retail trade. Altogether they account for two-thirds of the gross regional product. This is because La Paz is the seat of government.

The tertiary sector accounts for 67% of its productive structure. Yet Santa Cruz occupies the first place in the GNP in terms of the manufacturing, agricultural and hydrocarbons. The sources for funding are mainly the private banking sector and the development credit lines provided by Bolivia's Central Bank. It is a competitive city. It has laid down the foundations for attracting private investment including an excellent road and railways infrastructure as well as air and river transport. The region is competitive. It has the ability to meet the demands of the international market.

The tertiary sector is more predominant in Cochabamba than in the rest of the Bolivian economy. It occupies an outstanding place in the social services, commerce, transport and financial services. Commerce is an expression of the extent to which economic relationships are governed by purely lucrative interests and also of the dynamics and diversity of the means to generate wealth. One quarter of the GNP relates to the manufacturing sector that produces mainly direct consumption goods (beverages and foodstuffs), textiles and clothing, furniture, leather and shoes and printing. Recently

Cochabamba has begun exploiting its energy resources. In the nineties, Cochabamba became the second producer of petroleum and the fourth of natural gas.

2) Peddling, a wide range of personal services and traditional craftsmanship involve most of the economically active population.

The quality of employment has deteriorated as in shown by the large numbers of people involved in low productivity activities. The limited capacity of the formal economy, both public and private, to provide job opportunities has left an increasing number of people with no alternative but to create their own occupations in the informal sector. The prevalence of the service sector expresses the age-old opposition between the slow and precarious unfolding of the productive forces and the demographic growth spurred on by immigrants looking for better employment opportunities. No doubt, this increase in the population under conditions of widespread poverty has been associated with an increase in demand from all sectors. Yet this demand is for a rather austere consumption of non-industrial, lower cost goods.

The reciprocal inter-action between this type of tertiary economy and demographic growth would lead, however, to an increase in social inequality in terms of the insertion of labour and material living conditions. It has already been suggested that the totality of the vital needs of the collective consumption of most of the population in the cities of La Paz, Cochabamba and Santa Cruz lies below the minimum for survival. So if one adds to the low income levels the long, exhausting working hours and appalling housing, it is only to be expected that one finds these families exposed to an accelerated process of social pauperisation characterised by life-preserving strategies that inter-weave diversification, solidarity and conflict.

In Cochabamba, peddling displays singular characteristics since it is the activity that employs most labour, especially female hand labour. Most of it takes place in the bazaars of *La Cancha* and *La Pampa*, in neighbourhood markets and along sidewalks. Over half the products involved are foodstuffs. The people thus involved are mostly self-employed.

Poor families have reacted to the worsening of their family budget by increasing the number of household members – especially women – who intervene actively in the labour market. This seeks to make up for the drop in individual incomes from the other household members. As a rule this has meant that the average age of the people thus employed has fallen. It also meant that while the individual's contribution to the family budget is small, their premature insertion in the labour market has put into jeopardy the chances of social mobility that could result from better levels of education. In other words, making up for the deterioration in the workers' income by increasing the number of active members in each household has contributed to the creation of the conditions that generate the so-called 'chain of poverty'.

3) Financial services and information technologies offer job opportunities to groups that hold a university degree. This deepens spatial and social exclusion.

The heterogeneity of the tertiary sector is evident in the process of modernisation and globalisation. Those services are associated with production, information technologies, communications, finances and wholesale trade employ educated labour. They provide opportunities where employees can apply their knowledge intensively and earn a good salary. The people who meet the needs of this labour market have managed to do so because of their socio-economic situation. This has, in turn, provided them with the opportunity to study in fee-paying schools and thus to have access to and interpret the new codes of modernity. It is obvious that education is an intermediate variable that can be only be understood in parallel with a socio-economic position. The latter enables some groups to profit from having the type of education that is part of the today's world of knowledge and which is, therefore, compatible with the needs and demands of the present day labour market. Only a few can be part of these activities since the codes of modernity, e.g. internet, become a decisive barrier of exclusion and a pathetic way of describing the high degree of vulnerability of the workers.

It is, therefore, the bureaucratic, intellectual middle classes, the stratum with the highest income levels, that takes advantage of its social economic position has

managed to seize not only the highest levels of education, but also the best opportunities in the competitive labour market. This further strengthens their position in the labour market.

The above is an example of the fact that an appropriate combination of work, capital and technical development could initiate a more inclusive and fairer Bolivia. For this to happen the means for training the labour force need to improve. The result would be a more competitive labour force and a mechanism for reducing exclusion. Otherwise the group of people who are now excluded will not have the slightest chance to enter the job market on an equal footing, because they would lack both the knowledge required and the flexibility to incorporate technical developments into the means of production of goods and services.

4) In the last twenty years, there have been important changes in the residential districts of the cities. The gap between rich and poor neighbourhoods has widened. A distinct process of segregation and social exclusion has been generated.

A precarious and deteriorating labour market has contributed to deepening the sense of dissatisfaction with the living conditions of the population. Thus, the outlying, marginal districts of the cities in the National Economic Articulation have greatly expanded. Poverty has undergone a process of urbanisation because the growth in the cities results from the massive mobility of the poor who settle in areas lacking in infrastructure, and, who are thus exposed to serious social and natural risks. These shanty towns around cities have characteristics that detailed below:

The City of La Paz is a symbolic representation of economic, political, social and cultural heterogeneity as well as of segregation in the use and appropriation of its space. The peripheral city is to be found in the 'Villas', on the hillsides and in the city of El Alto. There we find the worst living and housing conditions. The lands have been invaded, not purchased.

Once the urban space of the city of La Paz gets saturated, human settlement in the plateau encircling it began in earnest in the seventies. This settlement gave

rise to a large marginal settlement that became a new city: El Alto. Such has been its growth that six out of every ten residents were not born there and its surface area has extended five fold over fifteen years. Most of its residents come from the Department of La Paz or from Oruro and Potosi. It is, in fact a gigantic camp of immigrants that is initiating with a lot of difficulty the slow and costly process of acquiring an urban identity while holding the record for concentration of poverty.

Downtown La Paz is also a heterogeneous space. It contains the administrative and financial services since most private institutions and government agencies have their offices there. In the south of the city, the new neighbourhoods accommodate the better-off sectors of society, the houses of the diplomatic corps, the executives from both the private sector and government as well as professional and non manual workers. These districts house 5% of the population that corresponds mainly to the high and middle strata.

The modern city of Santa Cruz grew in a planned and orderly fashion until the eighties. Since then, massive immigration and, therefore, accelerated urban growth have changed all this. The planned urban growth is visible in the make up of its historic city centre in the first ring and in the residential districts inhabited by people with higher incomes in the second and third rings (*Equipetrol* and *Urbari*). Here the architectural style clearly reflects this fact. Large houses with porches, stone walls and solid gates and an abundance of furniture and decorative elements within create a sensation of opulence and power.

This changes from the fourth ring onwards. Here, the limited city management capacity and multi-cultural constitution of the immigrants has led to disorder in the use of urban land characterised by single storey housing with no sanitation or other basic infrastructure. Thus, the new city rings consist of unplanned new neighbourhoods

The City of Cochabamba is a clear example of the growth of two opposite worlds. On the one hand, there is the planned space. The districts inhabited by the groups with economic power that lie to the north

and north-east of the city. A study of the city plans shows that these districts have all the services and are provided with green and open spaces: parks and squares; recreational facilities: a zoo and a stadium; health facilities, the Viedma hospital; educational facilities; the public university as well as other private universities, such as the Catholic University and many fee paying schools. Housing here could be described, in general, as being optimum. The households here satisfy their needs and have access to the labour market and hence the consumer society. It is that part of the city make-up with the greatest proportion of households that are not in a condition of poverty (90%).

On the other hand, the unplanned districts, mainly in the south-west, concentrate the largest proportion of households affected by chronic poverty. The occupational constitution of its inhabitants is that of workers, craftsmen, retail traders, domestic help, etc. In 1996, two-thirds of these households had incomes below the bread line. That could not pay the cost of the basic food basket. Were this not enough, in 91% of the households at least one unsatisfied key need exists. This fact could be regarded as the 'focal area' since it concentrates the most of the shortages that are considered as unacceptable. Thus, in addition to the poverty of these sectors, one needs to add the shortages and lack of standards in their dwellings. In spite of the efforts undertaken by baseline action groups, the intervention of the State, mainly through the local government (City Hall) has ignored the requirements of the groups living in the most depressed areas. The net result is an alarming panorama of unsatisfied basic needs.

Given the lack of basic services, households need to help themselves and, therefore, have to use higher cost alternatives. For example, the purchase of drinking water from 'water trucks'. This leads to a further deterioration of the life and death conditions of this population, i.e. high infant mortality rates, resulting from a unsafe handling of the commodity both by the drivers of the water trucks and by the end users. This is a double attack against the norms of water quality. The alternative to the purchase of water is drawing water from wells. The problem here is the high level of contamination of the water sources, as well as handling methods that do

not meet minimal standards. It is, therefore, essential to carry out organised interventions that prevent individual, specific deeds which not only fail to attack the problem at its root, but also lead to further conflict.

The third hypothesis, Spatial and Social Exclusion:

Given the prevalent patterns of social organisation, one can expect to find distinct urban areas according to social occupational strata, which, in addition, exhibit unequal environmental conditions. The latter become evident through the availability or otherwise of basic infrastructure so that the lack of these would be associated with the highest risks of vulnerability. They are likely to particularly high in recently settled peripheral areas and, presumably, also in dilapidated downtown districts.

It has been shown quite clearly that in Cochabamba segregational forces in the appropriation of space and of the 'benefits' inherent to concentration are operational. Thus, one can verify that the north-east and downtown areas contain the most benevolent living and working conditions. It is there that the groups with greater economic power and the urban middle classes have settled. In contrast, the immense areas, north and south of the City, covered by the peripheral districts are inhabited by workers, craftsmen, peddlers, public transport workers, manual workers, etc., and these exhibit the higher incidence of poverty and inequality, social exclusion and vulnerability.

One of the most serious issues facing the development of Cochabamba is its chaotic growth and its lack of a strategic, long-term vision. An instance of this is its inadequate water and sanitation infrastructure. An urban deficit, which, in addition to becoming more serious, is not likely to be redressed given the aborted contract for the concession of the water and sewage facilities. Here, the impoverished sectors find themselves "orphans", for no actions are taken to solve structural problems.

1. The interventions of the State and the urban social movements would have contributed to lessening or increasing the differences between distinct residential spaces one can identify in the city.

In the City of Cochabamba, the intervention of City Hall has brought into being a quality of contradictory urban planning, traditionally guided by the search for the ideal garden city. For this purpose it has supported and consolidated the setting up of a privileged space in the north-east and downtown districts – the old city centre. The bias in its urban improvement activities has generated a picture of well being in such spaces. Most of the municipal budget funds have been appropriated for the development of these districts. Satellite pictures confirm the fact that they have all the urban facilities common to any modern city. In addition, and thanks to the high-income levels of the inhabitants of these sectors, it has been possible to build luxuriously, with exquisite architectural satisfaction and the use of wide spaces for the construction of their titanic mansions, particularly noticeable, in those 'closed spaces' exclusively for the social sectors of very high income, those that generate a lack of fenced neighbourhoods in the middle of the poverty and the inequality. This leads to deepening segregation and consolidating a City with high levels of segregation, intolerance and urban violence.

In contrast, the districts of the bazaars and open air street markets – *La Cancha* and neighbouring areas – the peripheral north and south west areas are incorporated into the city plan in conflict with planning norms and suffering chronically from the shortage of the most elementary services. As suggested earlier, this is not an oversight since the guiding principles in urban planning allotted 90% of the municipal interventions to what it regarded as 'the true city'. Municipal intervention in the peripheral city, on the other hand, relies mostly on the neighbourhoods' monetary contribution for infrastructure, since it does not have much money left. Here the interventions result more from idealism, political favour or paternalism seeking political support for the city authorities. This unfortunate reality has not changed with the decentralisation of the municipal administration because the final word on public expenditure and budgetary appropriations is still dependent on arbitrary and capricious City Mayors.

Urban patterns in the use of the territory are a consequence of the social structure. The more politically

powerful groups occupy the better spaces. Cochabamba is no exception. It would appear that city planning and its advantages have been applied only to benefit these powerful sectors. Elsewhere, the unplanned growth of the city and land speculation has led to an under-use of the urban area and an over-use of agricultural lands. The absence of public control mechanisms and the lack of regulations regarding the scope and constraints of real estate markets have transformed City planning into an almost supernumerary tool. The fact is the forces of the real estate market, clearly breaking all urban rules and regulations, have built the city.

The quality of urban life depends upon the use and administration of the urban territory. The distances between the work place and one's house, schools and health facilities and basic services are factors that influence its quality. The city planning model for Cochabamba is highly focused on the so-called 'old or historic city centre', where all the more important activities are to be found. In contrast, the peripheral city spreads out creating an absence of rationality regarding the use of the territory and thus contributing to the increase in the cost of accessing to those services through having to pay for public transport.

Finally, it is worthwhile highlighting the message resulting from the use of the GCCA. It will only be feasible to achieve fairer and sustainable development in Cochabamba if changes take place with regard to the contradictory support given to the economically powerful groups and the urban planning model built for them. This means moving from the current model of urban planning to one that favours a multi-dimensional, fair city that includes the peripheral city. The multiple factors of poverty, deprivation and vulnerability have deteriorated the aspirations of many depressed sectors. Clearly, fatigue and lack of socially just interventions have generated a feeling of citizen despair. This is very dangerous – for the future can only be built on the present. Re-thinking the development of the City, incorporating the unplanned for districts for priority municipal interventions would allow the recovery of legitimacy and citizen participation towards generating sustainable growth for the city as a whole. For this to happen, the various groups involved in making the city,

civil society, city authorities and neighbours need to make a deal for the construction of a more decent future.

6.2 General Objective

The general objective of this research paper was to examine the relationship between urban development and the social changes that took place in Bolivia in the period 1970 – 1999. I have carried out a detailed study of the process of urbanisation in the world and in Latin America. As a result, I have verified that the accelerated process of urbanisation experienced in Bolivia belongs to a larger context of an even greater magnitude. Also I have accounted broadly for the urban process in Bolivia and the transformations that have taken place there in the last twenty years and I have pointed out the velocity of the process of urbanisation. During this period, Bolivia changed from a rural population to a country with urban pre-dominance. The Bolivian model of urban structure has experienced transformations over time. These have ultimately been subordinated by political and economic reforms in the country. The model has changed from one of enclave economy and urban predominance to a more complex one of 'neo-liberal' urban corridor.

One of the most significant achievements of this research paper was the construction of a Multi-dimensional Interpretative Model. It is a very robust model that has contributed to furthering the explanation as well as finding complex inter-actions that can be observed only when using multi-variate approximations. This finding has permitted locating the problem in space and to identifying the areas with the largest concentration of poverty, deprivation and shortcomings in terms of urban quality of life. Furthermore, the model enabled identification of vulnerable groups exposed to risks in the quality of life in the city. Both were key aspects in the generation of hypothetical images for the construction of a process of Sustainable Urban Planning. This would permit laying down the basis for the construction of a long term, Sustainable City in Cochabamba that incorporates and respects everyone's right to access the basic services and that permits all the residents of the valley of Cochabamba to enjoy urban attractions.

6.3 Specific Objectives

1. The first objective dealt with the analysis and evaluation of the changes in the process of urban development of the National Economic Articulation. In Chapters 2 and 3 I have detailed the nature of the changes and the permanent revolution in Bolivia, and also, the way in which the reforms of the State have contributed to modify and change the image and use of the territory in two key historic periods: firstly during the economy of the mining enclave and, secondly, at a deeper level starting with the Structural Reforms. I have verified that this aspect is not unique to Bolivia, but that it is taking place with greater or lesser intensity in the other Latin American nations.
2. The second objective sought to identify the social groups that exhibit a greater risk of exclusion, poverty and vulnerability. For this purpose I have tried various social and spatial specifications. This has led to verifying that the social occupational strata that carry out work as employed labour, house help, shop assistants and pre-capitalist crafts are those that live in the southern and western areas of the city. They are the sets of people that could be labelled as 'focal groups', for priority attention, in any intervention seeking to reduce the risks of inequality and social injustice (Chapter 4)
3. The third objective, theoretical in nature, aimed at providing a theoretical explanation of the conditions that have led to differentiating one group from another in the city of Cochabamba and also to finding the level of vulnerability as an issue located in space. Here I have achieved a reasonable estimate of the relevant levels. Thus I have demonstrated that the scope of poverty, deprivation and vulnerability in Cochabamba is multi-dimensional. Applying a battery of thirty social economic, spatial, living conditions, deprivation, demographic and vulnerability indicators, I have achieved a reasonable approximation to the scale of the 'social disease'.

There are two main conclusions: firstly, there is a strong correspondence between social space and physical space in the dimensions of the working status and of the degree of elements that contribute to the quality of life. This fact would allow better focus in planning

interventions. Secondly, it has been shown that the risk factor transcends membership of a distinct, localised social group; it contaminates and spreads out in space. It is obvious that further exploration of the causal relationships must be made so as to learn about some other elements that contribute an explanation. In other words, one has to break down the process into its constituents, various planes of determination and consequence. It is necessary to deepen the process of successive approximations by further incorporating variables of a different order. This would include legal, normative, cultural, anthropological, sociological and biological variables. Their incorporation would permit going deeper into the approximations enabling them to respond to external, social economic stimuli. Likewise, policies and specific practices in the health services, in environmental clean up and nutrition require a more detailed inspection. The intervention of the State in these fields as well as the strategies of the various social groups within these ranges cannot be omitted. (Chapter 5 and Chapter 6)

4. Finally, while not proposing elements for the design of policies regarding the building of a sustainable city – since this is beyond the scope of this type of paper – the last objective makes reference to some actions that could contribute to designing hypothetical scenarios for the implementation of an including and multi-dimensional process of sustainable urban planning for the City of Cochabamba. (Chapter 7)

Cordoba, in the Argentine Republic, is a city of similar characteristics to Cochabamba. It has managed to put together a system for sustainable urban planning with relatively short phases. A system which has gone beyond the purely cosmetic phase and paternalistic, electoral and short-term interventions into a number of large scale and long term commitments which ensure service provision under various modes of social political organisation and structuring of the production process. This leads me to suppose that given a commitment and political will on the part of City Hall, it would be possible to achieve significant reductions in the present shortcomings through low cost interventions. This background influences the following remarks.

The relevant intervention should encompass at least two practical requisites: reduced costs and consensus deals. Having acknowledged that present unsatisfied needs arise from inadequate appropriation of resources, it is now unavoidable to define priority areas, defined by the CGA to lie in the north and south west of the city (these are the Municipal Districts 7, 9, 14) where the risks are the highest in multiple dimensions. Moreover, the pre-feasibility, feasibility and final design studies for specific projects need to be carried out in accordance to the characteristics of each one of these districts. The direct impact of all this would be 'reducing the time of suffering of the poor' and would require an open concentration process and clear statements by the Municipal Government of its will to modify the current intervention policies. This will also require the determined and direct participation of the community. As a result, the cost of labour could be lowered. The latter is not far-fetched, for community work characterises the life of peripheral districts, thus maintaining a cultural tradition of the Andean world where solidarity and reciprocity are part and parcel of daily life. But, such events tend to be isolated, lacking a global impact. Hence, the importance of seeking strategies and regulated, planned actions that would have repercussions in the short term.

Assuming then that the political will for reducing the suffering of the poor does exist, it is necessary to begin laying out networks for basic sanitation in the most depressed sectors. These would imply some of the following, specific measures to be contained in the respective plans.

— Regarding basic sanitation, there is a vast field for possible actions, some of which come under State or public responsibility and others, which could be undertaken, in a co-ordinated fashion between municipal participation and the organised community. Among the first one could mention drinking water and sewage networks, household connections to the networks, identifying and setting up landfills, controlling contamination sources, providing chemicals for the disinfecting, treatment and control of drinking water. Regarding the second set of actions, one could mention the building of water reservoirs, building of manual

pump facilities, construction of latrines and septic tanks according to technical specifications and norms.

— Regarding public health and given the alarming levels of child morbidity and mortality in the south districts of the city, all efforts should focus on preventive medicine making use of relatively 'simple' elements that could be easily be made available to the community. The relevant actions should not consider just medical doctors, but in the main paramedics working together with grassroots community organisations. The first action should be training in childcare. The scheme should target mothers and be easily transmitted to them. The spread of knowledge about health care should focus on fundamental issues aimed at generating appropriate daily routines. These might include the appropriate preparation of foodstuffs, the suitability of hygienic measures such as boiling water, washing one's hands before handling food, preparing a baby bottle, preparing saline solutions for oral re-hydration.

