

Emerging patterns of the global city region: spatial changes in Johannesburg, Mumbai/Bombay, Shanghai and Sao Paulo

Raiser, Simon (Ed.); Volkmann, Krister (Ed.)

Veröffentlichungsversion / Published Version

Arbeitspapier / working paper

Empfohlene Zitierung / Suggested Citation:

Raiser, S., & Volkmann, K. (Eds.). (2005). *Emerging patterns of the global city region: spatial changes in Johannesburg, Mumbai/Bombay, Shanghai and Sao Paulo* (Arbeitspapiere des Osteuropa-Instituts der Freien Universität Berlin, Arbeitsschwerpunkt Politik, 53). Berlin: Freie Universität Berlin, Osteuropa-Institut Abt. Politik. <https://nbn-resolving.org/urn:nbn:de:0168-ssoar-440010>

Nutzungsbedingungen:

Dieser Text wird unter einer Deposit-Lizenz (Keine Weiterverbreitung - keine Bearbeitung) zur Verfügung gestellt. Gewährt wird ein nicht exklusives, nicht übertragbares, persönliches und beschränktes Recht auf Nutzung dieses Dokuments. Dieses Dokument ist ausschließlich für den persönlichen, nicht-kommerziellen Gebrauch bestimmt. Auf sämtlichen Kopien dieses Dokuments müssen alle Urheberrechtshinweise und sonstigen Hinweise auf gesetzlichen Schutz beibehalten werden. Sie dürfen dieses Dokument nicht in irgendeiner Weise abändern, noch dürfen Sie dieses Dokument für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, aufführen, vertreiben oder anderweitig nutzen.

Mit der Verwendung dieses Dokuments erkennen Sie die Nutzungsbedingungen an.

Terms of use:

This document is made available under Deposit Licence (No Redistribution - no modifications). We grant a non-exclusive, non-transferable, individual and limited right to using this document. This document is solely intended for your personal, non-commercial use. All of the copies of this documents must retain all copyright information and other information regarding legal protection. You are not allowed to alter this document in any way, to copy it for public or commercial purposes, to exhibit the document in public, to perform, distribute or otherwise use the document in public.

By using this particular document, you accept the above-stated conditions of use.

Simon Raiser, Krister Volkman (eds.)

**Emerging Patterns of the Global
City Region:**

**Spatial Changes in Johannesburg,
Mumbai/Bombay, Shanghai and São
Paulo**

53_{/2005}

**ARBEITSPAPIERE
DES OSTEUROPA-INSTITUTS DER FREIEN UNIVERSITÄT BERLIN**

ARBEITSSCHWERPUNKT POLITIK

Das Osteuropa-Institut der Freien Universität beschäftigt sich als multidisziplinäres regionalwissenschaftliches Zentralinstitut in Forschung und Lehre mit den Räumen Ost-, Ostmittel- und Südosteuropas.

Mit der Reihe „**Arbeitspapiere des Osteuropa-Instituts**“ stellt der Arbeitsschwerpunkt Politik aktuelle Ergebnisse aus seiner Arbeit der Öffentlichkeit zur Verfügung.

Die Arbeitspapiere erscheinen in unregelmäßiger Folge. Einzelne Papiere können gegen eine Schutzgebühr bezogen werden bei:

Osteuropa-Institut der Freien Universität Berlin
Garystr. 55
14195 Berlin
<http://www.oei.fu-berlin.de/>

Tel.: ++49 30 838 54058
52075
Fax: ++49 30 838 53616

Arbeitspapiere des Osteuropa-Instituts
der Freien Universität Berlin
Arbeitsbereich Politik und Gesellschaft

Simon Raiser, Krister Volkmann (eds.)