— Regarding nutrition and assuming that public intervention on the issue of food distribution is constrained and that a significant proportion of the residents of Cochabamba possess small production spaces, one could organise family vegetable patches. Yet another element might be practical training on suitable combinations of foodstuffs, especially for pregnant mothers. Another possible action is the setting up of simple processing plants for the preparation of foodstuffs that make use of the agricultural produce of the region to ensure a suitable provision of nutrients, especially proteins. These activities entail the organisation of the community and linkages with public health programs, especially maternal and child health programs.

7. Direction for Urban Planning

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*"Building the future is also imagining possible developments about what we are or could be. With the force of today's ideas, the possibilities of a better tomorrow are already alive."*¹⁸²

7.1 Introduction

The objective of this Chapter is to imagine hypothetical scenarios for the construction of a humanly sustainable city in Cochabamba. Due to the fact that the problems detected for examination are multi-dimensional in character, it will only be possible to perform a transformation in the structure over a long period of time if actions are taken and integrated in order to allow the personal development of its inhabitants. It proposes a strategy that tackles the multi-dimensional face of poverty and vulnerability. The Chapter has been divided into three sections.

In the first section, the strategic vision is presented as a comprehensive model of sustainable urban development. It incorporates aspects relative to the construction of a productive city that generates opportunities, is efficient in the provision of infrastructure, equipment, services, makes a rational use of its transport facilities and is well-ordered in its image and not segregated.

The second section includes the guidelines, objectives and strategic programs that could contribute to the construction of a comprehensive model of urban development. The components of the vision that could be developed are explained in greater detail. The implementation of such actions would permit the creation of a competitive and sustainable city, capable of dealing with today's problems and future risks, as well as better taking on the function of articulation and regional, national and international integration.

Finally, the third section tries to imagine the institutional framework that could begin this proposal. This includes the National State, the Municipal Government, the governmental and non-governmental organisations and the citizens. Given the urgency of giving quick and urgent answers to the increase of inequality, poverty and social exclusion, it is essential to achieve consensus

amongst its various political, social and economic components, for the issues affect the whole of the city.

Because of this, pacts and efforts of re-construction of citizens' hopes should be realised. The distances between the legal city (planned) and the multiplication of marginal settlements (the illegal city) are alarming and require norms to regulate urban growth in a comprehensive and balanced manner. This is the challenge city planners face today for a better tomorrow.

7.2 The Comprehensive Plan of Sustainable Urban Development¹⁸³

The magnitude of the problems detected in Cochabamba is multi-dimensional. The conflicts must be solved in an integrated, comprehensive and systemic manner. One cannot imagine a planning process that only deals with sectoral aspects, since it is necessary to have structural solutions that will work over the long term. This is the way to reduce inequity, social exclusion, and vulnerability and increase opportunities for the citizens. I propose seeking the well being of all the inhabitants by expanding their capacities and opportunities. A productive city needs an economy able to grow without putting at risk the opportunities of future generations, but without draining the natural resources and the environment and with a capacity for translating the economic achievements in social and individual well-being, the quantity of resources in the quality of life while reducing the breach between the modern city and the peripheral city. It is also necessary to build a culture that recognises the differences that it values: justice and solidarity as well as environmental sustainability.

It is essential that the political and administrative decentralisation is widened, to allow advance in the construction of a sustainable city. An economic structure will be generated that modifies the conditions of the polarisation and social exclusion. It is important to leave aside the short-term cosmetic, vote-seeking

actions and welfare practices that today predominate, in and democratise, economic policies, liberating them from technocracy and involving every citizen in the design and defence of the construction of the city of the future¹⁸⁴.

For the success of the implementation of the comprehensive development plan it is essential agreement and sensitisation between the spheres of central and local power, as well as with the different social actors comes into being, with the purpose of building and articulating a strategy that contributes to reducing the time of suffering for the poor. This will be promoted to consolidate acceptance and the political will of those in power (national and as well as local) to modify their political interventions. In addition, it is crucial to ensure community participation in the search for consensual and long-term strategic solutions.

The comprehensive strategic vision for the city of Cochabamba is:

- To further develop democracy so that the inhabitants of Cochabamba can take on the responsibility for their problems and the search for solutions.
- To ensure efficient, transparent, de-centralised and participatory urban administration that seeks to satisfy the needs of the community.
- To foster productive efficiency by making technical and higher education available with pertinent content based upon the production and diffusion of necessary knowledge so as to face developmental problems.
- To consolidate a well-organised city that fully includes the urban periphery in its structure.
- To work for the construction of a city that offers more opportunities, is socially fairer and ecologically sustainable.

The challenge is to achieve the above simultaneously. I believe they are the conditions necessary to foster a harmonic urban development and to achieve a comprehensive improvement in the quality of life, reducing social exclusion and building the way to restore hope for the more depressed groups.

I submit that future planning so as to provide co-

ordinated actions will only be possible through a comprehensive urban development plan.

7.2.1 De-centralised City

I need to analyse de-centralisation from a humanistic and participatory viewpoint that places the citizens' demands at the heart of municipal tasks. I want to achieve the strengthening of the relations between civil society and local government, or governance¹⁸⁵. To accomplish this I must ensure an efficient urban administration. This implies city employees who are true civil servants, with a vision of the future.

The shared responsibility between civil society and local government is to seek solutions for structural problems. This implies putting aside short-term actions. I propose that objectives and local government policies are institutionalised at all levels.

The people of Cochabamba wish to participate more actively in the definitions for the City, in running their everyday lives as well as in controlling the way institutions invest or spend public money, hopefully spent on building a better City for all. Many citizens, especially in marginal neighbourhoods do not feel they participate because the Mayor ignores the rights they hold as citizens. This is why political, financial and administrative de-centralisation policies must be analysed with the participation of all the social, political and institutional components in order to design a future City that eliminates those political tit-for-tat and interventions that contribute to the development of only a few sectors.

The transfer of authority and responsibility that goes along with the process of de-centralisation transforms the local government into the primary actor in urban policies. Therefore, it has to play a central rôle in defining the strategy for local development. This new rôle implies the establishment of paths for the future of the City, in other words, to define a City project and coherent urban policies.

From a developmental perspective, local governments can no longer limit their interventions to short-term emergencies. The building of the objective image represents the key point of the passage from a merely

administrative rôle to a Municipal one that has the responsibility to govern and progress in long-term actions.

a. Political de-centralisation for territorial development

Structural reforms, popular participation and de-centralisation have given more power to local governments in the managing of public resources in the social area, especially for investment in social infrastructure. But, funding and payment for human resources remain centralised. In reality there has been a “political de-centralisation of expenses” just enough to awaken citizens’ interest in participating in decisions upon spending and, simultaneously, on paying local taxes.

The policies on Health and Education should help the municipality to form the human capital better in order to attack the structural factors of exclusion and vulnerability. Unfortunately, all efforts so far are temporary. The funds were destined to school breakfasts and maintenance without following the rules of de-centralisation. In order to build human “capital” with access to knowledge and information are long-term actions that cannot be postponed.

In situations where there is a lack of resources, public expenses should be defined in a participatory fashion and spent upon satisfying structural, long-term, needs that contribute to creating a sustainable City and nation. Additionally, the Municipality has to be able to co-ordinate funding, both from local taxation and from international co-operation, to ensure the good and proper use of the funds

Unless there are changes in the conduct of our authorities and public servants, it is impossible to guarantee the development in each district. Illegal actions and looking-after-one’s own practices by municipal civil servants remove accountability from final decisions. The mistakes of the past are still being repeated. The authorities are not undertaking important infrastructure work. It is here where professionals, technicians and inhabitants would be needed to work for the Municipal government qualified through examinations and not through political favour and chicanery.

A reform in the re-distribution systems would mean, without doubt, greater efforts, not only in institutional terms, but also in the availability of resources. Here international co-operation could help. Therefore, sustainable territorial development would be an obligation at every level of the administration of the State. Central government should articulate the initiatives and the efforts made by citizens.

b. Citizen participation and Territorial Administration

Participation is not created nor invented. It is possible, however, to further it through the accountability of municipal interventions. These could generate the basis for a close relationship between the municipal government and citizens. The latter need to know not only their duties, but also their rights. Accountability must be seen in the processes of decision making and in the efficient expenditure of public monies.

De-centralisation opens the doors so that citizens may participate in deciding how best to spend their resources in a sustainable fashion. It is important to identify unbiased methodologies that help in deciding how best to use money. In this context, political de-centralisation and citizen participation should be directed towards creating conditions for sustainable territorial development and the timely modification of current interventions as a result of the evaluation. It is the way for people to help themselves and improve their living conditions. In fact, to so broaden de-centralisation would make it feasible to carry out the kind of social and economic policy that seeks to create productive jobs and improvement in the habitat.

In order to make efficiency and citizen participation viable it is necessary to:

- (i) De-centralise the municipal districts politically;
- (ii) Encourage the association of neighbouring districts for larger-scale projects
- (iii) Encourage the capacity for self-management of civil society.

In addition to making territorial development viable, this re-ordering should organise the administrative structure so that it operates effectively on the provision of social

services. It is true there have been attempts at creating a decentralised city in Cochabamba. The explosive growth of the area that can be built-up, lacking in control and the permanent marginalisation of the inhabitants to the south of the traditional centralised structure have given rise to serious consequences in quantitative terms, huge deficits in basic sanitation and in qualitative terms, the degradation of the environment and social exclusion.

Today, Cochabamba should resolve the problem of lack of attention to poorer districts. It is urgent to create interventions that allow focusing attention and support on the southern districts where all the problems occur simultaneously.

It is essential to establish mechanisms that allow the expansion of popular participation and the re-distribu-

tion of public resources towards those municipal districts that are more depressed so that resources are not cocentrated mainly in areas of higher economic power. It is indispensable to standardise the criteria for fund distribution. Some of the key elements here should be transparency (accountability) and whether the projects or items are development-driven. This is the only way to ensure that public resource spending meets the needs. In addition to these criteria, there must be an effort to foster the effective participation of neighbourhood organisations. To accomplish this goal, it will be necessary to modify certain institutional structures and to grant effective mechanisms of accountability, as well as suitable incentives to ensure efficient and transparent administration of poverty reduction programs.

7.2.2 Productive City

Cochabamba should exploit the comparative advantages of its geographically central location in order to place itself, in the local, regional and national system of networks of cities. So that benefitting from their competitive advantages and the great diversity of their natural resources and abundant quantity of manpower, new productive and institutional relationships can be formalised by establishing alliances and agreements in order to become the centre of development.

This task implies the performance of social promotion programs, as well as the development of local strengths and productive capabilities (Productive city), by strengthening and leveraging economic development, making urban functions of support more efficient, gaining competitiveness and taking into account existing potentials.

The proper orientation of public investment is just one of the instruments of choice available to municipal government. The option of using larger and more technical businesses for carrying out projects or for the provision of goods and services can sometimes be replaced by another option that deliberately favours hand labour.

While technical development advances should be used to increase productivity in the long-term, it is preferable to choose those technological and business schemes for

Map 7.1: The neighbourhoods: Spatial and Social Exclusion.

Source: © Space Imaging) LLC, IKONOS Satellite Image of the City of Cochabamba, IKONOS II, 4 April 2000, International Institute for Aerospace Survey and Earth Sciences (ITC) Enschede, The Netherlands.



a period of adjustment, that enable the participation of smaller enterprises that are labour intensive. In order to accomplish this, a major task would be the re-training of the work force in skills with higher demands.

Support for micro-enterprises is proposed by integrating here the efforts of public administrations as promoters and facilitators of the intervention of other members. In this context, the Municipality has to ease the rigidity of the fiscal systems in force. They should also consider the possibility of transferring some municipal services to the private sector. The services transferred should be organised, effectively, and with low costs, to meet the current unsatisfied demand in the provision of municipal services. This is an alternative solution to the problems caused by the Structural Reforms. The Municipality should find a way of providing services at lower cost. The central idea is promotion and efficient organisation, the use of simple technologies and an intensive labour force. It should re-orient the resources of social politics, turning them over to the promotion of productive structures based on work and a good quality of life, creating a fertile sub-stratum for the development of smaller businesses.

7.2.3 Sustainable City (Territory and Environment)¹⁸⁶

The definition of concrete policies and interventions seeking to generate a quality habitat requires organising

Map 7.2:

South Periphery, Aerial Photograph, 2000

Source: © Space Imaging) LLC, IKONOS Satellite Image of the City of Cochabamba, IKONOS II, 4 April 2000, International Institute for Aerospace Survey and Earth Sciences (ITC) Enschede, The Netherlands.



using urban soil adequately and generating comprehensive interventions to protect the environment. The optimisation of natural and cultural resources should be considered in a long-term vision. In other words, the kind of development which allows the satisfaction of current necessities without compromising the capabilities of future generations.

The anguishing increase of inequality and poverty must be addressed. There must be a search for the mechanisms to allow equitable access to urban goods and services by creating new job opportunities, adopting means of transference between social areas and city areas, in other words, equity in urban development.

Disorganised and spontaneous horizontal growth with heterogeneous densities is also a factor that conspires against the environment. An extensive, low-density urban sprawl caused by real estate speculation and predominance of the single-family household in the residential neighbourhoods of the north and high dispersion and low density in the extreme south, very high density on the hills and neighbourhoods found in the proximity of La Cancha characterise two important areas of the City.

A quick analysis of the satellite pictures taken in 2000 (see Map 7.2 and 7.3) shows with clarity the variety of problems in peripheral areas. There is a disproportion in green and public use areas and a chaotic spatial organisation of its territory. The second photograph shows a completely different picture. Here I see an appropriate organisation of the physical space, plenty of green spaces, and all types of environmental amenities. This certainly does not coincide with the strategic vision of the Municipality of Cochabamba as *The Garden Home for Everyone*¹⁸⁷, The reality reads a city with gardens in the North of the city and without green spaces in the South.

The size of the plots for construction vary a lot and there are a great variety of types of dwellings. In the planned areas the excessive cost of the land makes owners to look for the best way to take advantage of every inch for grandiose constructions with the goal of renting the building. In the poor neighbourhoods the variety is



Map 7.3: La Cancha and its surroundings,
Showing part of the districts 6, 7, 8 and Showing District 14 in its
initial stage of development
Aerial Photograph, 2000

Source: © Space Imaging) LLC, IKONOS Satellite Image of the City of Cochabamba, IKONOS II, 4 April 2000, International Institute for Aerospace Survey and Earth Sciences (ITC) Enschede, The Netherlands.

bigger because here they try to replicate the housing they had back home. This reflects the great variety of origins of the population in these districts. Of course, this also reflects the lack of building rules or, more likely, the lack of their enforcement.

Map 7.4: The Old City (Downtown) and Surroundings

Source: © Space Imaging) LLC, IKONOS Satellite Image of the City of Cochabamba, IKONOS II, 4 April 2000, International Institute for Aerospace Survey and Earth Sciences (ITC) Enschede, The Netherlands.

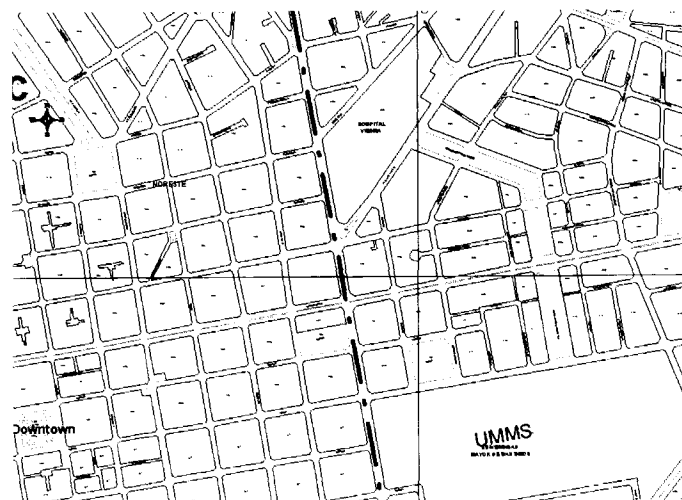


Just as in other Latin American cities, there has been a proliferation of exclusive neighbourhoods (walled neighbourhoods) since the mid eighties. There are mainly located in the North end of the city and in the vicinity of Tiquipaya. The *Lomas de Aranjuez* was one of the first such neighbourhoods. This situation causes bigger segregation in the use of the urban space (see Map 7.4, 7.5 and 7.6).

Another key issue is the environmental contamination (water and air) an indicator of the presence of this problem is the impact, in the premature death of children and under the general conditions of the health. The contamination of the drinking water, goes from the insufficient treatment of the network systems and the distribution, until those poured of organic and industrial waste in them. The fresh water is supplied below standards in the poor neighbourhoods. The air is also polluted – as a result of the degradation of the urban soil. There is a lot of dust, including organic substances, in suspension in the atmosphere. An added factor of environmental contamination is the proliferation of vehicles and hence another source of pollutants. Could be the alternative transport seems to tram-line along the Sacaba – Cochabamba – Quillacollo conurbation or use the existing railroad to increase public transport and reduce the environmental degradation.

7.2.4 City of Opportunities

To turn Cochabamba into a city of opportunities, means to close the gaps and to increase the well being through furthering the capacities of its inhabitants. The causes of





Map 7.5: Residential Neighbourhood (Northeast), Aerial Photograph, 2000

Source: © Space Imaging) LLC, IKONOS Satellite Image of the City of Cochabamba, IKONOS II, 4 April 2000, International Institute for Aerospace Survey and Earth Sciences (ITC) Enschede, The Netherlands.

vulnerability, deterioration of employment, low schooling levels, precarious conditions of life, shortage of basic sanitation services, the rigidity of the financial sector, premature mortality of the children in poor neighbourhoods and the presence of endemic illnesses, among others, must be addressed to achieve this. It is a systemic and multidimensional perspective that goes beyond lacks, but since this problems only measures from the normative and descriptive point of view, it leaves out a great quantity of values, skills and experiences people have. It is these that need to be transformed for the construction of a more promissory future for their inhabitants.

To guarantee the success of this strategy, the city requires to offer formation opportunities and civic



Map 7.6: Showing La Lomas settlement

Source: © Space Imaging) LLC, IKONOS Satellite Image of the City of Cochabamba, IKONOS II, 4 April 2000, International Institute for Aerospace Survey and Earth Sciences (ITC) Enschede, The Netherlands.

information, socialising the codes of modernity and the Technologies of Information and Communication that allow the formation of a human capital trained for the demands of the job market. It is important that everything converges into a model of deep respect for the prevalent ethnic and cultural diversity in the city. The City should establish selective migration policies that facilitate adaptation and cultural exchange, enabling the rational use of natural resources and the organisational and productive capacities of the population. Other elements to be promoted are the values of the social and cultural traditions so as to integrate and to articulate their diversity, into socio-spatial heterogeneity and to consolidate a wide and solid regional identity.

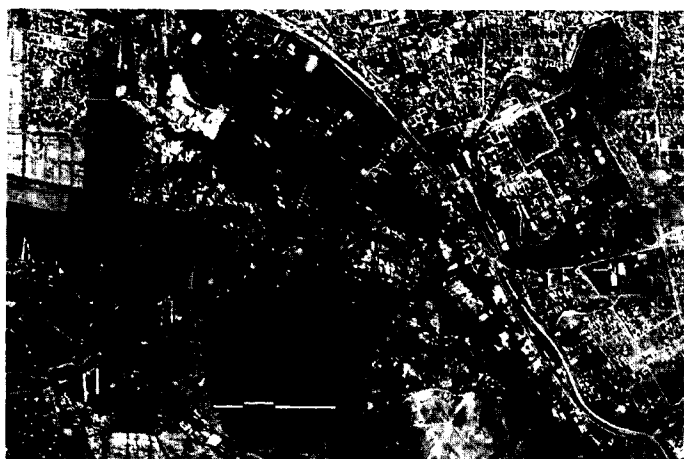
7.2.5 The challenge of the Peripheral City

The challenge of the 21st century is to re-structure the outlying areas through interventions that seek to correct the deterioration of the quality of life and the chaotic and disordered growth that has taken place there in the last two decades. Segregation and social exclusion generate a dangerous climate of social injustice that translates into alarming infrastructure lacks, equipment and basic sanitation services, the absence of minimum environmental conditions, non-existence of green areas and public spaces, marginality, discouragement and poverty.



Map 7.7: Peripheral City, Aerial Photograph, 2000

Source: © Space Imaging) LLC, IKONOS Satellite Image of the City of Cochabamba, IKONOS II, 4 April 2000, International Institute for Aerospace Survey and Earth Sciences (ITC) Enschede, The Netherlands



Map 7.8: Showing part of the districts 7, 8, 9 and 14.

Source: © Space Imaging) LLC, IKONOS Satellite Image of the City of Cochabamba, IKONOS II, 4 April 2000, International Institute for Aerospace Survey and Earth Sciences (ITC) Enschede, The Netherlands.

The strategic vision seeks to close the gap of inequities, concentrating investments on their comprehensive improvement, looking for more justice and fairness. A pro-active pact should be made between the elite groups, the popular sectors, and the Local Government to guarantee the civic will to undertake long-term interventions that stop social exclusion and the economic and social distances between rich and poor sectors. Ways should be sought to promote sensitisation, solidarity and reciprocity, so that all build tomorrow's city.

Neighbourhoods with extremely precarious, high-risk conditions have proliferated in the marginal urban periphery (Districts 7, 8, 9 and 14: see Map 7.7). These have been left out of the improvement interventions aimed at transforming Cochabamba into a modern city. The distances in all the indicators are very wide. The discriminatory treatment has generated a negative impact. Therefore, what is urgently required is a diagnosis of the most pressing needs in each district and the means to finance the corrective measures. They will include taxation and the various types of contributions the neighbourhoods can make through their organisations. It is equally important that the Municipality favours these areas in the investment plans.

The process of horizontal expansion does not follow any city planning guidelines. In addition it generates

negative impacts on the ecosystem of the Central Valley of Cochabamba, threatening to severely change its natural configuration. One manifestation of the negative impact is the conversion of agricultural areas (some of the best in the valley) into built up areas. This also has a negative socio-economic impact.

The demand for the provision of basic sanitation services and, infrastructure in general, overwhelms the capacity both technical and financial of the Municipality. But I consider that good planning and management would enable the authorities to meet these demands.

In theory the Law of Popular Participation should allow participation in elaboration of district plans. In fact, all the inhabitants in the poor neighbourhoods end up doing is approving lists submitted by the hierarchical staff of the Administration. Lack of information and the political bias of some members sitting in the Vigilance Committees together with the ignorance of one's civic rights has become an unprecedented obstacle for authentic change. As a result, the Municipality is always carrying out minor infrastructure jobs. What matters is that the Mayor publicises his party and his person.

Large-scale infrastructure works are carried out in consolidated districts, thus transgressing the principles of the Law of Popular Participation implemented throughout the country. Unfortunately, the Mayor acts in a top-down way simply ignoring the dedicated work of the residents in the various districts at elaborating interesting district plans. But, it is not only the Mayor who is at fault here, for the various departments of the Municipality also ignored these plans for the elaboration of the strategic plan for the urban development of the city.

In November 2000, I carried out fieldwork in the Municipal Districts classified as 'high risk' by the GCCA. Each district house administrator was asked to fill out a survey form. The analysis of the results shows they lack a long-term, strategic vision. I have also noticed there is discrepancy between the needs of the district, the amounts budgeted and those actually spent in the district in 1999. It would seem that all these district administrators do is to replicate the work at municipal head-office. The lack of coherence in their acts could be

explained as follows. Firstly, these civil servants ignore their strategic rôle in the development of the community. Secondly, they act in political terms and so fail to read the needs of the community. And, thirdly, they are merely executors of the decisions of the Mayor.

The reduced participation of the poor can be explained in terms of social exclusion, a problem directly related to poverty. Cochabamba is a place of discrimination. Ignorance of one's citizen rights and the difficulty in exercising them, the loss of cultural values and the limited value given to social ties and solidarity are networks that still persist in society and turn into perverse exclusion and risk mechanisms. One must, therefore,

- increase the representativity both of excluded groups in the urban periphery and other marginal groups.
- deepen Popular Participation and Decentralisation by means of the development of local capacity, institutional strengthening and technical advice.
- support training in citizen organisations so as to ensure that elected officers actually carry out their duties and better respond to their voters

The idea of building citizenship for all the inhabitants of the city means orienting social interventions towards their inclusion. This will happen through innovating social interventions beyond social welfare and paternalism. The concept of citizenship is based on the idea of justice. Social citizenship is thought of as a collective solidarity that unifies, as a feeling of ownership of the City. It aims at constructing a city that integrates all its inhabitants as citizens, and, therefore, with rights and obligations. Popular participation and decentralised public administration, as well as civilian education will be the pillars that contribute to reduce social exclusion and marginality.

7.3 Guidelines, objectives and strategic programs

First general strategic guideline:

Improving urban administration

"To improve the urban administration by means of a pact

and agreement between the local power and the civil society in such a way it allows to simultaneously improve technical efficiency and Municipal policies" (Governance).

General Objective

The Municipal Government will optimise its management and administration capacity. This involves creating, in general, suitable conditions for economic, political, cultural and social development, ensuring sustainability as operating in the framework of a transparent process of popular participation.

The specific objectives are:

- to guarantee the incorporation of all the actors of the civil society in the search for development through agreed interventions and the proposal of programs and strategic projects. This involves identifying administrative objectives, activities and action plans, estimating costs and funding sources, appointing programme- and project-accountable heads and establishing evaluation indicators.
- to set up a public service career and with all its implications
- to strengthen the human resources at the Municipality so they can better support the elaboration and implementation of an autonomous municipal urban administration that has the capacity to promote local development.

The following is a list of interventions aimed at implementing the above

- implementing control systems overseen by civil society
- greater participation in decision and policy making.
- developing a transparent executive budget based on the Yearly Operation Plan (POA)
- securing funding for the approved plans and programmes
- ensuring correct administration and use of the financial resources. Implementing a MIS fully integrated into all the departments dealing with revenues or expenses.
- strengthening the City Council. The City Councillors

should be familiarised with the various laws and regulations that govern city life and institutions.

- providing training, both on municipal administration and citizen leadership, maybe through association with universities

- setting up a Services and Development Office. This will be in charge of ensuring the quality of the all the public services provided as well as proposing improvements and enlargements to the network. It should provide itself with technical instruments to achieve the task above. Another function would be cost studies so as to determine the tariffs for the services provided.

- setting up opportunities for citizens to debate city life freely. This should be associated with workshops and seminars.

Second strategic guideline:

to deepen the process of de-centralisation

- To transfer to the districts the responsibility for handling finances. This should be done according to a budget based upon each district's yearly operation plan and on the index of shortcomings.

- to make each district responsible for the upkeep of their public and green areas

- to consolidate all the districts so that each has the same degree of autonomy and provision of facilities. Districts 7, 8, 9 and 14 are the ones requiring most attention.

- to decentralise resources and services to ensure that all districts have their fair share – seeking to redress the current imbalance.

- to strengthen communication channels between the municipality and society.

- to include immigration policies and interventions in the design of plans and programs. These should facilitate the settling of new migrants regarding housing, culture and social networks. They should also seek ways to incorporate these new city inhabitants so they can enrich the community.

Participatory Planning

- A policy for public – private agreement upon the identification of areas for potential intervention in

education, health, housing and basic services. Also upon the development of strategies to take advantage of comparative advantages and then identifying the means to implement them.

- respect for the organisational, political, physical and economic autonomy of all the organisations based upon the concept of equality of opportunities in the implementation of the Law of Popular Participation.

- the Territorial Base Organisations must play an important rôle in the search for interventions in employment, conditions of life and in the training in and transfer of appropriate technology to develop a more efficient use of the scarce resources and so lead to an increase in productivity. This is particularly important in depressed areas.

Inter-institutional relations

- To create links among the various institutions in charge of the execution of projects in the municipal districts.

- to channel policies of inter-institutional support and encouragement to generate higher investment flows into the region in order to propitiate departmental and regional development.

- to consolidate co-ordinated and multi-sectorial work in the districts so as to lessen the current problems.

- to foster the setting up of a Forum consisting of multi-disciplinary and inter-institutional teams to analyse the problems of the region.

Third general strategic guideline:

Productive City

“Cochabamba integrated in the net of national and regional cities and also in the conurbation (metropolitan area) takes advantage of their comparative advantages and also strengthens other likely competitive advantages.”

The Municipality should make agreements with the private sector to strengthen the productive capacity and generate employment in the city.

General Objective

To generate productive transformation processes

supporting existing and potential capacities so as to create competitive activities that improve the quality of life of the inhabitants and contribute to the balanced and sustainable development of the City. This is partly possible because of the comparative advantages of the City's geographical location with its road and air transport facilities.

Specific Objectives

— To diversify the economic base through the combined work of the State and the private sector. To foster the development of the agricultural, industrial (crafts and manufacture), trade, tourism and service sectors to achieve the re-insertion of their productive components into competitive activities that contribute to the generation of incomes and improving the quality of life of inhabitants.

— to develop a territorial strategy to re-organise productive activities considering the localisation of key factors such as infrastructure, land, services and housing. The industrial park should be implemented and commissioned as soon as possible.

— to improve installed industrial, commercial, tourist and service capacities seeking to further their strengths and reduce the weaknesses.

— to create a Municipal development information database that records all the interventions in the City and surrounding region and so avoids a duplication of efforts.

Strategic Interventions

1. To involve every important actor in the city – NGO's, Government organisations, companies – in promoting a marketing plan for the City to attract investors. New co-operation models among companies and between the public and private sector should be developed.

2. To develop policies that promote the modernisation of the sector, stimulating programs that:

a improve the availability and quality of technical support and training;

b ease access to funding and so accelerate recovery;

c facilitate access to markets and contact with end-consumers.

d stimulate investment in basic infrastructure for production and sales.

3. To contribute to balanced and sustainable development by making available the entire infrastructure, facilities and equipment of the Municipality and encourage private and State institutions to do likewise. Structural reforms have provided the municipality with more resources.

4. To support the consolidation of a tourism industry. Here the City can take advantage of its comparative advantages: central location in the national topography, easy access to the other Departments of Bolivia and abroad, excellent climatic conditions (temperate during most of the year, a variety of eco-systems around the city, cultural, historical, archaeological, palaeontological and architectural assets, gastronomic tradition – quality and variety of restaurants and the hotel infrastructure. Cochabamba is an important centre for cultural activity; its contributions are recognised in the fields of music, theatre, literature and painting. This would require

a supporting the organisation of various types of accommodation for all, catering for different tastes and budgets;

b to train people in managing and organising fairs, information centres and business exchanges

c to channel credits for tourism programmes and projects both for old and new assets.

d to improve access to the City and its tourist facilities

5. To promote and to foster the small-scale economic initiative, micro-undertakings, - that should be a pillar for the process of development, contributing to economic growth, introducing a distributive dynamic that ensures justice in outcomes and generates an alleviation of poverty, without appealing to subsidies that do not have any impact in income generation. Two strategies can be developed on the one hand support in the consolidation of existing companies, in administration and management, and, on the other hand, to support programs and projects for the creation of companies,¹⁸⁸ taking advantage of assets, strengths and skills. This could be carried out in conjunction with the economics and industrial engineering programmes at the University of San Simon.

a The program should support links between producers and their markets, contributing to their successful insertion nationally and internationally by strengthening the webs of commercial inter-mediation. This involves the creation of intelligence units and specialised databases.

b support private funding initiatives for the small-scale economic undertakings.

The residents in the south of Cochabamba have generated chains of economic linkages and a mesh of inter-sectorial transactions as a survival strategy. One example of this is the textile industry. Here the small-scale entrepreneurs produced fake American blue jeans for export to Peru and Argentina working from garage workshops. Since they did so without institutional support one can imagine the success and the multiplying effect a joint co-ordinated effort could have.

Comprehensive programs could generate the conditions for the productive forces to develop and so reduce poverty by providing jobs.

Fourth General Strategic Guideline:

The City and the Environment:

"To optimise environmental through interventions on the physical space and to transfer rules of urban culture and coexistence so that they co-operate in the improvement of the quality of life."

— To carry out sanitation works and urban infrastructure so as to reduce the agents of contamination prevalent in marginal neighbourhoods, result of the precarious housing

— creation of green areas as part of the green belt of the City, particularly in the southern districts. It is fundamental to preserve agricultural areas since they are in danger of becoming part of the urban space. It is important to instil in the citizens a sense of ownership so they take care of the public spaces.

— environmental recovery of the City. There has been a clear conflict in the relationship city-territory. To lessen somehow the excessive destruction of the natural landscape and cultural landscape (built-up city)

— to enlarge the present twelve-kilometre bicycle path

and also to build other bicycle paths as connections between neighbourhoods

— to develop health and road-safety programmes that contribute to a better, comprehensive management of the environment.

— to introduce recycling in the handling of city refuse, subcontracting refuse collection from hospitals and industry,

Fifth general strategic guideline:

Structuring the City of Opportunities

"To make of Cochabamba a space that offers opportunities, is fairer and more solidaristic, less excluding and more equal for all the social actors as the only strategy that really promotes full exercise of citizenship as a way face poverty"

To reduce the wide economic, social, cultural and political gaps that characterise our society through an increase in opportunities in education, health, housing and provision of basic sanitation. Because the origin of poverty is not in the shortage of resources, but rather in the poor distribution of the resources.

General Strategic Objective

To provide more employment, education, health, housing and basic sanitation opportunities for the population at individual, family, group, and level, and so empower them in decision-making and exercising their rights, meeting their obligations and defining their priorities.

Specific objectives

— To optimise and to re-orient social investment, evaluating needs and prioritising actions for men and women in target groups in the areas of employment, education, health, housing and basic sanitation.

— long-term policies need to be put in place using the inhabitants' own resources and socio-cultural conditions. These need to break away from the traditional paternalistic and welfare practices so that through social participation the municipal districts become both the subject and the object of development. The Law of Popular Participation and the Educational

Reform Law constitutes important factors that facilitate advancement in this sense. The success and optimised use of social investment requires explicit consensual processes and public-private participation and co-ordination with the agents of International co-operation in the identification of areas for potential intervention.

- to regionalise the scope of educational reform so that primary and technical education contribute to the formation of qualified manpower in the processes of productive transformation as an answer to the necessities and the codes of modern times and current demands of the job market

- to eliminate access barriers to basic health services and to incorporate traditional medicine into these services and to achieve food security as a result of increased and plentiful production and supply and food subsidies.

- to improve housing conditions, taking into account the socio-economic practices of the population and strengthening its capacity for self-help in this area by training them in better techniques and use of building materials

- to ensure the full participation of senior citizens in development processes. Society needs to provide for their dignified, healthy and active ageing without any type of discrimination.

PROGRAMMES

Education at primary, secondary and tertiary levels as well as vocational training

- to make every effort to take full advantage of the processes of renewal of the educational system

- to ensure equal access to high-quality education for both men and women. There should be especial emphasis on vocational education in function of the necessities of the productive capacity and strengthening native skills and abilities thus respecting the people's cultural and ethnic diversity.

- to fight against illiteracy

- schooling should be accompanied by training in the handling and use of the technologies of information and communication.

- to set up community education programs in each District.

- to make sure that every district has the school buildings and facilities required to meet an ever-increasing demand through population growth

- to support technical education and alternative manpower qualifications. Here it would be interesting to study and apply where applicable the Dutch educational system

- to generate employment policies that permit on-the-job training and study.

Since the above policies accrue long-term yields and do not have immediate political benefits, this issue needs an explicit regional agreement that encourages authorities to undertake long-term strategies.

Such an agreement would remind local leaders and their followers that education is the only investment that has the intrinsic capacity to stop the threat of obsolescence that threatens all other types of investment since the human capital has growing yields being unaffected either by fatigue or catastrophes.

Health Care: First and Second Levels

- to increase access and availability health care services including, where applicable, traditional medicine. Since the municipalities are now in charge of infrastructure, every effort should be made to provide the Districts with health centres that provide quality, primary health care.

- to implement health education especially on preventive health and reproductive health.

- to consolidate and improve the basic health insurance and care of the aged.

Housing: Improvements

To develop and implement a housing policy. This should include financial aid and technical support for do-it-yourself programmes.

- To promote housing plans and the provision of basic sanitation in the marginal, depressed neighbourhoods

- to strengthen self-help efforts taking advantage of their organisation – to work with them rather than ignoring the problem of unplanned sub-divisions where no basic sanitation infrastructure is available

— to design an emergency plan for basic sanitation in all the areas that lack this.

— To design policies to ensure the population has access to good quality fresh water.

The housing plans made by the State have not really been oriented to solve or even mitigate the acute housing shortage, but have become instruments of political tit-for-tat.

Sixth general strategic guideline:

Restructuring the Peripheral City

“One of the most important challenges facing the construction of the city is the inclusion of those hitherto excluded or ignored sectors. City planning must be oriented at reducing the spread and restructuring the territory by combining urban and social techniques.”

There are several interventions that would be a driving force the re-structuring of the city. These are:

A Master Plan for provision of fresh water and sewage.

This includes various aspects: technical (that can be dealt by the technical department of SEMAPA – the water and sewage facility), financial (loans from development agencies or banks) and, social. The latter implies negotiating a monthly payment by the neighbourhoods to cover the cost of installation in part and the willingness to provide labour.

These can be easily negotiated since the neighbourhoods pay, in any case, for bad quality water. The key issue is the political will to undertake the massive effort.

Optimisation of the education, health, road and public transport networks.

“To improve the quality of the urban space of the periphery through a de-concentration of the infrastructure and facilities and a re-structuring of the road and public transport organisation so as to ensure ecological balance, social fairness, access to the services, and productive efficiency.”

This guideline is centred on physical planning, on definition of uses of the land also on preservation of the environment. The goal is to turn the City as a whole into an attractive proposition for its inhabitants. This means putting special stress on the outlying neighbourhoods that look more like temporary settlements at present. The idea is to build sidewalks, line them with trees, naming and numbering the streets and houses and build parks and other leisure facilities.

De-centralise the location of school buildings. Right now there is an excessive concentration of school buildings within the inner city. Most of these should be sold to land developers and with the money raised new schools built in the districts that lack them. In fact, many of the children who attend the inner city schools have to travel quite a distance from the areas in the south where they live.

The shortage of human resources is the most important problem facing the health service. This affects mostly the outlying areas to the south. Hence, the importance of training community health workers that can work in the neighbourhoods and also live there. Another important aspect is the lack of administrative staff specialised in health care.

Road and street networks. Some successful experiences with cement have encouraged many neighbourhoods to share in the cost. But, before this is done, the water and sewage networks have to be installed. Hence, the importance, and not only for health reasons of the emergency plan mentioned above.

Entrepreneurs that have set up groups for a specific route or set of routes provide public transport. Unfortunately, all the routes seem to want to go through the same main streets, causing endless traffic jams, especially on market days. Here, the *La Cancha* area is the most affected. A solution could be a public tramway system. This, besides being environmentally friendly, would reduce the present problems. Another possibility is the use of the railway lines.

Seven general strategic guidelines:

Constitution of the Metropolitan Region

The structuring of the Metropolitan Area of Cochabamba and the administration of the municipalities that would constitute it is yet another of the challenges facing the City, that is to say, to incorporate the territorial vision as another element of the urban system. The goal is to foster the Plan of the Metropolitan Area as the only feasible context in which environmental, transport and some of the social service issues can be effectively dealt with.

7.4 The required Institutional framework for Implementation

The sustainable city is made possible only through the formation of a common meeting ground and negotiation space for all the social actors that compose it. The various social, economic, political and cultural interests have to configure integrational and articulatory processes that lead to the construction of scenarios for the future and for the consolidation of a harmonic and balanced development. This structure seeks to set up an articulate and complementary system of State, local, private and civic efforts where each actor plays a rôle in the creation of timely and effective interventions.

The State acknowledges local organisational structures, assigning them control functions and participation in decision making. As a way getting closer to its citizens it sets up Vigilance Committees. These are supposed to represent and voice the citizens' demands in the exercise of the participation of all the social actors. In this context, City planning centred on in participation, understanding, construction and exercise of the public space becomes a City and societal project whose rôle is to integrate a communication and sensitisation strategy that demonstrates the advantages of investment the City, from an economic, social, political and cultural perspective.

In this City project, the laying of foundations is essential in order to encourage citizens' co-operation and to reduce urban violence. Hence, investment is needed in sustainable increases in urban development and the capacity to compete in the market and to assume the conformation of quality of space (both individual and

collective). The purpose of this structure is to contribute to the growth of the economy and to widen the scope of development, generating the basis of the City for the future.

7.4.1 The National State and Investment Funds

The Social Emergency Fund (FSE) was set up in 1986 with the purpose of alleviating the effects of structural adjustment. This fund generated temporary employment and made it possible to build a social infrastructure. Other funds were also instituted that responded to the necessity of capturing and channelling resources toward the social infrastructure with a longer-term vision. Thus, the Social Investment Fund (FIS) was assigned the task of financing infrastructure projects in education, health, basic sanitation and strengthening institutions. This fund greatly influenced the definition of policies on social investment. In order to facilitate its work and to guarantee the sustainability of executed projects it incorporated the concept of participatory planning, as a useful mechanism of control. Fortunately, municipal governments took this up.

The effectiveness of the various funds was hindered by high operational costs and, occasionally, the execution of projects that were fully co-ordinated within the sectors involved. In some cases the work done was badly organised and of low quality. All this led to their restructuring through the Law of the 2000 National Dialogue and Decree Law number 2235 which created the Single Fund Board (DUF) as the Institution that defines institutional policies, co-ordinates, regulates and investigates them. In fact, its origin is the result of merging the National Fund of Productive and Social Investment (FPS) and the National Fund for Regional Development (FNDR).