**Emerging Patterns of the Global
City Region:**

**Spatial Changes in Johannesburg, Mumbai/Bombay,
Shanghai and São Paulo**

Heft 53/2005

© 2005 by Simon Raiser / Krister Volkmann
Osteuropa-Institut der Freien Universität Berlin
Arbeitsbereich Politik und Gesellschaft
Herausgeber: Klaus Segbers
Redaktion: Christina Cathey Schütz / Krister Volkmann /
Lars Banzhaf

ISSN 1434 – 419X

Emerging Patterns of the Global City Region:

Spatial Changes in Johannesburg, Mumbai/Bombay, Shanghai and São Paulo

Table of Contents

1. Introduction: Spatial Changes in Globalizing City Regions.....1

By Simon Raiser and Krister Volkmann

2. Changes in the Ordering of Johannesburg's Spatial Domain, 1990-2002.....9

By Keith S.O. Beavon

3. Decadal Changes in the Spatial Order of Mumbai.....31

By Tapati Mukhopadhyay

4. Changing Spatial Structure of Metropolitan Shanghai, 1990 – 2002.....48

By Gerald Chungu

5. An Urbanistic Approach to the Metropolitan Region of São Paulo at the Beginning of the 21st Century.....64

By Regina Maria Prosperi Meyer and Marta Dora Grostein

5. About the Authors.....85

1. Spatial Changes in Globalizing City Regions

By Simon Raiser and Krister Volkmann

Every city in the world has its specific shape and spatial structure, its geographic and societal, as well as cultural and economic particularities. These characteristics make a city unique. However, despite their uniqueness most of the cities face similar challenges in times of globalization. On the one hand they have to ensure urban competitiveness in order to maintain or even improve their position in the global urban hierarchy.¹ On the other hand they are confronted with fundamental changes in their economic structure which, in turn, have far-reaching consequences for the internal societal constellation and spatial order.

This dilemma is particularly evident in globalizing cities. Due to the dynamics of globalization the urban economic structure in those cities has been transformed from a manufacturing-based to a service and knowledge-oriented economy. This restructuring process has been fuelled by the world-wide interplay of increasingly dense flows of capital, goods, services, communication, and people, which do not stop at national borders but instead move swiftly around the globe in search of the best place to augment profit. And while states are still key actors, they are gradually losing their capacity to control and direct their national economies.

It is in this context that certain cities and city regions have become the new strategic sites of the global economy. They function as nodes and hubs in a global "space of flows".² According to this analysis, these flows need to join, interact, and disperse again in certain nodes of the network – the so-called global cities.³ They can be portrayed as the "command centres" of the global resource flows in which nearly all important societal, economic, as well as political changes are being initiated.

In view of this new, strategic importance, the competition between cities has grown considerably in the last years. As Fainstein and Campbell remark: „In virtually all cities policy-makers have perceived their economic base as endangered by competition from other places and have strived to devise programs that would attract expanding businesses.“⁴ Thus, urban decision-makers are bound to develop marketing strategies in order to attract capital, investors, and tourists to the city and, in the long run, to climb up the global urban hierarchy. These strategies aim at designing globalized economic areas – such as high-tech parks ("technopoles"⁵), special production zones for the export industry, and office complexes for the financial service sector – in the city region which are equipped with sophisticated infra-

¹ Cf. Roberts/Sykes 2000; Rodriguez et al. 2003, Taylor 2003.

² Castells 1996.

³ Sassen 1994, 2001 and 2002, Taylor 2003.

⁴ Fainstein/Campbell 1996: 11.

⁵ Castells/Hall 1994.

structure and information technology networks.⁶ In addition, marketing and “re-imaging” activities strive to place the city region prominently in the global media⁷. New buildings exhibit post-modern architectural designs, turning them into symbols for a dynamic, future-oriented attitude. Great efforts are undertaken to shape an attractive environment for the professional elite in the expanding service industries. Shopping malls, cultural centers, and sports complexes allow them to maintain a cosmopolitan lifestyle. On the other hand, cultural and folkloristic events convey a sense of uniqueness, which is intended to draw the attention of tourists, professionals, and investors from elsewhere.