The mission of the FPS is to contribute to the implementation of interventions aimed at poverty reduction and to fostering municipal institutional development through exclusive of non-reimbursable transfers and by securing loans for investment. This is supposed to be handled in a just, efficient, accountable way seeking to bolster de-centralisation through the Institutional Development Programs for Municipalities.¹⁸⁹

The National Fund for Regional Development (FNDR) had been in charge of investing in productive infrastructure until 2000 when it became an autonomous financial entity. Its mission is to contribute to local and regional development by means of exclusive credit operations in favour of Municipalities and to facilitate borrowing through the Institutional Development Programs for Municipalities and Prefectures.¹⁹⁰

The General Plan of Economic and Social Development of the Republic of Bolivia leads to the development of the Bolivian Strategy for Poverty Reduction (EBRP). It is aimed at solving issues such as the increase of poverty and prevalent inequality in Bolivian society. This strategy identifies the poor population of the country as its beneficiaries. It will work through economic agents such as small urban and rural producers' associations and organisations.¹⁹¹

An analysis of the official documents for this strategy shows that it only referred to poverty indexes as its criterion for the assignment of resources to the municipalities. These resources come from the HIPC II funds. The choice of the poverty indices is lamentable, for these indicators do not account for the many deprivations of poverty and vulnerability. What is worse, by using the municipality as the unit of analysis, they ignore the deep imbalances within the municipality. Their average value hides the inequality, segregation gaps and marginality that are part of the urban structure.

Also, when considering the Municipality as an analysis unit, these indices hide within them deep imbalances. The average does not offer indicators of inequity, segregation and marginality inside the City. Indeed, the GCCA applied to Cochabamba demonstrates not only that the levels in the marginal urban periphery are similar to those in the poorest municipalities in the country, but also that they caused by a multi-variate

range of problems. Chapter 5 showed in that the gaps in the City are alarming. Faced with the above situation, the Municipal Government still needs to identify alternative funding sources to really tackle the problems that have been mentioned.¹⁹²

7.4.2 The Municipality and Funding Sources

The money for investment the Municipality has comes from its own resources, co-participation funds, loans and donations. The new Organic Law of Municipalities regulates how co-participation funds are to be spent, but does not do so for the other three sources. These are mainly spent on overheads, payroll and infrastructure.

The information on Table 7.1 is both revealing and worrisome. Firstly, one observes a steady drop in the Municipality's own resources – from 70% in 1997 to 29% in 2000. Secondly, the level of indebtedness has risen from 15% to 43% in the period 1997 to 2000. The Municipality's debt amounts to 65 million dollars (see Table 7.2). This means the Municipality will not be able to undertake any main project in the Comprehensive Development Program, at any rate, not in the short-term. In fact, over half the estimated revenue will be used to pay interest on the loans and capital¹⁹³. In view of the above, it is of the utmost importance that the City finds ways of achieving consensus on finding new funds and solving the most acute problems

Municipal investment is distributed in ten programmes (see Table 7.3). The most important item is infrastructure, representing around two-thirds of expenditure. In second position comes the maintenance and upkeep of school buildings and, in third place, the human resources item. This includes school breakfasts and health care. Note in the year 2000, the amount spent by the Municipality has dropped in all items except educational infrastructure.

Table 7.1. Distribution of Executed Investment according to origin of financing resources, 1997 – 2000 (in thousands of American dollars (USD))	RESOURCES	1997	%	1998	%	1999	%	2000	%
	Co-participation funds	10075	15%	12465	20%	10863	14%	11904	19%
	Own resources	45378	70%	39515	65%	30787	40%	18612	29%
	Loans	9698	15%	9160	15%	23629	31%	27421	43%
	Donations	84	0%	21	0%	10981	14%	6286	10%
	Total Executed	65235	100%	61161	100%	76261	100%	64222	100%
	Exchange rate Bolivian for 1 USD	5.26		5.55		5.8355		6.173	

SOURCE: Own elaboration using the Annual Operative Plans of the Municipal Governorship of Cochabamba, 2000.

DESCRIPTION	THE BALANCE OF THE DEBT USD DOLLAR*1000	%
Commercial banking	10654	16%
National Fund of Regional Development (FNDR)	9063	14%
External credit	6486	10%
Private sector (Letters)	16413	25%
Short term debt	11049	17%
Committed debt	12025	18%
Total Debt, to January of the 2000	65691	100%

Source: Municipality of Cochabamba, 2000, Accumulation municipal public debt, of April 20 the 2000. This Document was presented to the Municipal Town Council by the Director of Economic and Financial Development. Cochabamba – Bolivia.

Table 7.2. Municipality of Cochabamba: Distribution of the Debt of the Municipality, 2000 (in thousands of American dollars)

If the destination of investments are matched with results – using the GCCA, one can clearly see that the investments are not coherent with a strategic vision. They are patches, or cosmetic expenditures, and no effort has made to spend on long-term plans. The Municipality lacks any technical and operational means for the strategic assignment of funds on structural solutions. The little money there is, is spent mostly on re-modelling and enlarging school buildings and paying for the school breakfast. The Municipality must set up technical mechanisms that contribute to implementing a comprehensive plan of urban development and stop acting at the whim of the Mayor. The distribution of expenses by Districts – see Table 7.4 – shows that the Districts that continue to benefit from

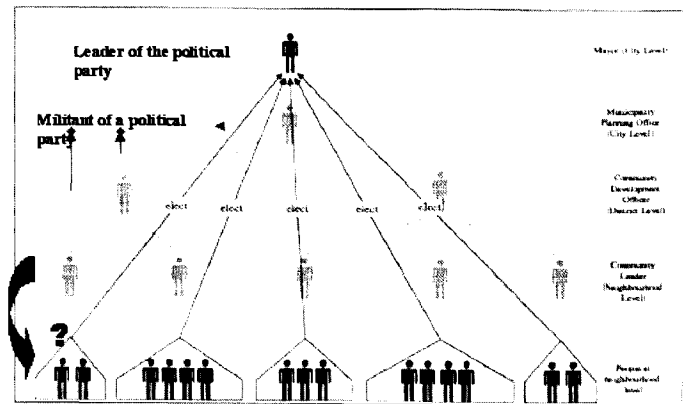


Figure 7.1 Relationship of the Mayor and the people

most of the expenditure are, in fact, those that have always done so. No effort has really been made to redress this unjust situation that helps to maintain a segregated and unequal city.

There is very little being done to define social policies and much less on implementing appropriate interventions. Structural issues such as city-wide water and basic sanitation are long-term issues that are simply overlooked.

While it may be accepted that part of the deplorable situation is due to the financial bankruptcy of the Municipality, one must insist on the need to invest much better the little that is available. This must be spent on the outlying periphery. It has been seen that the residents in this area suffer from a vicious circle from which they cannot get away unless they are helped with jobs and basic sanitation infrastructure, at the very least.

DESCRIPTION	1996	1997	1998	1999	2000
Urban Infrastructure	62%	60%	67%	70%	54%
Basic Infrastructure Services	2%	3%	3%	0%	1%
Illumination Publishes	7%	5%	3%	2%	2%
Road Signs	5%	4%	1%	0%	0%
Educational Infrastructure	6%	11%	0%	15%	25%
Health Infrastructure	0%	0%	0%	0%	0%
Social Develop	6%	10%	21%	11%	15%
Ecology and Environment	10%	6%	2%	0%	1%
Cultural And Sport Develop	0%	1%	1%	1%	1%
Previous investment	1%	1%	1%	1%	1%
Not Assignable	100%	100%	100%	100%	100%
The total quantity in American dollars USD	23978	31468	22188	34887	24541
Exchange rate Bolivian for 1 USD	5.08	5.26	5.55	5.84	6.17

SOURCE: Own elaboration using the Annual Operative Plans of the Municipal Governorship of Cochabamba, 1996 – 2000.

DISTRICTS	IN BOLIVIAN	IN AMERICAN DOLLARS ACCORDING TO EXCHANGE RATE OF 1999					% INVESTMENT	
	1999 BOB	TOTAL \$	CO-PARTICIPATION	OWN RESOURCES	LOANS	DONATIONS	DISTRICTS	CUMULATIVE %
Districts 7-14	245,943	50,100	15,247	7,954	0	26,899	0.22%	0.22%
District 9	43,900	7,523	0	7,523	0	0	0.03%	0.25%
District 13	0	0	0	0	0	0	0.00%	0.25%
District 6	9,872,736	1,691,841	323,615	160,994	1,206,478	754	7.36%	7.61%
District 5	14,485,511	2,482,308	564,760	0	1,917,549	0	10.80%	18.42%
District 2	13,055,835	2,237,312	0	0	2,237,312	0	9.74%	28.15%
District 3	3,693,121	632,871	0	37,617	595,254	0	2.75%	30.91%
District 8	553,297	94,816	0	11,656	0	83,159	0.41%	31.32%
District 11	16,773,748	2,874,432	93,889	11,456	2,769,087	0	12.51%	43.83%
District 1	1,633,777	279,972	0	0	279,972	0	1.22%	45.05%
District 4*	32,372,860	5,547,573	497	6,961	573,325	4,966,789	24.14%	69.19%
District 12	3,339,703	572,308	381,279	41,484	115,928	33,616	2.49%	71.68%
District 10	37,975,586	6,507,683	375,019	79,690	6,052,974	0	28.32%	100.00%
Total Districts	134,046,016	22,978,739	1,754,307	365,335	15,747,879	5,111,217	100.00%	
Not specified	45,837,630	7,854,962	602,089	3,206,987	3,984,067	61,820		
Social Development	23,650,593	4,052,882	2,815,778	36,374	1,199,877	852		
TOTAL Investment	203,534,240	34,886,583	5,172,174	3,608,697	20,931,823	5,173,889		
Exchange rate 99	5.84							

* The Districts have been ordered by function of the results of the group of high risk of the GCCA

SOURCE: Own elaboration using the Annual Operative Plans of the Municipal Governorship of Cochabamba, 1999.

Table 7.4. Distribution of the municipal investment by origin of the resources according to Municipal Districts, 1999.

7.4.3 International Co-operation

Bolivia has received financial help since the mid twentieth century. At one time this help represented 90% of all public investment. Once Bolivia was run along democratic lines, other nations joined the Americans in providing Bolivia with help for development. These countries are Belgium, Canada, Germany, Italy, Japan, The Netherlands, Spain, Switzerland, Sweden and the United Kingdom.¹⁹⁴

The loans for development purposes have come from multi-lateral organisations such as the IMF, the World Bank and the IDB. Up to the nineties these were for large-scale infrastructure projects such as roads, bridges and dams. In a change of policy, many grants now favour poverty alleviation and social development.

The Bolivian Strategy of Fight Poverty (EBRP), referred to above, aims at taking advantage of this change of policy by submitting projects that aim at channelling

resources towards structural issues. The Paris Group at its 1999 meeting received these kind of projects with interest. Yet, as pointed out earlier, the funds that come may not have all the desired impact because of the poverty indicators that were chosen. One can only hope that the process of investing these monies will be transparent and oriented to structural problems.

The plans proposed and accepted will, unfortunately, not have any effect on the marginal, poor areas of the City. It is important, therefore, that some other funding source is identified. As commented earlier, these areas need not only urgent short-term, but also long-term interventions

7.4.4 Non-Governmental Organisations (NGO's)

Non-Governmental Organisations (NGO's for short) have played an increasingly important rôle in development interventions. They have co-operated in facing the serious problems of poverty and they have invested important resources in social policies and productive development. The recently enacted laws, and, especially the Law of Popular Participation have

strengthened the relationship between these public institutions and the ONGs, formalising, in a sense, the kind of co-operative work that was already taking place. An important contribution here has been the help they have given to municipalities, at district level, for the formulation of the district development plans.

They have managed to get to the really poor in a way that no government or municipal agency ever did. They have been shown to be effective in promoting local participation in the elaboration and implementation of programs and projects, strengthening the rôle of civil society in the fight against social exclusion and poverty. If for no other reason, they deserve to be counted among the organisations called to constitute the institutional framework that orchestrates the interventions designed to carry out the Comprehensive Development Plan.

7.4.5 Consensus between Actors and Institutions

The fight against social exclusion, vulnerability and poverty requires the participation of all the actors and the decision-makers involved in a kind of supra-institution that identifies the key issues affecting the City and the tasks that should be implemented to solve them. They must concern themselves with the long-term issues, but also bear in mind the City's pressing short-term needs.

The follow-up and evaluation systems must be set up in a matrix so as to ensure transparency in the interventions. A key instrument here is annual audits and periodic evaluations such as those carried out by the Swedish Agency of International Co-operation for the Development (ASDI) and Dutch Advisory Body of the Agencies of Co-funding (GOM) of The Netherlands.¹⁹⁵

One of the key contributions of this supra-institutions, made up of all the active actors in the development process, is the co-ordination it could achieve between the Prefect's Office – directly responsible for development at Departmental level and the Municipality. The current laws do not provide systems good enough for these key institutions to join forces and work guided by goals other than short-term, vote seeking interventions. What often happens is that one ignores the other, duplicates the effort or tries to hinder the work of the other.

The Comprehensive Development Plan includes, as part of its global objective, the achievement of a greater effectiveness in development programs, essentially through better co-ordination and integration with national levels, and, through the strengthening of the capacity of local development agencies to carry out successful improvement programmes for living conditions in the City. The following should be ensure success

- The organisational chart of the Municipality should include a technical support function to co-ordinate and liaise the heterogeneity of the various public and private entities and focus their efforts on the marginal, peripheral area of the city.
- The securing of a more comprehensive type of support from the international development agencies in setting up and running the supra development institutions
- Strengthening all the mechanisms that facilitate community participation
- Easing the interaction between funding agencies and local development organisations

These new elements will allow co-ordinating the (currently) scattered efforts and so improve them in terms of the fight against poverty and promotion of a popular economy. Local development institutions, once strengthened by the program, will be better prepared to negotiate the mobilisation of national funds of development (for example guarantee funds for credit programs) and, in more general terms, they will articulate the interests of the population of the marginal urban areas on national development policies.

Main Functions

1. To advise on the formulation of socio-economic development plans in each district to elaborate diagnoses and a list of high-priority interventions for district development
2. To promote better participation by marginal groups in the decisions.
3. To contribute to the integration of sectorial development plans, i.e. in the employment, income,

revenue, health, nutrition, education and basic sanitation areas.

4. To orient the programmes of the NGO's for the marginal urban sector and to channel their activities along with the National Program.
5. To provide technical support for the NGO's, Neighbourhood Boards, baseline organisations, and banks, amongst others.
6. To look for the best way of generating good employment opportunities and investment in productive, commercial and service areas.
7. To develop and to apply methodologies to measure the impact of the development programme at economic as well as at the sociological and quality of life levels.
8. To ensure monitoring and evaluation of the activities every two years.

Structure

The structure incorporates all the actors in the development programmes and projects, such as the Prefecture, the Municipality, the NGO's, Artisans' Associations, Financial Institutions, Social Organisations, Neighbourhood Boards, Unions and Parishes, amongst others. It can also incorporate the contribution of research institutes at the universities and any other type of contribution in relation to its requirements. An important contribution will be that of the technical, bilateral co-operation of the various bodies of the UN and of Multilateral and Bilateral Co-operation.

The credibility and attraction of these local development institutions will increase as the technical effectiveness of their interventions increase and is positively valued by the population. Financial sustainability will be easier to obtain once the population is prepared to cover their cost

Only a co-ordinated approach makes it possible to face social exclusion and poverty in a comprehensive way. The current dispersion of interventions hardly permits the implementation of comprehensive programmes directed towards the poorer sectors. This is because each local institution has a limited view, tending only to see only what is "theirs", imposing that point of view and ignoring the rest. Co-ordination could bring complementary efforts.

A programme for providing loans to the informal sector would not only include credit, but training, technical education and the construction of suitable premises, social security and the environment all aspects that require a group vision. The way of conceiving co-ordination in the national environment can vary and it should be created as a function of the specific necessities of the municipal district with the competition of resources of the international co-operation.

Scope

The programme will try to create a comprehensive response to the problems of poverty by means of a co-ordinated effort that combines know-how, experience and skills. Within this framework, programme interventions will be located at three levels:

1. Co-ordination and articulation of national programs and projects that fight poverty in urban marginal areas
2. The goal will be to propose and analyse the mechanisms that ensure an effective articulation of the needs of the population; to structure, strengthen and/or to articulate the various local government departments with community baseline organisations, for example, Neighbourhood Boards, the private sector and NGO'.
3. The key task will be to go beyond the proposal stage and enter into the actual implementation. The interventions must be such that they have a direct effect in improving the living conditions of the population. Since a key premise of this work is that the marginal population should take up the leadership in planning and implementation of the interventions proposed in the projects, all of them shall be oriented by the decisions taken through effective community participation.

The various strengthening programmes should develop comprehensive social administration indicators applying the GCCA for this purpose, not only for diagnosis, but also for their evaluation. The incorporation of various private agents from managerial organisations, NGO's and Community Associations is one of the most important aspects in the new set-up of urban development planning.

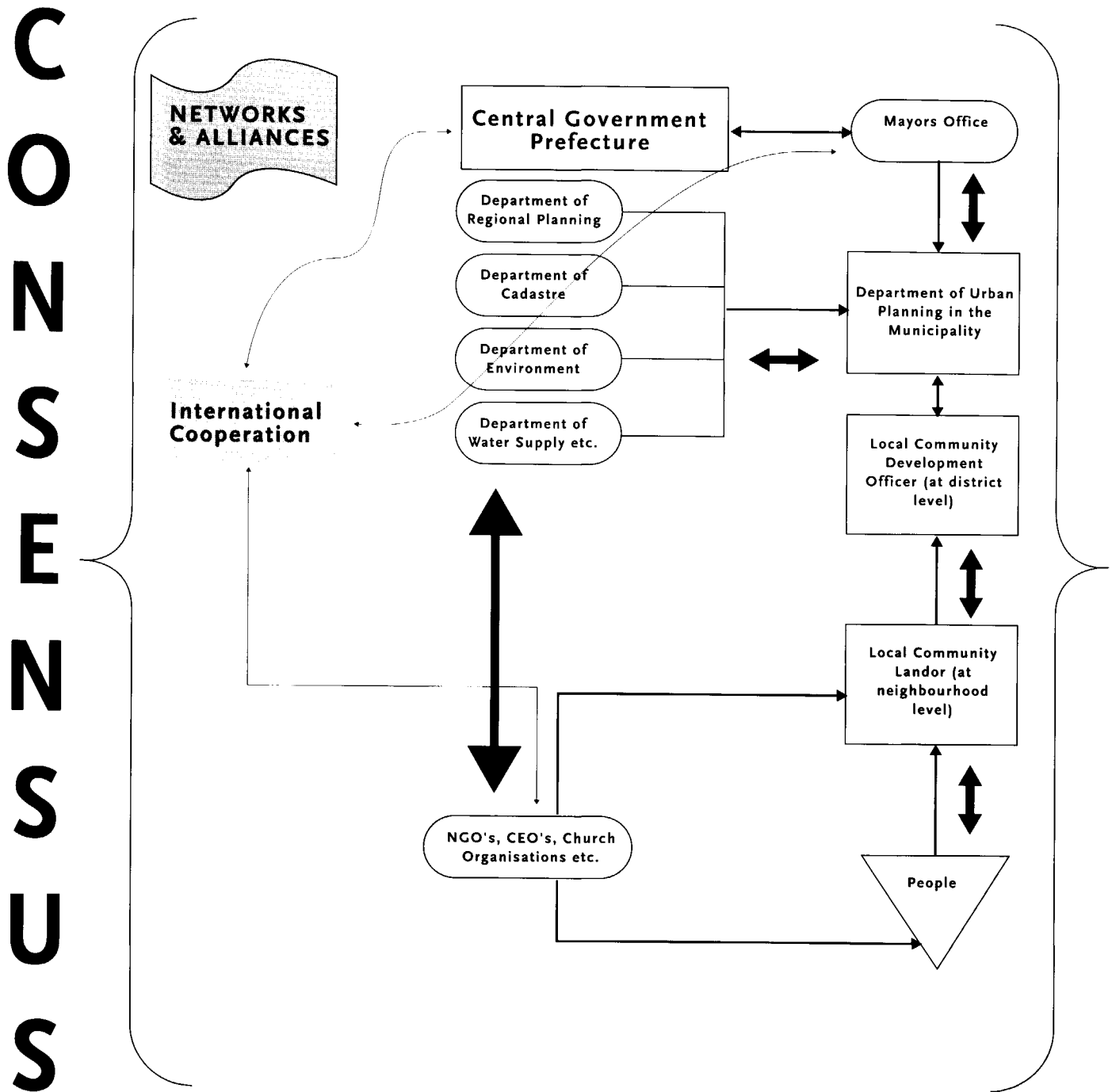


Figure 7.2 Urban Planning Scenario Consensus between Actors and Institutions

There are many reasons for incorporating other agents at every level of public policy design. Among them we can list the following: greater effectiveness and efficiency in the management of social services, wider knowledge and experience derived from contact with excluded

groups, the main target groups for assistance programmes and the capacity to adapt to changing circumstances. This variety would contribute to modifying appropriately the intervention guidelines if need be

The guidelines on social issues need to be established through the active participation of various groups of

actors and organisations that grant authenticity to these proposals and that also operate in small or medium areas in order to make them accessible to the target audience. Beyond any pre-supposition on the benefits of incorporating various actors in this issue.

7.5 Envisaging the future

The construction of the future is an awareness of the risks that already exist; hence it is difficult to imagine a progressive administration of change without establishing pacts. The Municipality has to share responsibility in policy design. In addition, the process re-opens the debate on the eventual policies democracy will have and on how far it is possible to advance in the dimensions that qualify democracy. This refers to elements such as freedom, stability and democratic quality. The latter meaning the degree of fairness a democracy contains. It implies consensus, building upon those the basic goals of social order not yet achieved by the mere democratic or economic process.¹⁹⁶ The future of a society is built on the aspirations of people and public and private actors seeking to achieve a comprehensive set of actions that generates the bases for transforming and developing the City.

One of the central aspects for the achievement of the Comprehensive Development Plan is the effective participation of the various public and private actors in the execution of its programmes. However, a serious risk exists that could alter the correct satisfaction of the demands of the most needy groups. Given the prevailing insecurity, precariousness and social fragmentation the articulation initiatives and agreements could end up being taken over by the politicians in power and their party. This is a risk because of the very undemocratic practices of most of our political class who are likely to see a serious threat in the structural transformations proposed. In this context it is difficult for any society to move forward and to embody a project of social integration that incorporates a genuine concern for the outlying city and the reduction of the gaps and inequalities found there especially. Paraphrasing Corragio¹⁹⁷: the social democratic movements that stretched the frontiers of what is possible have been replaced by in-fighting for the diluted power of the State,

for the substitutive political representation and its side-benefits. Since the issue of vulnerability affects both the poor and the rich alike, it is necessary to carry out actions oriented to reducing risks and vulnerability and thus regain the hope of the depressed and excluded groups.

The likelihood of many public and private actors agreeing on interventions and also upon an agreed goal depends on the Pact. Again, paraphrasing Fernando Calderón¹⁹⁸: a democratic, representative system will be built only if the political power and the administration of the State are recovered and controlled from society. In this process every step must be taken to ensure the active and autonomous participation of the marginalised majorities of the new modernity. Here lies the irreplaceable resource for development, the factor that makes dynamic competitiveness possible. All this requires a strong change in political culture that abandons the tit-for-tat practices and gives priority to a way of exerting political power that promotes integrating economic structures and is not just limited to receiving or attracting any activity that provides employment opportunities, no matter what the cost. It requires not only ideas, projects and investment capacity – these are definitely needed – but also a cultural struggle, and the search for harmonic and balanced development.

It has been demonstrated that the GCCA contributes important information on the relationships between the variables and the groupings among variables inside each sub-set of results. This can be useful in two ways. Firstly, to know the degree of statistical association in an analysis prior to the diagnosis. Secondly, from the point of view of the planner or evaluator, it can be interesting to know whether the monitoring and control systems have any effect on the groupings among variables. This could be observed if the analysis of canonical correlation is carried out at the beginning and at the end of a certain period of planning.

It is an unquestionable fact that the distribution of Municipal resources favours certain Districts to the detriment of others. Thus, the Municipality ignores the poorest areas in the City. The authorities argue that since the City Planning Department has not approved

their settlements, they deserve to be ignored. These 'ignored' areas have to make up for this through community work.

There are many issues to be taken care of, but the most pressing is the lack of water and basic sanitation. The solution involves political will and also technical and financial aspects. Work is underway on the tunnel that will eventually satisfy the needs of the City and the part of the metropolitan area. But, the water reservoir has not yet been built. Yet, another aspect is the building of a water and sewerage system not only for the parts of the City and the metropolis that lack them, but even for the parts that already have it since the network is old and, in the case of the sewers, already unable to cope with the discharge rate. For this money is needed – a lot of money!

It is necessary to give structural solutions to problems that exist, but the manifestation of the growing inequality that affects the poor of Bolivian society. One of these is the correct distribution of the resources of co-participation. While it is true that the money from co-participation is spent by the Municipality on infrastructure at the request of the neighbourhoods, this fails to please everybody. Here it seems that the key is to for these monies and other funds to be spent on implementing the projects and programmes of the Comprehensive Development Plan.

The Municipality will not be able to tackle the City's problems unless it modernises its structure. Perhaps the most serious is the political component, which could be seen as the origin of all evils. If changes do not take place, any participatory integration of the community will be in vain.

It is hard to change the old ways of the City's Planning Department. As pointed out said earlier this involves implementing a civil service career and the design, and then implementation, of a long-term development policy.

The changes in the laws regarding municipal government have given municipalities a lot more autonomy. They now have the authority and the means

to deal with the issues of urban growth. What is needed is committed political willpower and inter-action with civic society.

There is very much to do in that aspect. The laws can be further improved. The human resources need to be trained, and then employed in a secure job situation. Every level of society needs to become conscious of the importance of a City planning effort resulting from the inter-action of true participatory planning and efficient technical backup from the City Planning Department.

Thus, instead of the illusory 'garden city' development theme, the authorities should work with the community, and especially the needy communities to meet their needs. In a wider context, society as a whole has to determine whether it will let housing take over agricultural activity and turn the whole valley into an urban settlement.

The magnitude of the problems detected in Cochabamba are multi-dimensional, a planning process that tackles only some sectors would not solve conflicts in a comprehensive way. Hence, it is proposed to publish a '*Comprehensive Plan for Sustainable Urban Development*'. The submission is that this could be an option that focuses on well-being through a broadening of people's abilities and opportunities. For this to happen, the economy must be able to grow without jeopardising the future of new generations. This implies preserving natural resources and the environment while ensuring that economic achievements turn into individual and social well-being and the use of resources into quality of life. It requires a culture that admits differences and values fairness and solidarity. Hypothetically, a strategic vision for the construction of a sustainable city in Cochabamba could be:

The City of Cochabamba needs to become physically organised and less segregated, socially fairer and more humanly equal, economically efficient and productive, ecologically sustainable, and open to political participation so as to promote the kind of citizenship where everyone satisfies their deepest human needs. The City needs to be efficient in the management of its territory, especially of public lands, its environment,

public works, health and education and its resources. This is fundamental to ensure improvement to the quality of life and a reduction in vulnerability and citizen insecurity.

The following are some of the strategic actions that could be implemented:

- Improvement of urban administration through consensus and achieving agreements with the politicians and civil society.
- Deepening the de-centralisation of the various Municipal Districts as a way of ensuring effectiveness, transparency, quality of life and citizens' participation and training. This would be a generalised policy of setting up new urban centres required by the size of the City so as to give each District its place.
- Generation of mechanisms for better citizen information and training on urban culture and interaction.
- Seeking a fairer and more solid society, where people are not excluded and where everyone has equal opportunities, as the only way to stimulate the full exercise of citizenship and the fight against poverty
- Improving the organisation and quality of urban space to ensure beauty and ecological balance, social equity, access to services and productive efficiency.

Of course, the elements mentioned above are but general measures. Furthermore, there has been no attempt to elaborate an exhaustive list. The most important thing is to highlight the existence of a rich variety of accumulated experiences that exists in the cities of Cordoba and Rosario in Argentina and Santa Cruz in Bolivia, for they are illustrative examples of the construction of modern and efficient cities. This proves that it is possible to implement plans and programmes aimed at reducing the suffering of the poor over relatively short periods of time. It is not proposed that such examples be accepted as such, but rather that they will be applied to the specific characteristics of the city of Cochabamba.

To complete these remarks, it is fitting to point out that the key question on the subject of planning does not reside in solutions of cosmetic aspects, but in avoiding

the causes leading to chaos and dis-organisation and hence infra-human living conditions. In synthesis, what is intended is to somehow achieve an organisation of the space of Cochabamba so as to permit an improvement in the living conditions for its residents and to consolidate the bases for building a modern city that articulates a network of intermediate centres at regional, national and international level.

Notes

182

Calderón Fernando, 1999, *Sociedad y Globalización, Cuaderno De Futuro 1, Programa de las Naciones Unidas Para el Desarrollo (PNUD)*, La Paz – Bolivia. Pág.39

183

After to identify the key problems and correlations: the main policy contribution tries to inform policy makers about the target and focal areas of policy intervention.

184

Coraggio, José Luis, 1999: *¿Es Posible Pensar Alternativas a La Política Social Neoliberal?*, Nueva Sociedad, Nffl 164, Caracas-Venezuela. Pág. 12

185

See: <http://europa.eu.int/comm/translation/bulletins/puntoycoma/65/index.htm>. Governance refers to the process whereby elements in society wield power and authority, and influence and enact policies and decisions concerning public life, and economic and social development.

Governance is a broader notion than government. Governance involves inter-action between these formal institutions and those of civil society. (The Governance Working Group of the International Institute of Administrative Sciences, 1996).

186

Corragio José Luis, 1999, *Perspectivas de la planificación urbana en el contexto de la globalización*, presentado en el Seminario Internacional Ciudad Futura: Nuevas modalidades en planificación y gestión de ciuda-

des. Realizado en la ciudad de Rosario, del 3 al 7 de mayo de 1999, en el marco de la Unidad temática de Planificación Estratégica de la Red de Mercociudades Argentina. Page 13

187

Honorable Alcaldía Municipal de Cochabamba, 2000, *Plan estratégico de Desarrollo de Cochabamba*, Cochabamba – Bolivia.

188

Baudoin Luis F. y otros; 1996, op. cit.

189

El Honorable Congreso Nacional, 2000, Ley del Dialogo Nacional 2000 (Ley 2235), Artículo Nffl 21, La Paz – Bolivia:

<http://www.vppfm.gov.bo/new/PaginasVPPFM/PaginasVPPFM/MarcoLegal/LEY2235DIALOGO.htm>

190

Op. Cit. Artículo Nffl 20.

191

Op. Cit. Artículo Nffl 3, La Paz – Bolivia:

192

UDAPE, 2001, Versión Final de la *Estrategia Boliviana de Reducción de la Pobreza*, La Paz – Bolivia.

Capitulo 6, Web site:

<http://www.ebrp.gov.bo/>. Véase también: *Laserna Roberto*, 2001, *La Estrategia Boliviana de Reducción de la Pobreza*, Publicada en Los Tiempos, 4 de marzo del 2001 y La Razón, 5 de marzo del 2001, Cochabamba - Bolivia. http://www.geocities.com/laser-na_r/ebprcom.htm

193

In the newspaper 'Los Tiempos' on January 30th 2001, the Leader

of the Municipality indicates:

"The Municipal Budget 2001 will be able to pay debts and to conclude works pending" He indicates a sum around 400 million Bolivians, with half dedicated to the payment of interest on the debt and other passive ones and obligations that it has the Municipal Governorship.

194

Department of Evaluation of Operations and Political (Inspectie Ontwikkelingssamenwerking in Beleidsevaluatie, IOB), s/f, BOLIVIA: *Evaluation of the Program of Cooperation to the Development of the Netherlands with Bolivia*, Ministry of External Matters of the Netherlands. ISBN 90-5328-223-8. Ed. Ridderprint BV, Ridderkerk. Page 53.

195

Department of Evaluation of Operations and Political (Inspectie Ontwikkelingssamenwerking in Beleidsevaluatie, IOB), Op. Cit. Page 131. The agreement to co-finance of the MFO with the Dutch government (DGIS) implies a series of procedures and objectives common to the four agencies. As co-ordination mechanism for the Ministry, the MFO meets in the GOM (Advisory Body of the Agencies of Co-financing). The DGIS and the MFO carry out sectoral, thematic and regional evaluations regularly. The four agencies carry out some programmes in areas considered strategic. In Bolivia they have financed this type of programme by means of the GOM

(Gemeenschappelijk Overleg Medefinanciering).

196

Calderón Fernando, 1999, Op. Cit. Pág. 17

197

Corragio José Luis, 1999, Op. Cit. Page 4.

198

Calderón Fernando 1999, Op. Cit. Pág. 39 y también: *Corragio José Luis*, 1999, Op. Cit. Page 5

Methodological Appendix

1. Aerial Photography

In this research it has been possible to use the Satellite Image of the City of Cochabamba, IKONOS II, 4 April 2000 (© Space Imaging) LLC), thanks to the support of the International Institute for Aerospace Survey and Earth Sciences (ITC) Enschede, The Netherlands. The image of the whole of Cochabamba has been provided on paper at the scale 1:100000. It is in a low digital resolution (due to institutional restrictions (cbb4m)) and is the full pan-sharpened Geo-image of

Cochabamba, 4 x 4 m pixels (and 8 bits per colour) to reduce the image size (Scales 1:80000). The ITC for support this research has provided twelve digital images at a better scale of resolution. The twelve images (cbb1 .. cbb12) are sub-sets of the original IKONOS II pan-sharpened Geo-image, consisting of a 1 x 1 m pixel panchromatic image, fused with a 4 x 4 m multi-spectral image (red, green, blue). The original eleven bits per colour have been reduced to eight bits (1 byte) per colour. The projection is UTM, with datum WGS84 (Scale 1:5000). Type: panchromatic image.

CO-ORDINATES

AREA	x1y1	x2y1	x1y1	x1y2
Cbb1 1	806000-8066000	807000-8066000	806000-8070000	807000-8070000
Cbb1 2	804000-8068000	806000-8068000	804000-8072000	806000-8072000
Cbb1 3	803000-8069000	804000-8069000	803000-8070000	804000-8070000
Cbb1 4	800000-8070000	803000-8070000	800000-8071000	803000-8071000
Cbb1 5	801000-8071000	804000-8071000	801000-8073000	804000-8073000
Cbb1 6	802000-8073000	804000-8073000	802000-8076000	804000-8076000
Cbb1 7	801000-8074000	802000-8074000	801000-8076000	802000-8076000
Cbb1 8	797000-8074000	799000-8074000	797000-8075000	799000-8075000
Cbb1 9	796000-8075000	800000-8075000	796000-8076000	800000-8076000
Cbb1 10	798000-8076000	801000-8076000	798000-8080000	801000-8080000
Cbb1 11	804000-8076000	806000-8076000	804000-8078000	806000-8078000
Cbb1 12	802000-8077000	804000-8077000	802000-8079000	804000-8079000

Source: © Space Imaging) LLC , IKONOS Satellite Image of the City of Cochabamba, IKONOS II, 4 April 2000, International Institute for Aerospace Survey and Earth Sciences (ITC) Enschede, The Netherlands.

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2. Concerning the socio-economic Groups

One of the criteria that led to the construction of the socio-economic groups was that they had the most social internal homogeneity, so as not to make the mistake of including groups that were only added statistics. It was decided to define the universe of observation in terms of «household member respondent» which allows obtaining practical information on whole population of the city of Cochabamba, with the restriction that the occupational places that define the outline of the social structure are

only those that are occupied by heads of the households or by the active 'senior' worker there. It is supposed that the occupational position of the head of the household or the active 'senior' worker is an approximation of the general conditions of life in the household. So, the definition of the social-occupational groups is connected with the form of insertion of the households in the productive structure.

As the aim of the actual investigation is orientated towards getting to know the conditions of life and the behaviour of each stratum, it appears to be a hard

justification to consider as the universe of observation a family (particular households), as the major part of the indicators that are used refer to the household as a unit of analysis (for example, the complement of basic services at the house, public sewage system, drinking water and indicators of accumulation).

The operative procedure starts with the inclusion of all the households with heads that belong to the Economic Active Population (EAP). In the case of households with heads that are not active, one resorted to the first 'senior' active member, of 15 years or older, previous analysis of kinship with the head of the household. The justification for incorporating the occupational characteristics of the last mentioned is to assign a social stratum to the members of the family whose heads were not active. Given the analysis of the relation of kinship, the possibility of including as 'senior' active persons functioning in domestic services or who are not relatives has been excluded.

Basic variables and re-coding

a) Condition of Activity: The Economic Active Population (EAP) includes as active those persons that in the time of reference (the week previous to the census or investigation) were occupied and those people that, while having a job, did not work in the period mentioned. Those people that were looking for a job for the very first time have been excluded. Consequently, PEA is considered an approximation of the concept of work force.

b) Branch of Economic Activity: This variable allows the description of the economic sector in which a person does his job. It has been designed to define the sectors of the economic atmosphere to which the members of the PEA belong. Because of its characteristics, it allows one to define, with relative precision, the economic, judicial-political and ideological activities that form the social processes of production. The sectorisation is based on the International Uniform Industrial Classification and all economic activities (CIIU Ref.2 of the United Nations).

c) Occupational Group: The word occupation refers to

profession, function or type of work, in which the person functioned during the week before the date of the census, or his last work if he was without occupation at the count. One considers this variable a central dimension of an objective definition of the social-occupational strata. Although the rôle played by other factors (like the level of income, participation, economic, political power, etc.) is unknown, about which was not possible to obtain information, it is estimated that occupation allows a description of the nature of work realised by the productive agents. A re-coding of its value was realised while taking into consideration its hierarchic position, the "professionalism" and the manual or non-manual character of the work.

d) Occupational Category: This variable allows differentiation between two polar groups: the employers and employees, that differ basically in the origin of revenues, incomes, utilities, etc. The labour position of a person is referred to by the function of his principal occupation. This serves as an indicator of the relationship between the agents, although it does not allow a distinction between the employees concerning their forms of income.

The variable occupational group was re-coded so that, reflecting the characteristics of the productive structure of the city, it allows recognition of a reduced number of types. Consequently, after a detailed inspection of the available data, it was finally possible to define six occupational structures.

The variable category of occupation, in its turn refers to the labour position of the person in the function of his principal activity. This variable was also re-coded with the aim of having homologable groups.

Derivation of the Groups

The treatment of the category of occupation, simultaneously with the occupational group allows the defining the forms of insertion of the individuals in the productive processes more precisely. Thus, it adjusts the fundamental criterion of differentiation between the social-occupational strata. However, the investigation

does not give the specific characteristics of the economic units (productivity, division of work, capital and type of possession) that would allow the establishment of more precise limitations between the strata. In general, the occupational classification tends to correspond with the branch of activity, so that, in a certain way, it implicitly carries a criterion of specialisation of work force (which comes near to the notion of technical division of work).

The strata, defined by a simultaneous crossing of the variables group of occupation and category of occupation, allow discrimination between the positions the individuals occupy within the productive structure of the City. In spite of this, such an identification is not sufficiently precise to make it equivalent to the sociological categories of major theoretical wealth, as a social class. As a result, the stratification outlined here concerns mostly analytical considerations that supposedly reflect, in part, the socio-economic reality of Cochabamba.

Thus, the seven strata have been formed in the following way:

It is estimated that the variables about education operate essentially in the atmosphere of socio-occupational stratification, strengthening the effects this has upon the behaviour of individuals. Thus, the conditions of the households are considered within the context of the residential zones, stressing or reducing attention to the specific elements of the social spaces within the City.

Life Conditions and Deprivation

The study of the material conditions of life includes an analysis of the degree in which the population satisfies a variety of necessities. These necessities have been determined historically as they are directly related to the demands of the surroundings in which a person lives and to the degree of technical, economic, social and cultural development reached by society at a given moment in time. Consequently, in order to know the conditions of life of the population, it is necessary to take into account the current demands in each specific society.

The degree to which the distinctive social sectors satisfy this sum of necessities, gives an approximation of the knowledge of its conditions of life. The bigger the spectrum of necessities the population manages to satisfy and the higher the percentage of population that has access to the goods it requires, the higher also will be the degree of welfare reached by the society in its entirety and the proportion of households that does not satisfy completely its requirements is important.

Getting near to the conditions of life of the population is achieved with the knowledge of behaviour that adopts a series of indicators, standing out among them are those referring to the characteristics of the house and the services on which it can count, variables which indicate the degree to which the necessities of the population have been covered.

3. Concerning Generalised Canonical Correlation Analysis (GCCA-OVERALS)

RESULTS 1988:

The data for this application comes from the survey '*Migration, Urbanisation and Employment in Cochabamba*' 1988¹⁹⁹, consisting of 124 questions. The survey included 10,250 respondents from 2,313 households, a representative sample of the population of Cochabamba.