At the same time, the general shift from the secondary to the tertiary sector in most global city regions has caused a radical change in the employment structure. While millions of jobs in manufacturing have been lost, the service and knowledge-based economic activities do not provide enough employment opportunities for all laid-off workers. As a result, many people are forced to work in the informal sector of the economy, which in turn deepens socio-economic fragmentation. Informal settlements mushroom on the few empty spaces in the city, thereby increasing the risk of environmental degradation.

Regina Meyer and Marta Grostein write in this working paper of the rise of a “metropolitan city” that is associated with a “new cycle in the process of adaptation of the metropolitan area to a new pattern of production and further integration [...] into certain aspects of the globalized economy”. This new cycle establishes a different spatial order built on the structures of former production cycles. It is associated with the parallel and contradictory rise of post-modern office-complexes and informal settlements, with a growing upper-income class and simultaneous rapidly growing low-income stratum, and the introduction of state-of-the-art technology where serious deficiencies in the provision of basic services (such as housing water and sanitation, transport, education and health) also exist.

The above-mentioned, parallel development of fierce competition between cities on the one hand and the consequences of a fundamental economic restructuring process on the other has led to dramatic changes in the spatial order of most cities. While it is debatable whether there is enough evidence to generally speak of a new spatial order for globalizing cities,⁸ this working paper reveals that there are some common trends. To start with, central functions of the city increasingly are spreading into the vicinity. Former core cities are expanding beyond current city boundaries, thus creating global city regions which link the metropolitan area with a surrounding hinterland of variable expanse.⁹ Meyer and Grostein’s phrase, the “metropolitan city”, captures the regional spread of cities well.

⁶ Cf. Graham/Marvin 2001.

⁷ Cf. Short 1999, Hall/Hubbard 1998, Ward 1998.

⁸ Cf. Marcuse/van Kempen 2000.

⁹ Cf. Scott 2001: 1.

THE FOUR CASE STUDIES

The topic of this working paper is the emergence of a new spatial order in global city regions. It focuses on city regions in the South: Johannesburg, Mumbai/Bombay, Shanghai and São Paulo. Here the dynamics of spatial change may be even stronger than in the established industrialized countries of the North. Whereas urbanization took about a century in the North,¹⁰ the cities in the South have grown in a much shorter time span and in many cases still continue to grow at a rapid pace. This creates immense social and environmental problems and intensifies the trend towards urban fragmentation. The resulting spatial changes in the four cities have been analyzed in depth by local experts: Keith Beavon for Johannesburg, Tapati Mukhopadhyay for Mumbai/Bombay, Gerald Chungu for Shanghai, and Regina Maria Prosperi Meyer and Marta Dora Grostein for São Paulo. The studies were prepared in the context of a comprehensive, interdisciplinary research project¹¹ ("Global city regions as changing sites of governance") directed by Professor Klaus Segbers at the Free University of Berlin.

The authors provide instructive insights from the four city regions. Without negating the local particularities in each of the cases, some common trends can be identified: a strong shift from the old center to certain suburbs, the creation of new central business districts (CBDs), and the parallel spread of informal structures in the cities (see maps in the following chapters). The combination of these trends poses serious challenges to city-region development that call for innovative solutions: How can further socio-economic fragmentation be avoided? How should the cities deal with the growth of informal settlements? How can the cities establish an efficient transportation system? How should and can the cities preserve the urban environment, including natural reserves? What should happen to the historic core when economic activities move outward? The contributions to this working paper will provide some tentative answers to these questions. However, the main focus will be on the analysis of the ongoing changes to the spatial order. In the following sections of this introductory chapter, we will briefly summarize the common trends in the four cities.

¹⁰ Today, many former industrial cities in the North are even shrinking. For more information see the interdisciplinary project on "shrinking cities" at: www.shrinking-cities.de.