The questionnaire enabled the collection of information about all those respondents living at the same address and characteristics of housing, basic services and health. The information on all residents in the home has been transformed into contextual variables. The universe of the research is formed by total populations that they live in particular homes that have an 'active head' or an other active family member. The operative procedure begins with the inspection to condition of the 'Economic Activity Population (EAP)', which allows the direct inclusion of all the family heads that belong to

EAP (84% of the homes). In the case of the non-active family head, the first active member of 15 years of age or more, along with a previous relationship analysis with the household head (16% of the homes), was included for analysis²⁰⁰. With the same variables method approach, the number of persons in the dwelling, sex and age composition of the family head, and others have

been created (See list of variables and indicators). The total data is divided into sets of operational variables representing the five basic variables. Before a definitive data set can be constructed, one has to check the homogeneity of the preliminary sets (Homals). The meanings of the variables and categories within these sets are given below:

First set: X1: Socio-economic Status

SET 1	SAMPLE		EXPANDED SAMPLE	
	FREQUENCY	PERCENT	FREQUENCY	PERCENT
X11: ESOVAL= Stratification of the socio-economic groups				
1. Manual Worker	527	25.3	17819	24.5
2. Informal Sector	801	38.4	26903	36.9
3. No Manual Worker	403	19.3	14777	20.3
4. Director, professionals and company employees	356	17.1	13372	18.4
Total	2087	100.0	72871	100.0
X12: CAPITAVA= Income per capita in American dollars per day				
1. <1\$	895	42.9	30930	42.4
2. 1-2\$	718	34.4	23983	32.9
3. 2-4\$	356	17.1	13031	17.9
4. 5\$-+	118	5.7	4927	6.8
Total	2087	100.0	72871	100.0
X13: RAMAVAL= Productive Structure				
1. Wholesaler & Financial Services	146	7.0	5589	7.7
2. Transport, Communication & Social Services	730	35.0	25222	34.6
3. Retailer, Personal Services & Restaurant	542	26.0	18297	25.1
4. Primary & Secondary Sector	669	32.0	23763	32.6
Total	2087	100.0	72871	100.0
X14: P14NEW = Formal Education Level (In years)				
1. < 3	185	8.9	6320	8.7
2. 3-8	737	35.3	24635	33.8
3. 9-12	591	28.3	19955	27.4
4. 13 - +	574	27.5	21961	30.1
Total	2087	100.0	72871	100.0

Second set: X2: Socio-spatial Status

SET 2	SAMPLE		EXPANDED SAMPLE	
	FREQUENCY	PERCENT	FREQUENCY	PERCENT
X21: P14NAC = Area of Origin				
1. Biggest City	1086	52	37715	51.8
2. Intermediate/City	570	27.3	19687	27.0
3. Rural	431	20.7	15469	21.2
Total	2087	100	72871	100.0
X22: ZONARP = Neighbourhood Location				
1. Good Neighbourhood	560	26.8	27269	37.4
2. Regular Neighbourhood	701	33.6	16812	23.1
3. South Neighbourhood	826	39.6	28790	39.5
Total	2087	100	72871	100.0
X23: TIPOMR = Migratory Condition				
1. No Migrant	625	29.9	20578	28.2
2. Migrant	1462	70.1	52293	71.8
Total	2087	100	72871	100.0

Third set: X3: Living Conditions – Deprivation

SET 3	SAMPLE		EXPANDED SAMPLE	
	FREQUENCY	PERCENT	FREQUENCY	PERCENT
X31: Vo1RR Housing types				
1 House or Flat	1371	65.7	49885	68.5
2 Room & Shack	716	34.3	22986	31.5
Total	2087	100.0	72871	100.0
X32: V14RR Ownership types				
1 Owner	1067	51.1	38082	52.3
2 Rent & Borrow	1020	48.9	34789	47.7
Total	2087	100.0	72871	100.0
X33: HACINAR Housing Crowding				
1 High/Density	629	30.1	21375	29.3
2 Normal	1458	69.9	51496	70.7
Total	2087	100.0	72871	100.0
X34: SHPR Availability of private bathroom				
1 YES	1190	57.0	41938	57.6
2 NO	897	43.0	30933	42.4
Total	2087	100.0	72871	100.0
X35: V12 Readiness of room to cook				
1 Yes – Kitchen	955	45.8	35398	48.6
2 No - Kitchen	1132	54.2	37473	51.4
Total	2087	100.0	72871	100.0
X36: Vo3RR Solid materials used to construct walls				
1 Good-Walls	703	33.7	25816	35.4
2 Regular-Walls	1034	49.5	34590	47.5
3 Bad-Walls	350	16.8	12465	17.1
Total	2087	100.0	72871	100.0

SET 3

	SAMPLE		EXPANDED SAMPLE	
	FREQUENCY	PERCENT	FREQUENCY	PERCENT
X37: Vo4RR Solid materials used to construct Roofs				
1 Good – Roofs	617	29.6	23716	32.5
2 Regular- Roofs	1470	70.4	49155	67.5
Total	2087	100.0	72871	100.0
X38: Vo5RR Solid materials used to construct Floors				
1 Good-Floor	614	29.4	25478	35.0
2 Regular-Floor	1239	59.4	39003	53.5
3 Bad-Floor	234	11.2	8390	11.5
Total	2087	100.0	72871	100.0
X39: Vo6Vo7R Drinking Water				
1 Good-Water	1529	73.3	50962	69.9
2 Regular & Bad –Water	558	26.7	21909	30.1
Total	2087	100.0	72871	100.0
X310: SEWER Public sewer system				
1 YES-Sewer	1263	60.5	42119	57.8
2 NO-Sewer	824	39.5	30752	42.2
Total	2087	100.0	72871	100.0
X311: Vo9 Electricity Service				
1 Yes-Electricity	1999	95.8	69329	95.1
2 No-Electricity	88	4.2	3542	4.9
Total	2087	100.0	72871	100.0

Fourth set X4: Position in the Life Cycle

SET 4

	SAMPLE		EXPANDED SAMPLE	
	FREQUENCY	PERCENT	FREQUENCY	PERCENT
X41: V2oR Household composition				
1 Single	103	4.9	3613	5.0
2 Nuclear	1520	72.8	52167	71.6
3 Extended & Compound	464	22.2	17091	23.5
Total	2087	100.0	72871	100.0
X42: P13NEW Marital Status				
1 Divorced/Widow(er)	301	14.4	10477	14.4
2 Married	1649	79.0	57482	78.9
3 Unmarried	137	6.6	4912	6.7
Total	2087	100.0	72871	100.0
X43: TAMHOGAR Household size				
1 1 – 3 members / home	629	30.1	22514	30.9
2 4 – 5 members / home	842	40.3	29293	40.2
3 6 - + members / home	616	29.5	21064	28.9
Total	2087	100.0	72871	100.0
X44: EDADR Age Composition				
1 Less 30	416	19.9	13984	19.2
2 30 – 64	1504	72.1	52914	72.6
3 65 - +	167	8.0	5973	8.2
Total	2087	100.0	72871	100.0

SET 4	SAMPLE		EXPANDED SAMPLE	
	FREQUENCY	PERCENT	FREQUENCY	PERCENT
X45: Po3 sex Composition				
1 Male	1765	84.6	61554	84.5
2 Female	322	15.4	11317	15.5
Total	2087	100.0	72871	100.0
X46: CHILDREN = Children under 12 years in household				
1 Yes/children	1427	68.4	49524	68.0
2 No/children	660	31.6	23347	32.0
Total	2087	100.0	72871	100.0
Fifth set: X5: Vulnerability				
SET 5	SAMPLE		EXPANDED SAMPLE	
	FREQUENCY	PERCENT	FREQUENCY	PERCENT
X51: P62NEW Employment type				
1 Permanent	1707	81.8	59887	82.2
2 Temporary	380	18.2	12984	17.8
Total	2087	100.0	72871	100.0
X52: P63NEW Contract of employment?				
1 Yes/contract	674	32.3	23761	32.6
2 No/Contract	1413	67.7	49110	67.4
Total	2087	100.0	72871	100.0
X53: P66NEW Type of income?				
1 Yes/Salary	1108	53.1	39134	53.7
2 No/Salary	979	46.9	33737	46.3
Total	2087	100.0	72871	100.0
X58: P09RR Language				
1 Spanish	395	18.9	14892	20.4
2 Spanish-Native	1692	81.1	57979	79.6
Total	2087	100.0	72871	100.0

Component Loading for single Variables

Projections of the Single Quantified Variables in the Object Space, 1988

COMPONENT LOADING: 1988				CHANGE DIRECTION1 (X -1)				
#	VARIABLE	DESCRIPTION	CODE	SET	CHANGE D1	D2	ORDER D1	ORDER D2
1	ESOVAL	Socio economic Groups	x11	1	0.54980	0.48159	6	5
2	CAPITAVA	Income pc/day U\$S	x12	1	0.52636	-0.08952	9	
3	RAMAVALU	Branches	x13	1	-0.40541	-0.01754	12	
4	P14NEW	Approved Course	x14	1	0.53418	-0.50097	7	4
5	P14NAC	Origin	x21	2	-0.35734	0.23200	14	
6	ZONARP	Neighbourhood	x22	2	-0.70190	0.09484	1	
7	TIPOMR	Migrant Condition	x23	2	-0.18024	-0.01099		
8	Vo1RR	Housing type	x31	3	-0.27234	-0.30401		8
9	V14RR	Ownership	x32	3	-0.14087	-0.54378		2
10	HACINAR	Dwelling Density	x33	3	0.50787	0.05735	10	
11	SHPR	HSP	x34	3	-0.61857	-0.06480	3	
12	V12	Room to cook	x35	3	-0.57251	-0.05202	5	
13	Vo3RR	Walls	x36	3	-0.39214	0.14382	13	
14	Vo4RR	Roofs	x37	3	-0.19451	0.01832		
15	Vo5RR	Floor	x38	3	-0.61308	0.10454	4	
16	Vo6Vo7R	WATER	x39	3	-0.52838	0.03164	8	
17	SEWER	Sewer	x310	3	-0.68135	0.05453	2	
18	Vo9	Electricity	x311	3	-0.23055	0.00848		
19	V20R	v20r	x41	4	0.11548	0.18923		
20	P13NEW	Marital Status	x42	4	-0.02967	-0.31557		7
21	TAMHOGAR	Household size	x43	4	-0.25854	0.29912		9
22	EDADR	Age	x44	4	0.30297	0.53191		3
23	P03	Sex	x45	4	0.10778	0.22301		
24	CHILDREN	Children <12 y	x46	4	0.29081	0.18766		
25	P62NEW	Employment type	x51	5	-0.20623	-0.02697		
26	P63NEW	Contract of employment?	x52	5	-0.22415	0.23821		
27	P66NEW	Type of income?	x53	5	0.17979	0.61886		1
28	P09RR	Language	x58=56	5	-0.42236	0.40377	11	6

Source: Migration, Urbanisation, and Employment in the Micro region of Cochabamba (BOL/87/PO3)'. Centro de Estudios de Población - Universidad Mayor de San Simón, United Nations Population Fund (UNFPA) - International Labour Organisation (ILO) - Regional Development Program in Latin America (PREALC), 1991, Cochabamba, Bolivia. (OVERALS - Version 0.4 by Department of Data Theory University of Leiden, The Netherlands - SPSS 8.0).

Projected Centroids for Single Variables

Projections of the Single Quantified Variables in the Object Space, 1988

Nffl	CODE	DESCRIPTION	PROJECTED CENTROID		PROJECTED	
CENTROIDS			CHANGE D 1		DIMENSION	
			D 1	(D1 * -1)	D 1 (CHANGE)	D 2
1	X111	1. Manual Worker	0.945584	-1	-0.945584	-0.828274
2	X112	2. Informal Sector	-0.309998		0.309998	0.271539
3	X113	3. No Manual Worker	-0.309998		0.309998	0.271539
4	X114	4. Director, professionals and company employees	-0.351363		0.351363	0.307773
5	X121	1. <1\$	0.517018		-0.517018	0.087928
6	X122	2. 1-2\$	-0.111423		0.111423	-0.018949
7	X123	3. 2-4\$	-0.686179		0.686179	-0.116696
8	X124	4. 5\$-+	-1.173305		1.173305	-0.199540
9	X131	1. Wholesaler & Financial Services	-1.083572		1.083572	0.046869
10	X132	2. Transport, Communication & Social Services	-0.213814		0.213814	0.009248
11	X133	3. Retailer, P. Ss. & Restaurant	0.019243		-0.019243	-0.000832
12	X134	4. Primary & Secondary Sector	0.454194		-0.454194	-0.019646
13	X141	1. < 3	0.867449		-0.867449	0.813522
14	X142	2. 3-8	0.472057		-0.472057	0.442710
15	X143	3. 9-12	-0.194401		0.194401	-0.182316
16	X144	4. 13 - +	-0.685528		0.685528	-0.642910
17	X211	1.00 Biggest City	-0.312516		0.312516	-0.202893
18	X212	2.00 Intermediate/City	0.153944		-0.153944	0.099944
19	X213	3.00 Rural	0.583863		-0.583863	0.379058
20	X221	1.00 GoodZ	-1.002553		1.002553	-0.135464
21	X222	2.00 RegularZ	-0.079298		0.079298	-0.010715
22	X223	3.00 BadZ	0.746994		-0.746994	0.100933
23	X231	1.00 No Immigrant	-0.275669		0.275669	0.016802
24	X232	2.00 Immigrant	0.117848		-0.117848	-0.007183
25	X311	1.00 House or Flat	-0.196810		0.196810	0.219700
26	X312	2.00 Room & Shack	0.376852		-0.376852	-0.420683
27	X321	1.00 Owner	-0.137728		0.137728	0.531672
28	X322	2.00 Rent & Borrow	0.144075		-0.144075	-0.556170
29	X331	1.00 High/Density	0.773227		-0.773227	-0.087319
30	X332	2.00 Normal	-0.333580		0.333580	0.037670
31	X341	1.00 YES-pwc	-0.537046		0.537046	0.056256
32	X342	2.00 NO-wc	0.712469		-0.712469	-0.074631
33	X351	1 Yes-kitchen	-0.623315		0.623315	0.056634
34	X352	2 No-kitchen	0.525853		-0.525853	-0.047779
35	X361	1.00 Good-Walls	-0.550215		0.550215	-0.201797
36	X362	2.00 Regular-Walls	0.279481		-0.279481	0.102502
37	X363	3.00 Bad-Walls	0.279481		-0.279481	0.102502
38	X371	1.00 Good-Roofs	-0.300228		0.300228	-0.028284
39	X372	2.00 Regular-Roofs	0.126014		-0.126014	0.011872
40	X381	1.00 Good-Floor	-0.943067		0.943067	-0.160803
41	X382	2.00 Regular-Floor	0.356011		-0.356011	0.060704

N°	CODE	DESCRIPTION	PROJECTED CENTROID		PROJECTED CENTROIDS	
			CHANGE D 1		DIMENSION	
			D 1	(D1 * -1)	D 1 (CHANGE)	D 2
42	X383	3.00 Bad-Floor	0.589509		-0.589509	0.100518
43	X391	1.00 Yes-Water	-0.319199		0.319199	-0.019112
44	X392	2.00 No-Water	0.874651		-0.874651	0.052369
45	X3101	1.00 YES-Sewer	-0.550339		0.550339	-0.044045
46	X3102	2.00 NO-Sewer	0.843541		-0.843541	0.067510
47	X3111	1 Yes-Elec.	-0.048372		0.048372	-0.001779
48	X3112	2 No-Elec	1.098822		-1.098822	0.040417
49	X411	1.00 Single	0.232497		-0.232497	-0.380991
50	X412	2.00 Nuclear	0.046076		-0.046076	-0.075504
51	X413	3.00 Extended & Compound	-0.202548		0.202548	0.331914
52	X421	1.00 Divorced/Widow(er)	-0.058224		0.058224	0.619214
53	X422	2.00 Married	0.004335		-0.004335	-0.046097
54	X423	3.00 Unmarried	0.075751		-0.075751	-0.805611
55	X431	1.00 1 - 3	-0.267279		0.267279	-0.309233
56	X432	2.00 4 - 5	-0.078922		0.078922	-0.091310
57	X433	3.00 6 - +	0.380797		-0.380797	0.440570
58	X441	1.00 Less 30	0.566464		-0.566464	-0.994518
59	X442	2.00 30 - 64	-0.100386		0.100386	0.176244
60	X443	3.00 65 - +	-0.506995		0.506995	0.890111
61	X451	1.00 MALE	0.046036		-0.046036	-0.095254
62	X452	2.00 FEMALE	-0.252342		0.252342	0.522119
63	X461	1.00 Yes/children	0.197775		-0.197775	-0.127624
64	X462	2.00 No/children	-0.427613		0.427613	0.275938
65	X511	1.00 Permanent	-0.097304		0.097304	0.012726
66	X512	2.00 Temporary	0.437102		-0.437102	-0.057168
67	X521	1.00 Yes/contract	-0.324545		0.324545	-0.344901
68	X522	2.00 No/Contract	0.154808		-0.154808	0.164518
69	X531	1.00 Yes/Salary	0.169001		-0.169001	-0.581718
70	X532	2.00 No/Salary	-0.191270		0.191270	0.658370
71	X561	1.00 Spanish	-0.874156		0.874156	-0.835677
72	X562	2.00 Spanish-Native	0.204073		-0.204073	0.195090
max value			1.098822		1.173305	0.890111
min value			-1.173305		-1.098822	-0.994518
average			-0.004697		0.004697	-0.002478

RESULTS 1996

The data for this application comes from the survey 'National Labour Sample of 1996' consisting of 80 questions. The survey included 2,374 respondents from 532 households, a representative sample of the Cochabamba population. The operative procedure begins with the inspection of the 'Economic Activity Condition (EAP)', which allows the direct inclusion of all the family heads that belong to EAP (88% of the homes). In the case

of the non-active family head, the first active member of 15 years of age or more, along with a previous relationship analysis with the household head (12% of the homes), was included for analysis. The total data is divided into sets of operational variables representing the five basic variables. Before definitive data set can be constructed, one has to check the homogeneity of the preliminary sets (Homals). The meaning of the variables and categories within these sets are given below:

First set: X1: Socio-economic Status

SET 1	SAMPLE		EXPANDED SAMPLE	
	FREQUENCY	PERCENT	FREQUENCY	PERCENT
X11: ESOVAL= Stratification of the socio-economic groups				
1. Manual Worker	99	21.1	25217	22.1
2. Informal Sector	220	46.8	54005	47.3
3. No Manual Worker	76	16.2	18162	15.9
4. Director, professionals and company employees	75	16	16671	14.6
Total	470	100	114055	100.0
X12: CAPITAVA= Income per capita in American dollars per day				
1. <1\$	116	24.7	29504	25.9
2. 1-2\$	158	33.6	38295	33.6
3. 2-4\$	115	24.5	28220	24.7
4. 5\$+	81	17.2	18036	15.8
Total	470	100	114055	100.0
X13: RAMAVAL= Productive Structure				
1. Wholesaler & Financial Services	54	11.5	12881	11.3
2. Transport, Communication & Social Services	142	30.2	32709	28.7
3. Retailer, Personal Services & Hotel - Restaurant	106	22.6	25456	22.3
4. Primary & Secondary Sector	168	35.7	43009	37.7
Total	470	100	114055	100.0
X14: P14NEW = Formal Education Level (In years)				
1. < 3	44	9.4	11384	10.0
2. 3-8	134	28.5	33100	29.0
3. 9-12	112	23.8	26854	23.5
4. 13 +	180	38.3	42717	37.5
Total	470	100	114055	100.0

Second set: X2: Socio-spatial Status

SET 2	SAMPLE		EXPANDED SAMPLE	
	FREQUENCY	PERCENT	FREQUENCY	PERCENT
X21: P14NAC = Area of Origin				
1. Biggest City	232	49.4	54162	47.5
2. Intermediate/City	149	31.7	36503	32.0
3. Rural	89	18.9	23390	20.5
Total	470	100	114055	100.0

SET 2

	SAMPLE		EXPANDED SAMPLE	
	FREQUENCY	PERCENT	FREQUENCY	PERCENT
X22: ZONARP = Neighbourhood Location				
1. Good Neighbourhood	128	27.2	29039	25.5
2. Regular Neighbourhood	250	53.2	61946	54.3
3. South Neighbourhood	92	19.6	23070	20.2
Total	470	100	114055	100.0
X23: TIPOMR = Migratory Condition				
1. No Migrant	197	41.9	45859	40.2
2. Migrant	273	58.1	68196	59.8
Total	470	100	114055	100.0

Third set: X3: Living Conditions – Deprivation

SET 3

	SAMPLE		EXPANDED SAMPLE	
	FREQUENCY	PERCENT	FREQUENCY	PERCENT
X31: Vo1RR Housing types				
1 House or Flat	230	48.9	54608	47.9
2 Room & Shack	240	51.1	59447	52.1
Total	470	100	114055	100.0
X32: V14RR Ownership types				
1 Owner	247	52.6	62494	54.8
2 Rent & Borrow	223	47.4	51561	45.2
Total	470	100	114055	100.0
X33: HACINAR Housing Crowding				
1 High/Density	216	46	54741	48.0
2 Normal	254	54	59314	52.0
Total	470	100	114055	100.0
X34: SHPR Availability of private bathroom				
1 YES	287	61.1	68956	60.5
2 NO	183	38.9	45099	39.5
Total	470	100	114055	100.0
X35: V12 Readiness of room to cook				
1 Yes – Kitchen	387	82.3	93431	81.9
2 No - Kitchen	83	17.7	20624	18.1
Total	470	100	114055	100.0
X36: Vo3RR Solid materials used to construct walls				
1 Good-Walls	214	45.5	52284	45.8
2 Regular-Walls	225	47.9	54022	47.4
3 Bad-Walls	31	6.6	7749	6.8
Total	470	100	114055	100.0
X37: Vo4RR Solid materials used to construct Roofs				
1 Good – Roofs	154	32.8	36876	32.3
2 Regular- Roofs	316	67.2	77179	67.7
Total	470	100	114055	100.0