¹¹ For more information on this project, see the project homepage <http://www.city-region.de>. Parts of the research results of the project will be published in April 2005 ("Public Problems – Private Solutions? Globalizing Cities in the South", Ashgate Publishing). A second book with further results is currently under preparation. In addition, the issue area of civil society is presented in another working paper titled "Bringing the citizens in: The new role of civil society in globalizing city regions of the South" (Institute for East European Studies, Free University Berlin, Working Paper No. 53/2005).

THE MOVE TO THE SUBURBS

The shift not only of the population, but also of other urban activities from the old city center to certain suburbs can be observed in all four city regions. Keith Beavon, in his detailed analysis, calls it the “Great Trek of retailing to the suburbs”. The first shopping mall was opened in the 1970s in the suburb of Sandton. By 1990, 25 major shopping malls were in operation in the metropolitan area of Johannesburg and until 2002, their number more than doubled to 53. From 1993 to 2002, their retail area grew from 1 million m² to 1.7 million m². The “trek of shopping malls” was followed by office buildings, which created top-grade office nodes in some suburbs, notably Sandton, Rosebank, and Rivonia. These suburbs are still overwhelmingly populated by white South Africans. According to Beavon, the trend thus increases the already sharp social and racial polarization in the city region.

As for the Mumbai region, Tapati Mukhopadhyay describes a “construction boom” in the city region’s suburbs during the 1990s, which in part is related to a “considerable rise in the number of retail outlets in the newly-developed suburban areas”. While the old mills of the textile industry in the city center have been largely deserted, many important commercial facilities have moved to the suburbs. “Special retail enclaves”, such as Mulund, Powai and Kandivali, have emerged and they have benefited from the rapid rise of population in the extended suburbs. Simultaneously, other business facilities have expanded in these nodal points.

In his analysis of changes in Shanghai’s spatial structure, Gerald Chungu observes a particularly strong shift of residential functions from the inner-city to outer areas in the region. Chungu points out that, only in the 1990s, more than 1 million inhabitants were resettled from the city center to the outer suburbs. Some peripheral areas such as Jing’an, Luwan, and Nanshi experienced a sharp increase in the amount of residential and office buildings. Likewise, new commercial complexes were built in these districts. However, while the population in the central city has decreased considerably and most dilapidated houses have been destroyed, the center seems still to concentrate a considerable share of office and commercial buildings.

In more abstract terms, Regina Meyer and Marta Grostein identify two characteristics of the current phase of the metropolitan cycle: functional dispersion and territorial discontinuity. This is an indication that development in the metropolitan area does not occur evenly, but is concentrated within certain functional clusters in the city region. One of these newly developed clusters is the city of Campinas, north of São Paulo.

THE CREATION OF NEW “CENTRAL BUSINESS DISTRICTS” (CBDs)

In all four cities new CBDs have been developed deliberately in suburban districts. These CBDs have taken over key functions formerly located in the old center of the four cities. It is widely accepted that in all four city regions the main reason for developing a new CBD has been to portray the image of a globally competitive, and economically successful city that offers the highest standards for potential investors.

Keith Beavon notes for Johannesburg that white business left the former CBD in the 1990s due to security concerns and moved to the Northern suburbs. Needless to say, the new CBD in Sandton has been equipped with the necessary infrastructure to link South Africa to the global economy. The move of the Johannesburg Stock Exchange to Sandton in 2000 is a prominent example of the shift from the traditional city core to a new CBD.

In Mumbai/Bombay, the Bandra-Kurla-Complex was designed and constructed in the 1990s by the planning agency for the Mumbai Metropolitan Region (MMRDA) as an international finance and business centre. It has attracted some multinational corporations since then. However, Mumbai/Bombay is a special case insofar as the traditional Fort Area in the city centre has been able to retain its economic and financial centrality.