SET 3	SAMPLE		EXPANDED SAMPLE	
	FREQUENCY	PERCENT	FREQUENCY	PERCENT
X38: Vo5RR Solid materials used to construct Floors				
1 Good-Floor	150	31.9	34404	30.2
2 Regular-Floor	280	59.6	68921	60.4
3 Bad-Floor	40	8.5	10730	9.4
Total	470	100	114055	100.0
X39: Vo6Vo7R Drinking Water				
1 Good-Water	183	38.9	41315	36.2
2 Regular & Bad -Water	287	61.1	72740	63.8
Total	470	100	114055	100.0
X310: SEWER Public sewer system				
1 YES-Sewer	302	64.3	63808	55.9
2 NO-Sewer	168	35.7	50247	44.1
Total	470	100	114055	100.0
X311: Vog Electricity Service				
1 Yes-Electricity	457	97.2	110401	96.8
2 No-Electricity	13	2.8	3654	3.2
Total	470	100	114055	100.0

Fourth set X4: Position in the Life Cycle

SET 3	SAMPLE		EXPANDED SAMPLE	
	FREQUENCY	PERCENT	FREQUENCY	PERCENT
X41: V2oR Household composition				
1 Single	27	5.7	6416	5.6
2 Nuclear	311	66.2	76806	67.3
3 Extended & Compound	132	28.1	30833	27.0
Total	470	100	114055	100.0
X42: P13NEW Marital Status				
1 Divorced/Widow(er)	93	19.8	21932	19.2
2 Married	351	74.7	85751	75.2
3 Unmarried	26	5.5	6372	5.6
Total	470	100	114055	100.0
X43: TAMHOGAR Household size				
1 1 - 3 members / home	136	28.9	31794	27.9
2 4 - 5 members / home	204	43.4	49591	43.5
3 6 - + members / home	130	27.7	32670	28.6
Total	470	100	114055	100.0
X44: EDADR Age Composition				
1 Less 30	73	15.5	18331	16.1
2 30 - 64	344	73.2	83956	73.6
3 65 - +	53	11.3	11768	10.3
Total	470	100	114055	100.0
X45: Po3 sex Composition				
1 Male	361	76.8	87876	77.0
2 Female	109	23.2	26179	23.0
Total	470	100	114055	100.0

SET 4	SAMPLE		EXPANDED SAMPLE	
	FREQUENCY	PERCENT	FREQUENCY	PERCENT
X46: CHILDREN = Children under 12 years in household				
1 Yes/children	310	66	76507	67.1
2 No/children	160	34	37548	32.9
Total	470	100	114055	100.0

Fifth set: X5: Vulnerability

SET 5	SAMPLE		EXPANDED SAMPLE	
	FREQUENCY	PERCENT	FREQUENCY	PERCENT
X51: P62NEW Employment type				
1 Permanent	272	57.9	64944	56.9
2 Temporary	198	42.1	49111	43.1
Total	470	100.0	114055	100.0
X52: P63NEW Contract of employment?				
1 Yes/contract	235	50.0	56602	49.6
2 No/Contract	235	50.0	57453	50.4
Total	470	100.0	114055	100.0
X53: P66NEW Type of income?				
1 Yes/Salary	205	43.6	49216	43.2
2 No/Salary	265	56.4	64839	56.8
Total	470	100.0	114055	100.0
X58: P09RR Language				
1 Spanish	210	44.7	49245	43.2
2 Spanish-Native	260	55.3	64810	56.8
Total	470	100.0	114055	100.0

Component Loading for Single Variables

Projections of the Single Quantified Variables in the Object Space, 1996

#	VARIABLE	DESCRIPTION	CODE	SET	DIMENSION		D1 ORDER	D2 ORDER
					1	2		
1	ESOVAL	ESOVAl	x11	1	0.51787	0.52759	7	2
2	CAPITAVA	Income pc/day U\$S	x12	1	0.51309	-0.26103	10	
3	RAMAVAL	Branches	x13	1	0.15089	-0.48684		4
4	P14NEW	APROVED COURSE	x14	1	0.72547	-0.24274	1	
5	P14NAC	Origin	x21	2	-0.28223	0.05363		
6	ZONARP	Neighbourhood	x22	2	-0.63016	-0.21315	4	
7	TIPOMR	Migrant Cond.	x23	2	-0.08995	-0.08837		
8	Vo1RR	Housing type	x31	3	-0.51595	-0.11819	9	
9	V14RR	Ownership	x32	3	0.08016	-0.44894		6
10	HACINAR	Dwelling Density	x33	3	0.58023	0.01342	6	
11	SHPR	HSP	x34	3	-0.43410	-0.16337	11	
12	V12	Room to cook	x35	3	-0.39121	-0.33044	13	9
13	Vo3RR	Walls	x36	3	-0.52731	0.02463	8	
14	Vo4RR	Roofs	x37	3	-0.32171	-0.15471		
15	Vo5RR	Floor	x38	3	-0.65712	-0.02367	3	

#	VARIABLE	DESCRIPTION	CODE	SET	DIMENSION		D1 ORDER	D2 ORDER
					1	2		
16	Vo6Vo7R	WATER	x39	3	-0.70064	-0.13314	2	
17	SEWER	Sewer	x310	3	-0.43143	0.04758	12	
18	Vo9	Electricity	x311	3	-0.02295	0.06712		
19	V2oR	v2or	x41	4	-0.02658	0.32373		10
20	P13NEW	Marital Status	x42	4	0.12426	-0.29439		
21	TAMHOGAR	Household size	x43	4	-0.27446	0.13593		
22	EDADR	Age	x44	4	0.11709	0.52408		3
23	Po3	Sex	x45	4	0.06164	0.38012		8
24	CHILDREN	Children <12 y	x46	4	0.29079	0.02415		
25	P62NEW	Employment type	x51	5	-0.23358	0.47735		5
26	P63NEW	Contract of employment?	x52	5	-0.05718	0.70776		1
27	P66NEW	Type of income?	x53	5	-0.34757	0.40691	14	7
28	Po9RR	Language	x58=56	5	-0.58399	0.21715	5	

Source: Encuesta Nacional de Empleo, 1996, Instituto Nacional de Estadística, Bolivia.

(OVERALS - Version 0.4 by Department of Data Theory University of Leiden, The Netherlands – SPSS 8.0).

Projected Centroids for single Variables

Projections of the Single Quantified Variables in the Object Space, 1996

Nffl	CODE	DESCRIPTION	PROJECTED CENTROIDS	
			DIMENSION 1	DIMENSION 2
1	X111	1. Manual Worker	-0.9885	-1.0071
2	X112	2. Informal Sector	0.2150	0.2190
3	X113	3. No Manual Worker	0.2150	0.2190
4	X114	4. Director, professionals and company employees	0.4564	0.4650
5	X121	1. <1\$	-0.5326	0.2709
6	X122	2. 1-2\$	-0.1869	0.0951
7	X123	3. 2-4\$	0.0737	-0.0375
8	X124	4. 5\$+	1.0225	-0.5202
9	X131	1. Wholesaler & Financial Services	0.0110	-0.0355
10	X132	2. Transport, Communication & Social Services	0.1228	-0.3961
11	X133	3. Retailer, PSs. & Restaurant	-0.2722	0.8784
12	X134	4. R1 & R2	0.0645	-0.2079
13	X141	1. < 3	-1.1742	0.3929
14	X142	2. 3-8	-0.7326	0.2451
15	X143	3. 9-12	0.0564	-0.0189
16	X144	4. 13 +	0.7973	-0.2668
17	X211	1.00 Biggest City	0.2639	-0.0501
18	X212	2.00 Intermediate/City	-0.1394	0.0265
19	X213	3.00 Rural	-0.4545	0.0864
20	X221	1.00 GoodZ	0.8952	0.3028
21	X222	2.00 RegularZ	-0.1133	-0.0383
22	X223	3.00 BadZ	-0.9375	-0.3171
23	X231	1.00 No Immigrant	0.1059	0.1040
24	X232	2.00 Immigrant	-0.0764	-0.0751

Nffl	CODE	DESCRIPTION	PROJECTED CENTROIDS	
			DIMENSION 1	DIMENSION 2
25	X311	1.00 House or Flat	0.5270	0.1207
26	X312	2.00 Room & Shack	-0.5051	-0.1157
27	X321	1.00 Owner	-0.0762	0.4266
28	X322	2.00 Rent & Borrow	0.0844	-0.4725
29	X331	1.00 High/Density	-0.6292	-0.0146
30	X332	2.00 Normal	0.5351	0.0124
31	X341	1.00 YES-pwc	0.3466	0.1305
32	X342	2.00 NO-wc	-0.5436	-0.2046
33	X351	1 Yes-kitchen	0.1812	0.1530
34	X352	2 No-kitchen	-0.8448	-0.7135
35	X361	1.00 Good-Walls	0.5062	-0.0236
36	X362	2.00 Regular-Walls	-0.2960	0.0138
37	X363	3.00 Bad-Walls	-1.3456	0.0628
38	X371	1.00 Good-Roofs	0.4608	0.2216
39	X372	2.00 Regular-Roofs	-0.2246	-0.1080
40	X381	1.00 Good-Floor	0.9304	0.0335
41	X382	2.00 Regular-Floor	-0.3622	-0.0130
42	X383	3.00 Bad-Floor	-0.9536	-0.0343
43	X391	1.00 Yes-Water	0.8774	0.1667
44	X392	2.00 Bad-R Water	-0.5595	-0.1063
45	X3101	1.00 YES-Sewer	0.3218	-0.0355
46	X3102	2.00 NO-Sewer	-0.5784	0.0638
47	X3111	1 Yes-Elec.	0.0039	-0.0113
48	X3112	2 No-Elec	-0.1361	0.3979
49	X411	1.00 Single	0.1045	-1.2731
50	X412	2.00 Nuclear	-0.0021	0.0255
51	X413	3.00 Extended & Compound	-0.0164	0.2003
52	X421	1.00 Divorced/Widow(er)	-0.2452	0.5809
53	X422	2.00 Married	0.0530	-0.1256
54	X423	3.00 Unmarried	0.1617	-0.3830
55	X431	1.00 1 - 3	0.1697	-0.0841
56	X432	2.00 4 - 5	0.1697	-0.0841
57	X433	3.00 6 - +	-0.4439	0.2198
58	X441	1.00 Less 30	-0.1683	-0.7533
59	X442	2.00 30 - 64	-0.0084	-0.0377
60	X443	3.00 65 - +	0.2866	1.2825
61	X451	1.00 MALE	-0.0339	-0.2089
62	X452	2.00 FEMALE	0.1122	0.6918
63	X461	1.00 Yes/children	-0.2089	-0.0173
64	X462	2.00 No/children	0.4048	0.0336
65	X511	1.00 Permanent	0.1993	-0.4073
66	X512	2.00 Temporary	-0.2738	0.5595
67	X521	1.00 Yes/contract	0.0572	-0.7078
68	X522	2.00 No/Contract	-0.0572	0.7078

Nffl	CODE	DESCRIPTION	PROJECTED CENTROIDS	
			DIMENSION 1	DIMENSION 2
69	X531	1.00 Yes/Salary	0.3952	-0.4626
70	X532	2.00 No/Salary	-0.3057	0.3579
71	X581	1.00 Spanish	0.6498	-0.2416
72	X582	2.00 Spanish-Native	-0.5248	0.1952
max. value			1.0225	1.2825
min. value			-1.3456	-1.2731
average			-0.0432	0.0049

Notes

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See Documents 2 and 3 for the Project 'Migration, Urbanisation, and Employment in the Micro region of Cochabamba (BOL/87/PO3)'. Centro de Estudios de Población - Universidad Mayor de San Simon, United Nations Population Fund (UNFPA) - International Labour Organisation (ILO) - Regional Development Program in Latin America (PREALC), 1991, Cochabamba, Bolivia.

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The justification for incorporating the occupational characteristics of the latter group is because of the need to assign a social stratification to the members of the families whose heads were inactive. The analysis of the relationship of members with their family head has been carefully carried out. It has avoided the inclusion of people that have worked in 'domestic service' and the 'non-relatives in the house'.

Statistical Appendix

Table 2.3a
Latin America: Urbanisation, Indicators of the demographic Growth, educational achievement, gross domestic product per capita (PPP US\$) and Index of Human Development, 1930-2000

URBAN GRADE	% URBAN POPULATION A/			NUMBER OF CASES B/	PRIMACY INDEX C/		RATE OF GROWTH B/		LIFE EXPECTANCY AT BIRTH D/	TOTAL FERTILITY RATE E/	ADULT LITERACY RATE (15 & +) D/	GDP PER CAPITA (PPP US\$) D/	HDI 1998 D/
	1930	1950	2000		1970	1995	1990- 1995	1995- 2000					
Uruguay	63	73	93	3089	4.7	7.9	1.0	0.9	74.1	2.3	97.6	8623	0.825
Argentina	57	65	90	33166	4.0	3.5	1.7	1.5	73.1	2.6	96.7	12013	0.837
Venezuela	27	47	87	21129	1.5	0.9	2.7	2.4	72.6	2.9	92.0	5808	0.770
Chile	50	60	86	13034	2.8	3.0	2.0	1.7	75.1	2.4	95.4	8787	0.826
GROUP 1	49	61	89	70418	3.3	3.8	1.8	1.6	73.7	2.6	95.4	8808	0.815
Brazil	24	36	80	136337	0.8	0.9	2.3	1.9	67.0	2.4	84.5	6625	0.747
Cuba	51	56	80	8951	2.5	2.4	1.4	1.0	75.8	1.6	96.4	3967	0.783
México	33	43	75	74601	2.7	2.0	2.4	2.2	72.3	2.7	90.8	7704	0.784
Colombia	25	38	74	31516	0.9	1.2	2.7	2.5	70.7	3.0	91.2	6006	0.764
Peru	27	36	72	18555	4.5	4.2	2.5	2.0	68.6	3.4	89.2	4282	0.737
GROUP 2	32	42	76	269960	2.3	2.1	2.2	1.9	70.9	2.6	90.4	5717	0.763
Bolivia	25	30	65	5383	1.4	0.9	4.1	3.7	61.8	4.2	84.4	2269	0.643
Ecuador	22	29	63	7930	1.2	1.1	3.5	3.1	69.7	3.3	90.6	3003	0.722
R. Dominican	18	24	60	5111		2.5	3.1	2.7	70.9	3.1	82.8	4598	0.729
Panama	30	36	58	1646		3.9	2.6	2.3	73.8	2.6	91.4	5249	0.776
Paraguay	30	35	56	3085	6.0	5.0	4.2	4.0	69.8	4.3	92.8	4288	0.736
El Salvador	28	36	55	3467			3.2	3.0	69.4	3.6	77.8	4036	0.696
Nicaragua	26	35	55	2807		2.8	3.4	3.2	68.1	4.4	67.9	2142	0.631
Costa Rica	20	34	50	2029	5.4	4.7	3.9	3.3	76.2	3.2	95.3	5987	0.797
GROUP 3	25	32	58	31458	3.5	2.8	3.5	3.2	70.0	3.6	85.4	3947	0.716
Honduras	12	18	48	3126	1.8	1.6	4.7	4.4	69.6	4.4	73.4	2433	0.653
Guatemala	20	25	39	4483		9.6	2.9	3.0	64.4	5.0	67.3	3505	0.619
Haiti	10	13	38	3185	4.7	5.4	4.2	4.0	54.0	4.7	47.8	1383	0.440
GROUP 4	14	18	42	10794	3.3	5.5	3.9	3.8	62.7	4.7	62.8	2440	0.571
LATIN AMERICA	32	42	75	382630	3.1	3.6	2.9	2.6	69.3	3.4	83.5	5228	0.716

Source: a/ CEPAL/CELADE/FNUAP, 1992 y CELADE/BID, 1997. b/ CEPAL/CELADE, Proyecciones de Población vigentes. Para el Caribe, Naciones Unidas, Crecimiento, estructura y distribución de la población. Informe conciso (ST/ESA/SER.A/181). Nueva York, 2000. c/ CEPAL, Serie Medio Ambiente y Desarrollo No 7, TABLE 2, PAG. 12. 1998. d/ UNDP: Informe de Desarrollo Humano, 2000. Tabla 1, HDI=1998 (PAG. 157) todas las estimaciones corresponden al año 1998; e/ Population Reference Bureau; <http://www.prb.org/pubs/wpds2000/#notes>

Table 2.7a

CENSUS POPULATION BORN IN LATIN AMERICA AND CARIBBEAN BY COUNTRY OF RESIDENCE ACCORDING COUNTRY OF BIRTH

COUNTRY OF BIRTH	Country of Residence										
	ARGENTINA	BOLIVIA	BRAZIL	CHILE	COLOMBIA	COSTA RICA	CUBA	ECUADOR	EL SALVADOR	GUATEMALA	HAITI
	1991	1992	1991	1992	1993	1984	1981*	1990	1992	1994	1982*
Total Population	32615528	6420792	146825475	13348401	33109840	2416809	9723605	9648189	5118599	8331874	505318
foreign born	1605871	59807	767780	114597	106162	88954	128392	73179	26279	41352	...
Argentina	0	17829	25468	34415	1953	697	...	1558	140	277	...
Bolivia	143735	0	15694	7729	390	189	...	424	40	85	...
Brasil/	33543	8586	0	4610	1383	191	...	903	181	136	...
Chile	218217	3909	20437	0	1496	1277	...	4948	209	185	...
Colombia	2638	529	2076	1666	0	1678	...	37553	212	476	...
Costa Rica	451	83	357	448	452	0	...	313	856	737	...
Cuba	1393	85	492	579	617	3485	0	302	46	192	...
Ecuador	975	243	605	2267	9040	318	...	0	85	119	...
El Salvador	178	46	364	228	177	8748	...	175	0	14425	...
Guatemala	113	119	121	147	266	1431	...	154	4524	0	...
Haití	73	5	141	37	64	30	...	22	7	6	...
Honduras	138	189	300	220	182	1574	...	111	8666	4634	...
Mexico	2277	6607	660	827	1465	1279	...	612	1350	5250	...
Nicaragua	142	54	329	168	307	45918	...	161	2139	3621	...
Panama	367	75	981	366	1680	4794	...	409	308	245	...
Paraguay	251130	955	19018	683	137	39	...	90	20	9	...
Peru	15977	5805	5833	7649	3182	1016	...	2396	135	266	...
Dominican Republic	259	36	178	126	47	134	...	78	21	82	...
Uruguay	133653	327	22141	1599	316	201	...	406	66	68	...
Venezuela	1934	300	1226	2397	43285	748	...	2379	142	140	...
Latin America	807193	45782	115440	66161	66439	73747	...	52994	19147	30953	...
Canada	777	1435	1112	1151	692	347	...	752	279	257	...
United States	9755	2503	11363	6249	13878	5369	...	8021	4413	5658	...
TOTAL	817725	49720	127915	73561	81009	79463	...	61767	23839	36868	...
Other countries	788146	10087	639865	41036	25153	9491	...	11412	2440	4484	...

Data base IMILA - International Migration in Latin America.

Notes: ... Information not available in CELADE. * Figures from census publications.