São Paulo, in turn, has experienced several CBD relocations in the past decades: the rise of Avenida Paulista as a new CBD in the 1950s and 1960s, its move further South-West to Avenida Faria Lima in the 1970s, and its current location along Pinheiros River in the sectors of Avenida Luiz Carlos Berrini and Verbo Divino.

Nowhere, however, has the creation of a new CBD been more spectacular and been driven in a more determined way than in the case of Pudong New Area in Shanghai. The futuristic skyline of Lujiazui Financial District with the Oriental Pearl Tower and the Jinmao Building is not only the most obvious expression of Shanghai's global city aspirations, but is frequently used to symbolize the rise of the Chinese economy in general. However, as Gerald Chungu remarks, the new city has been built at the cost of demolishing many small, but traditional buildings in the former foreign concessions. Also, the construction boom - partly driven by speculative capital - has created empty office space and may lead to a sudden fall in the property market prices.

Not only the case of Shanghai shows that the renewal of the old city core has been largely neglected in the past. As Meyer and Grostein point out, this is a waste of resources, since the traditional city core is often well-equipped with infrastructure, particularly in the transport sector. In a situation where infrastructure provision is still deficient for significant parts of the city, a mixed and sustainable use of the old city core would be a measure of efficient city management. Slowly, the decision makers in the respective cities realize the potential of the old city cores, too, as tourists in particular are keen to track the historical past of

the cities. It is in this context that the city administrations have started to invest into the renovation of the inner city.

THE RISE OF THE INFORMAL CITY

An opposing trend to the creation of globally linked CBDs is the rise of the informal city. Slums and shack dwellings can be found next to glittery skyscrapers and luxurious shopping centres. As global city theory suggests, these are two mutually dependent sides of globalization.¹² The spreading enclaves of the global economy rely on the availability of a large pool of precariously employed workers, who take care of many daily operations: the maintenance of buildings (e.g. cleaning staff, caretakers), the delivery of goods, the operation of lunch places, household assistance, taxi rides, and many other tasks that are necessary to uphold the functioning of the financial and business districts. Since many of the service workers in this poorly-paid and often informal sector lack the money for public transportation, they literally need to live next to the fancy districts. Castells and Mollenkopf have termed this the “dual city”.¹³

The rise of the informal city next to the global city can also be observed in the cities examined in this working paper. In São Paulo the metropolitan population grew throughout the 1990s at a moderate rate of 1.63 % per annum, while the population in the region’s favelas increased at a rapid speed of 5.21 % per annum. About 1.7 million people live in the so-called “sub-normal sectors” of the metropolitan region (see table).

The situation is even worse in Mumbai/Bombay, where half of the urban population (and very likely even more than that) lives in slums. These dwellers lack legal tenure. Basic infrastructure is highly inadequate or even non-existing. For Johannesburg, the number of shack dwellers is estimated to have reached 786 000 by 2002, and Beavon concludes that “some 53 to 63 per cent of the population live outside the ‘wedge of plenty’”.

The degree of deprivation and exclusion is probably less severe in Shanghai, but the presence of about 4 million migrant workers (“floating population”) may indicate the emergence of a future informal under-class in this “Socialist” global city as well, if no adequate counter-measures are taken to remedy this development.

One of the most pressing challenges for urban areas is to develop counter-measures against the spread of the informal city. Otherwise the cities risk further disintegration, with unforeseeable consequences for social cohesion and the security situation. Many richer people already prefer to live in so-called gated communities behind high fences with private,

¹² Sassen 1994, Berner/Korff 1995, Fainstein 2001.

¹³ Mollenkopf/Castells 1991.

heavily-armed guards securing the area against intruders. This trend is particularly evident in São Paulo and Johannesburg and points to another relevant issue, which cannot be taken up here in detail: The gradual privatization of public security that used to be the central pillar of the sovereign state.¹⁴

CONCLUDING REMARKS

The studies of the changing spatial order in globalizing city regions show an impressive expansion of retail, office, and entertainment complexes that meet the “highest world standards” (cf. Beavon in this working paper). Western-style coffee shops, entertainment places, and restaurants “have mushroomed” as the case of Shanghai suggests (cf. Chungu in this working paper). At the same time, the research findings bear evidence of a sharply increasing polarization in these urban societies. The modernized territories exist next to “precariously installed territories” in the close vicinity (cf. Meyer and Grostein in this working paper). Mumbai/Bombay houses Asia’s biggest slum, Dharavi. At the same time, the office rents in its CBD rank among the highest in the world (cf. Mukhopadhyay in this working paper). Both spheres of the city are interlinked with the process of globalization that is transforming the urban landscape.

The simultaneousness of contradictory trends seems to be characteristic not only for these four cities, but also more generally for cities in the era of globalization. The challenge remains to reconcile these contradictory trends and to direct them towards a sustainable development.

REFERENCES

- Berner, Erhard and Rüdiger Korff 1995: Globalization and Local Resistance: The Creation of Localities in Manila and Bangkok, in: *International Journal of Urban and Regional Research* 19 (2), pp. 208-222.
- Caldeira, Theresa 2000: *City of Walls. Crime, Segregation and Citizenship in São Paulo*. Los Angeles.
- Castells, Manuel 1996: *The Rise of the Network Society*, Oxford.
- Castells, Manuel and Peter Hall 1994: *Technopoles of the World. The Making of 21st Century Industrial Complexes*. London/New York.
- Dinges, Martin and Fritz Sack 2000: *Unsichere Großstädte? Vom Mittelalter bis zur Post-*

¹⁴ For an interesting discussion see Caldeira 2002 and Dinges/Sack 2000.

moderne, Konstanz.

Fainstein, Susan. S. 2001: Inequalities in Global City-Regions, in: Scott, A.J. (ed.): Global City Regions. Trends, Theory, Policy, Oxford/New York, pp. 285-298.

Fainstein, Susan S. and Scott Campbell 1996: Readings in Urban Theory, Oxford/Cambridge MA.

Graham, Stephen and Simon Marvin 2001: Splintering Urbanism. Networked Infrastructures, Technological Mobilities and the Urban Condition, London/New York.

Hall, Tim and Phil Hubbard (eds.) 1998: The entrepreneurial city: Geographies of politics, regime, and representation, Chichester.

Marcuse, Peter and Johan van Kempen 2000 (eds.): Globalizing Cities: A New Spatial Order?, Oxford.

Marcuse, Peter 1997: 'The Enclave, the Citadel, and the Ghetto: What Has Changed in the Post-Fordist U.S. City', in: Urban Affairs Review, 33 (2), pp. 228-264.

Mollenkopf, John. H. and Manuel Castells (eds.) 1991: The Dual City. Restructuring New York, New York.

Roberts, P. and H. Sykes (eds.) 2000: Urban Regeneration: A Handbook, London.

Rodriguez, Arantxa, Frank Moulaert and Erik Swyngedouw 2003: Urban Restructuring, Social-Political Polarization and New Urban Policies, in: Moulaert, F., A. Rodriguez and E. Swyngedouw (eds.): The Globalized City. Economic Restructuring and Social Polarization in European Cities, Oxford: pp. 29-46.

Sassen, Saskia 1994: Cities in a World Economy, Thousand Oaks.

----- 2001: The Global City. New York, London, Tokyo. Princeton, NJ (updated edition; originally published in 1991).

----- (ed.): 2002. Global Networks, Linked Cities. New York/London.

Scott, Alan J. (ed.) 2001: Global City-Regions. Trends, Theory, Policy. Oxford/New York.

Short, John R. 1999: Urban Imagineers: Boosterism and the Representation of Cities, in: Jonas, A. and D. Wilson (eds.): The Urban Growth Machine. Critical Perspectives Two Decades Later. Albany, pp. 37-54.