Country of Residence

	DURAS	MEXICO	NICARAGUA	PANAMA	PARAGUAY	PERU	DOM. REP.	URUGUAY	VENEZUELA	LATIN	CANADA	USA	EMIGRANTS
8*	1990	1995	1990	1992	1993	1993*	1996	1990	AMERICA	1996*	1990*		
561	81249645	4357099	2329329	4152588	22048356	7293390	3163763	18105265	419560297	28528125	248709873	696798295	
87	340824	26043	61394	187372	52725	...	92378	1024121	4831617	4967035	19767316	29565968	
	4635	147	567	47846	4165	...	26256	9070	175023	11740	77986	264749	
	1329	38	208	766	3216	...	376	1936	176155	2335	29043	207533	
	1293	110	618	107452	2523	...	13521	4223	179273	9360	82489	271122	
	2501	115	975	2264	4652	...	1726	20787	283698	23880	50322	357900	
	4964	237	13644	189	2374	...	362	528893	597491	9465	286124	893080	
	1521	4727	3828	45	215	...	41	1494	15568	1520	39438	56526	
	2979	711	3191	25	410	...	352	10157	25016	3100	736971	765087	
	861	78	1381	72	1801	...	235	23370	41450	9635	143314	194399	
	5215	2136	2340	42	89	...	18	897	35078	39020	465433	539531	
	46005	900	367	39	124	...	27	531	54868	13270	225739	293877	
	364	20	119	13	15	...	2	1593	2511	49395	225393	277299	
0	1997	9473	623	27	111	...	17	429	28691	3575	108923	141189	
	0	734	1361	2974	723	...	362	2756	29237	27485	4298014	4354736	
	2566	0	4447	24	135	...	36	2033	62080	8545	168659	239284	
	2169	351	0	36	280	...	75	1216	12371	2385	85737	100493	
	160	10	37	0	194	...	1512	494	274488	5045	4776	284309	
	2973	176	1740	1432	0	...	528	27748	76856	15240	144199	236295	
	520	52	1440	14	104	0	37	17140	20268	4560	347858	372686	
	1097	...	144	3029	399	...	0	5454	168900	5710	18211	192821	
	1533	116	476	91	1489	...	7374	0	63630	5410	35214	104254	
0	84682	20131	37506	166380	23019	0	52857	660221	2322652	250675	7573843	10147170	
	3011	147	137	1373	569	...	388	772	13199	0	744830	758029	
	194619	2952	3241	1366	5595	...	1451	10716	287149	244690	0	531839	
	282312	23230	40884	169119	29183	...	54696	671709	2623000	495365	8318673	11437038	
	58512	2813	20510	18253	23542	...	37682	352412	2208617	4471670	11448643	18128930	

Table 2.18a

Bolivia: Distribution of the population according to provinces, indicators of human development, grade of urbanisation and demographic density, 1950 - 2000

PROVINCE	1950	1976	1992	2000	RATE 76-92	# MUN (1)	% URBAN	ADULT LITERACY 15Y+	CPSTGER 6-24 (2)	E0 (3)	GDP PC (U\$. PPP) (4)	IDH	KM2	POP./ KM2
A. Ibañez-S. Cruz	59512	316410	784678	1143504	5.8	5	92.4	93.17	59.05	66	4013	0.716	4821	237
Cercado-Cba	82397	222067	424961	616022	4.1	1	96.0	92.83	69.02	62	3239	0.661	391	1576
Murillo-La Paz	290731	677254	1157102	1622509	3.4	5	96.7	90.19	63.69	62	3271	0.651	4705	345
Cercado-Beni	13200	35172	63128	85934	3.7	2	90.8	92.54	58.45	59	3257	0.633	12276	7
Cercado-Oruro	82846	158898	213755	270729	2.0	3	87.6	89.53	68.14	58	2405	0.585	5766	47
Group 1	530636	1411777	2645616	3740698	4.1	16	94.4	91.66	63.67	61	3237	0.649	27959	134
Oropeza-Sucre	69822	107761	176298	257203	3.1	3	74.7	76.50	66.29	59	3450	0.617	3943	65
T. Frias-Potosi	76026	122810	147111	193410	1.2	4	76.2	76.52	65.28	56	1594	0.497	3420	57
Cercado-Tarija	31691	57475	108241	162973	4.0	1	83.3	84.41	62.78	66	2995	0.644	2078	78
Vaca Díez-Beni	11548	42386	84651	121737	4.4	2	84.1	90.33	48.89	56	3141	0.595	22434	5
Santiesteban-S. Cruz	13058	78616	104660	110778	1.5	3	73.3	83.48	51.26	60	3668	0.633	3673	30
M. Omiste-Potosi		20651	31737	47442	2.7	1	74.6	77.41	52.68	57	1580	0.490	2260	21
G. Busch-S. Cruz			25426	33307	1.5	2	72.8	93.22	49.31	62	3659	0.663	24765	1
Group 2	202145	429699	678124	926850	3.0	16	77.3	83.12	56.64	59	2870	0.591	62573	15
Group 3	199340	344376	473910	624689	2.1	31	57.6	81.55	49.02	58	2685	0.56	158176	4
Group 4	1773964	2429655	2625813	3038469	0.5	251	15.3	66.05	41.80	55.60	1679.43	0.45	819864	4
TOTAL	2704165	4613486	6420792	8328700	2.1	314	57.5	84.40	52.78	61.8	2269	0.643	1098581	8

Source: elaborated on own account from the reprocessed database of the National Census of the Population and Housing 1976-2000 INE, La Paz, Bolivia. Website:

<http://www.ine.gob.bo/iwdo202.htm>.

(1) Number of Municipalities

(2) Combined primary, secondary and tertiary gross enrollment ratio (CPSTGER)

(3) Life expectancy at birth (years)

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Summary

It has been shown that the prevailing accelerated rate of urbanisation in most Latin American cities is also applicable to the process of change of the new model of urban development in Bolivia and in Cochabamba (case study). It has been observed that the same problems appear, but are made more unique by the structural and historic heterogeneity prevailing in the process of formation of society in Bolivia.

The general objective of this research is to study the relationship between spatial-temporal urban development processes and social changes during the period of the seventies to the nineties, in the spatial corridor formed by the three main cities of Bolivia (La Paz-Cochabamba and Santa Cruz). The purpose is the identification of the patterns of land use and the spatial distribution of urban poverty and to apply this knowledge to the Urban Planning of a Sustainable City in Cochabamba (Case Study).

The hypotheses concern: (a) Urban stages in the development of the National Economic Corridor; (b) the urban development of the main cities and job/opportunities there; and (c) the identification of the patterns of social and spatial exclusion in Cochabamba.

Important aspects of the study are:

- (1) Urban themes, Urbanisation, Spatial Model and Urban Structure; Urbanisation and sustainable city; Sustainable Human Development; Housing Conditions and Land Use.
- (2) Development of instruments, spatial modelling related to multivariate methodological approach and application of a Geographical Information System (GIS) for urban planning.

The empirical part had been based on the creation and development of a set of databases, drawing on data already collected in different surveys such as National Population and Housing

Census (1976 and 1992), National Samples of 1988-1996 and specific interviews. The elaboration of these data and the application on the theoretical framework of the research project had followed six specific steps: organising databases; inspection of data; selection of variables; elaboration, construction or manipulation of new files; explore and testing hypotheses with the aid of a multivariate approach; integrated multivariate results with geographical information system; and conclusions.

The research concerns the urban morphology dynamics (through time), which is a general term depicting any change that occurs in the process of urbanisation or urban development. It involves not only the evolution of urban morphology, but also the change of spatial structure within a city. The study of urban dynamics goes also one step further, including the comparative analysis of urban form and structure 'across space' and 'through time'. Methodology, therefore, will be developed for dealing with both the 'spatial' and 'temporal' dimensions of urban changes.

The conclusions focus on identifying the main variables at various spatial scales (areas and neighbourhoods) that influence sustainable urban planning. Emphasis will be on the development of a framework to identify critical variables, and to elaborate processes and methodologies to integrate considerations of spatial scale with the concept of sustainable urban development.

In the twentieth century there have been changes in the territorial organisation of Bolivia. The first change corresponds to the Feudal Mining State (1900 to 1953). During this period, the Western region of the country developed economically as an enclave (this is the North-South Articulation). The characteristic of this period is 'Urban Primacy'. The city of La Paz is the seat of power and domination

and Potosí and Oruro are the two mining towns – the sources of the mineral wealth. In this context, Cochabamba fulfils a linking, articulating, rôle as a supplier both of labour and agricultural produce for the population living in the mining districts. The second transformation dates from 1952. It corresponds to the construction of the State and the Capitalist Society. Its territorial expression is the East-West Articulation. This facilitated the emergence of the singular processes of metropolisation in the cities of La Paz, Cochabamba and Santa Cruz generating a new model of 'Urban Corridor'. The cities of the National Economic Corridor are characterised by being capitals of Departments, and for a concentration of two thirds of the urban inhabitants of Bolivia, having an annual demographic growth of 5%, which has tripled in only five years. They are cities that have a metropolitan population of more than a million inhabitants.

Cochabamba has been part of both articulations, changing its rôle in the course of time due to its capacity to link and integrate the nation. In the first model of articulation, for its rôle was that of supplier of labour for the mines and also of foodstuffs given its significant agricultural production. In the second model of articulation, Cochabamba is a link in the West - East chain on account of its key geographical location - bordering with six out of the nine departments of Bolivia. Its main characteristics are flexibility and versatility. Its productive mechanism is highly sensitive to market changes having a great capacity for adjustment and assimilation so as to make the best of the economic opportunities available.

In consequence, Cochabamba has a double rôle, which integrates its regional context and also links the cities of La Paz and Santa Cruz, and which gives it an important rôle in the national urban system. It is for this reason that

Cochabamba has turned into an intermediate space, of integration, co-ordination and gathering of the national whole, and it is also an average space where the contrasts of the country are summarised. In many senses Cochabamba is a synthesis of Bolivia.

It has also been possible to show that tertiarisation in the prevailing productive structure in Bolivian cities is part of larger-scale change. In Bolivia, the heterogeneity of the tertiary sector has contributed to widening the gaps of inequities between the "haves" and the "have-nots" and it has also feedback into the urbanisation of poverty. The great advances in the technologies of information and communication are only available to a small number of Bolivians. They are the only ones who have managed to capture the external elements of globalisation while the population at large share only in the deterioration, instability and precariousness of employment and proliferation of the informal sector of the economy. The workers have been suffering the drastic effects of structural reforms and labour flexibility. The city dwellers have to endure, in addition, the influx of desperate immigrants looking for new horizons.

It has been shown the multi-dimensional face of poverty, social exclusion and vulnerability is prevalent in Cochabamba made possible through the Generalised Canonical Correlation Analysis (GCCA) and classical methodology for calculating poverty and the Index of Human Development. It has been pointed out how all the models used reflect the dramatic levels of inequality, but only the GCCA enabled the finding of elements conducive to the explanation of the phenomena. An important conclusion is that after this applying this process of gradually getting closer, one can see that the 'line of poverty' as a measuring tool for poverty is valid only in the short term. As economic growth and production and consumption of new goods take place, so the social concept of poverty changes.

This requires raising the poverty line and hence the danger of using it as the only discriminating variable. On the other hand, the issue of poverty, as measured in terms of deficiencies and levels of income is a pathology of "haves or not haves". It is therefore endogenous and static. The variables of exclusion and vulnerability are dynamic and exogenous.

Social exclusion can be represented as the accumulation over time and space of specific risks that make it difficult or impossible to achieve certain rights - be these citizenship, economic, social, cultural or political - and, therefore, the integration of an affected social group into its environment or society. Hence, it becomes an indicator of the results of a process over time. It is useful, therefore, to analyse its evolution and the accumulation of risk factors in specific historical circumstances. This leads one to ponder over the spatial or territorial dimension since the exclusion of certain groups is made possible and becomes manifest in certain times and spaces. The territorial domain does not refer just to the expression of the exclusion in a given space, but also to the existence of spatial phenomena that become risk factors and generators of exclusion. The spatial distribution of the population at risk of exclusion is a response to the inter-action of multiple factors. These issues have been clarified in this research and become a reality in the highly segregated territory of Cochabamba.

This multi-dimensional face of poverty, inequality and vulnerability in Cochabamba, would enable one to imagine hypothetical scenarios for the human groups living in the Cochabamba valley. For this purpose the results from the two dimensions of the GCCA have been linked simultaneously and two additional groups have been identified that be given priority in future interventions of the Municipal Government. It is important to remark the outcome of the second dimension in the GCCA is both a finding and a challenge.

In this context, the acceleration rate of urban segregated growth and the despair of residents demands a search for social cohesion. It can only be so since the multi-dimensional face of poverty and effective social exclusion in Cochabamba, it is possible to notice this according through the diverse approaches to social reality. The simultaneous application of the several dimensions that take into account the specifics of socio-economic formation of which the city is part, has shown quite dramatically the deepening of the gaps and inequalities in urban development. Thus, one can observe that the levels of social exclusion and segregation vary considerably depending upon where the households are sited, with the worst indicators in the marginal periphery of the city.

Due to the complexity in the urban development of the City of Cochabamba, it is necessary to look for "social cohesion" as a strategic action. It is not possible to imagine a sustained growth with the deep and prevalent segregation gaps now existing in the City. It is imperative to re-distribute public investments in society and infrastructure as well as the interventions resulting from a deep concurrence among the various actors in the development, both public and private. It must occur in such a way that generates the necessary consensus to move forward in a sustainable and long-term development program without overlooking solutions to pressing needs. Since many interventions take place over time, the only way of ensuring their successful execution is through agreement, through a renewed vision on the part of city planners and decision makers, all of whom must work alongside popular participation in a obvious way. It is imperative that quality of life for all the inhabitants of Cochabamba is ensured, the formation of human resources strengthened and municipal authorities are mandated to seek social cohesion.

Samenvatting

Verstedelijking en armoede in de economisch belangrijke steden van Bolivia

Case study: Cochabamba

De ruimtelijke corridor van Bolivia wordt gevormd door de drie grootste steden La Paz (de hoofdstad), Cochabamba en Santa Cruz. Gedurende het laatste kwartaal van de twintigste eeuw zijn deze steden geconfronteerd met enorme veranderingen in de stedelijke structuur en omvang, en de toename van maatschappelijke ongelijkheid en armoede.

Bolivia is een van de armste en minst geurbaniseerde landen van Latijns Amerika. Het land heeft drie geografisch zeer verschillende regio's: de hooglanden, de valleien en de laaglanden, die grotendeels overeenkomen met de etnische bevolkingsverdeling.

Veel inwoners hebben te lijden onder de drastische gevolgen van de structurele economische veranderingen. De bewoners van de steden worden daarbij geconfronteerd met de toevloed van immigranten vanuit de rurale gebieden die op zoek zijn naar mogelijkheden om een leefbaar bestaan op te bouwen.

Dit onderzoek heeft tot doel de ruimtelijk-temporele en maatschappelijke dynamiek, waaronder de patronen van veranderend grondgebruik en de ruimtelijke verdeling van armoede te identificeren, en deze kennis toe te passen op de opgave voor duurzame stedelijke ontwikkeling van Cochabamba.

De hypothesen betreffen: (a) de verstedelijkingsstadia in de ontwikkeling van de Nationale Economische Corridor, (b) de stedelijke ontwikkeling van de drie grote steden en de werkgelegenheid aldaar, en (c) het vaststellen van de patronen van sociale en ruimtelijke uitsluiting in Cochabamba. De stedelijke

armoede in Bolivia in het algemeen, en Cochabamba in het bijzonder, is een complex probleem, dat gepaard gaat met segregatie en sociale uitsluiting. De traditionele indicatoren blijken onvoldoende om de problemen te definiëren en ruimtelijke beleidslijnen en strategische interventies vast te stellen. Dit komt niet uitsluitend omdat deze indicatoren statisch zijn, maar vooral omdat zij gebaseerd zijn op een simplistische visie op de werkelijkheid. Nodig is een aanpak die een multi-dimensioneel perspectief biedt.

De context van het onderzoek is het proces van urbanisatie in Latijns Amerika, de internationale en nationale migratiestromen en de verstedelijking van de armoede. Cochabamba blijkt een interessante casus studie, gezien de snelheid waarmee de stad is gegroeid en de daarmee gepaard gaande ontwikkelingen van ongelijkheid en segregatie.

Het empirisch deel van het onderzoek wordt gevormd door de secundaire analyse van verschillende nationale surveys over vergelijkbare jaren, op het gebied van de bevolking, huisvesting, gezondheid, werkgelegenheid, aangevuld met de informatie uit allerlei ander onderzoek, een aantal interviews en geografische informatie. De bewerking van data uit de bestanden en het gebruik ervan in het theoretisch raamwerk van het onderzoekproject is georganiseerd in een aantal stappen: een grondige bestudering van de databases, de selectie van de bruikbare en geschikte variabelen, de constructie

van de noodzakelijke data sets, gevolgd door de multivariate toetsing van de hypothesen, en tot slot het integreren van de uitkomsten van de toetsing met geografische informatie met behulp van een geografisch informatie systeem. Voor de multivariate bewerking van de gegevens is gebruik gemaakt van canonische correlatie analyses (GCCA).

De belangrijkste conclusies zijn de volgende:

De economische en de ruimtelijke structuur van Cochabamba zijn de laatste dertig jaar sterk veranderd. De meeste groei is in de tertiaire sector, terwijl de werkloosheid vooral voortkomt uit het verlies in werkgelegenheid in de primaire en secundaire sector. Een omvangrijk deel van de bevolking is veroordeeld tot een zeer laag huishoudelijk inkomen, dat op allerlei manieren bijeen gebracht moet worden. De levensomstandigheden zijn slechts goed in het centrale deel en het noordwesten van de stad. In het overige stedelijke gebied behoeven bepaalde delen dringend verbetering in de basiscondities, vooral die delen die gebukt gaan onder een snel groeiende bevolking. De marginale stadsdelen groeien zonder enige vorm van ordening.

De Index of Human Development geeft een indicatie van de armoede, maar de bewerking van de bestandsgegevens met behulp van canonische correlatie analysetechnieken (GCCA) maakt duidelijk dat de variabele economische armoede onvoldoende inzicht biedt in de dynamiek van de problematiek van ruimtelijke en sociale ongelijkheid,

uitsluiting, en daarmee onvoldoende duidelijk maakt waar kansen en perspectieven moeten worden geboden. De (sociale) vicieuze cirkel van tijdelijk werk, laag en onzeker inkomen, weinig opleiding, weinig kansen, geringe sociale participatie en armoede, blijkt nauw verbonden te zijn met andere vicieuze leefcondities, zoals de (ruimtelijke) vicieuze cirkel van gebrek aan toegang tot de gemeentelijke watervoorziening, aansluiting op stads-hygiënische voorzieningen en bereikbare gezondheidsdiensten. De combinatie van dit alles versterkt het proces van maatschappelijke marginalisering. Het multidimensionale karakter van de problematiek, met als kernbegrippen achterstand, kwetsbaarheid en uitsluiting, is volstrekt onvoldoende terug te vinden in het beleid en de ruimtelijke planning.

De uitkomsten van deze bewerkingen en analyses zijn vergeleken met de actuele interventies van de gemeente Cochabamba. Daaruit blijkt, dat het belangrijkste deel van budgetten besteed wordt in de wijken van relatief goede kwaliteit, waardoor de segregatie wordt verergerd. De verschillen tussen de legale (geplande) stad en de vele marginale vestigingsgebieden (illegale stad) zijn zeer groot, op het gebied van verzorging, scholing, werkgelegenheid, infrastructuur, enzovoorts. Uit de analyses valt op te maken, dat de niveaus van uitsluiting en segregatie sterk samenhangen met de plaats en de kwaliteit van de ruimtelijke locaties waar het huishouden leeft. De huishoudens in de periferie zijn gekenmerkt door de slechtste scores op de indicatoren. In de aanbevelingen wordt gesteld, dat een andere stedelijke ontwikkeling moet worden gerealiseerd. Het onderzoek geeft de informatie om tot andere scenario's te komen voor een duurzame verstedelijking in Cochabamba. Een 'sociale cohesie' strategie is nodig om opgewassen te zijn tegenover het multidimensionale karakter van de stedelijke armoede en kwetsbaarheid. Om de burgers in de arme wijken hoop op een betere toekomst te bieden, zullen de

verschillende politieke, economische, sociale en ruimtelijke actoren moeten samenwerken. Dit is de uitdaging voor de afdeling stedelijke planning. Een herverdeling van de publieke investeringen in de voorzieningen en infrastructuur, alsook nieuwe allianties van publieke en private actoren zijn nodig. Naar verwachting zal de duurzame stedelijke transformatie veel tijd vergen. Een vernieuwende visie van de zijde van stadsplanners en besluitvormers zal duidelijk moeten maken hoe moet worden omgegaan met zowel de ruimtelijke als de temporele dimensie van de stedelijke transformatie, alsook hand in hand moeten gaan met de participatie van de betrokken bevolking.

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In memoriam, Cristina García de Ledo

My interest in poverty and urban issues began when I was doing my MA program at the Latin American Centre for Demographic Studies (CELADE) in 1986. It was then that I discovered the appropriateness of applying the concept of space to the search for interventions in favour of the most oppressed groups. This first insight deepened as a result of the research work I carried out for various projects at the United Nations Development Programme (UNDP) and my teaching and research work at the University of San Simon, Cochabamba.

In 1998 I decided to embark on a PhD thesis. Four years on and after lots and lots of hard work I have concluded the work and I wish to thank the people who have helped me bring it about:

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Within the process of urbanization of Latin America, Bolivia stands out as an interesting case, because of its high population dynamics. In this context, the identification of the patterns of changing land use and the spatial distribution of poverty in Cochabamba becomes a relevant endeavor and the object of this research.

Canonical correlation analyses have been used for the multivariate processing of national census data. Geographic information has been processed using geographic information systems (GIS). Comparing the conclusions of the analyses with the actual interventions of the Municipality of Cochabamba, a set of recommendations have been proposed for a scenario of sustainable development.

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