Taylor, Peter J. 2003: World City Network: A Global Urban Analysis, London.

2. Changes in the Ordering of Johannesburg's Spatial Domain, 1990- 2002

By Keith S.O. Beavon

INTRODUCTION

Johannesburg was laid out as a mining camp on a triangular piece of unwanted state land in 1886. It soon added trappings that made it into more of a village and a town than a simple mining camp, and before much time had elapsed it was spread out more east and west than north or south. The reasons for its elongated form had to do with the fact that on the northern side the land sloped steeply up to a series of east-west ridges and to the south was the broad belt of the mining land. By the 1890s the linear form had been reinforced by a mainline railway, running approximately parallel with the line of the reef's outcrop, and by the layout of the first tramway. The race-space of the growing town was also clearly delineated with the eastern suburbs being the preferred area for a predominantly English-speaking population that include both the wealthy and the middle classes. On the western side of the town centre the dominant language group were Afrikaners, and the black and Indian people were jammed into an area just northwest of the early town centre in the vicinity of the railway freight yards. By the close of the 1890s the rich had taken up a position north of the town centre and established an apex for what would later become the triangle, or 'wedge of northern suburbs' that in turn would be characterized by a concentration within it of the city's movers and shakers, the high-income earners, and a pool of high purchasing power.¹⁵

The first major change to the race-space came in 1904 when, under the British occupation, the new municipal boundary enclosed an area of 205 km² making it the largest in the world with the possible exception of Tokyo.¹⁶ Then, following an outbreak of bubonic plague in the area occupied by the Indian and Black communities, the Black people were removed and forced to reside at a site southwest of the municipal boundary in a location called *Klip-spruit* that would later become Pimville and later be seen as the founding point of Soweto.¹⁷

Between 1904 and 1976 the pattern of social and functional geographies of the city remained almost constant.¹⁸ The Soweto revolt¹⁹ in June 1976 and the subsequent events, both in Soweto and nation-wide, set in train a number of 'informal', or people-based, changes that resulted in a modification of the residential and commercial geographies of the city prior to the announcement in February 1990 that Nelson Mandela would be released from prison, and that all restrictions on banned persons were lifted. In effect apartheid was dead. The events just mentioned are of monumental proportions in the recent political history of the country. Thus in order to more fully appreciate the nature and implications of the changes in spatial order in Johannesburg between 1990 and 2002 it is appropriate to examine and ac-

¹⁵ See *inter alia*: Benjamin *et al.*, 1972; Hart, 1976; Palestrant, 1986; van Onselen, 2001.

¹⁶ Maud, 1938; Curtis, 1951.

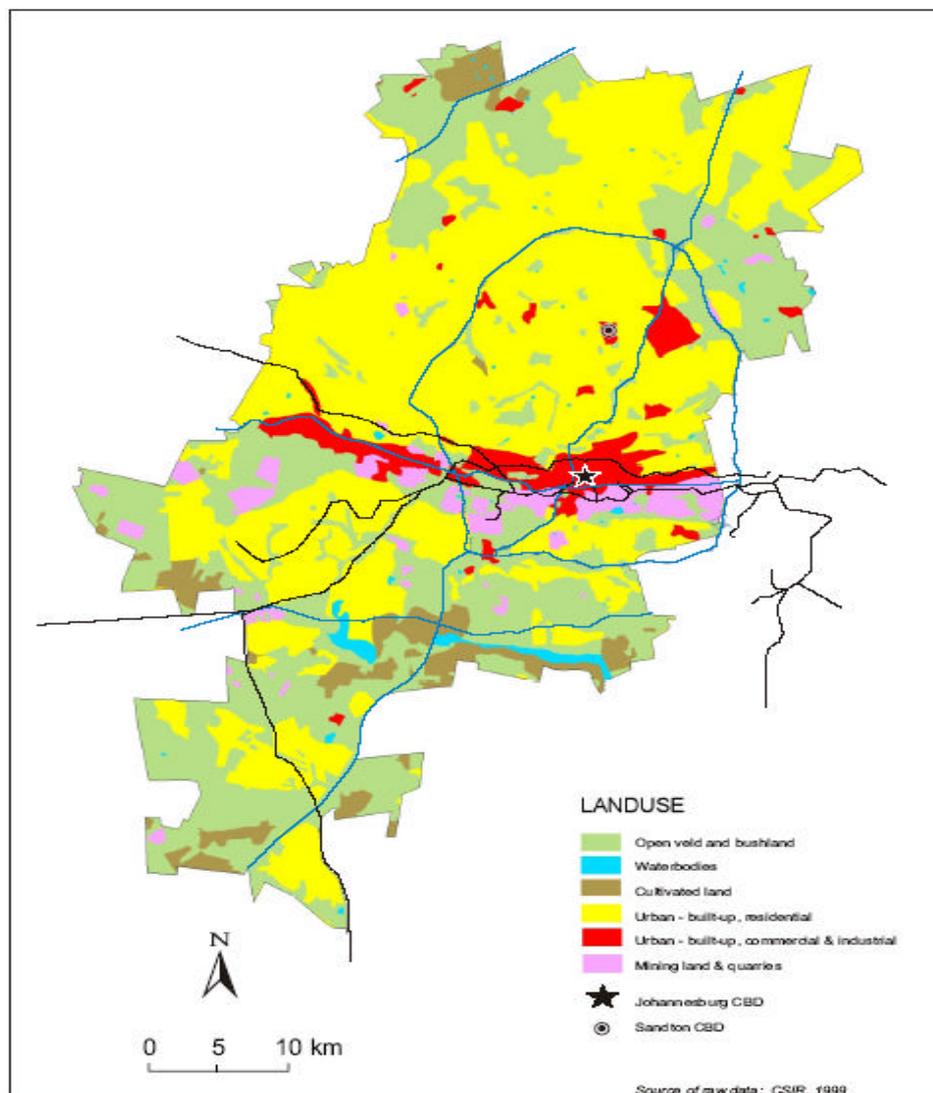
¹⁷ Kagan, 1978; Beavon, 1982; Pirie, 1984; Brink, 1994.

¹⁸ Beavon, 1996, 1997a.

¹⁹ Kane-Berman, 1978.

count, albeit briefly, for some of the salient aspects of the spatial order of the city between 1904 and 1990. Thereafter the attention of the reader will be focused on a set of commercial and residential data that gives an indication of the changing spatial patterns that currently characterize the metropolis and that reinforce an earlier but post-1990 assessment of an emerging trend.²⁰ As a backdrop for those not really familiar with Johannesburg a land-use map of the metropolis in the 1990s, using only broad categories, is presented as Figure 1. The size of the city as presently demarcated (since 2000) also needs to be emphasized: it stretches north-south for some 90 km and over much of that length it is 40 km wide.

Figure 1: Land use in Johannesburg (Source: Adapted from CSIR data 1999)



²⁰ Beavon, 2000.

THE BACKDROP TO THE CHANGING PATTERNS OF THE PAST TWELVE YEARS

For a variety of reasons²¹, not considered here, many of the Black people forced out to Klipspruit were issued permits allowing them to reside in what accommodation might exist closer to their points of employment and in the service of white employers. The consequence was an opportunity for Black people to be exploited by speculators and the result, as the rich headed northward, was the emergence of an east-west belt of what became known as Johannesburg's slumyards.²² Reactions to the slumyards by whites, and by the Johannesburg Council, were to become part and parcel of the *raison d'être* for the infamous enabling legislation known as the Natives (Urban Areas) Act of 1923 (and its later amendments).²³

Upon promulgation Johannesburg immediately adopted the Act and began to apply it albeit that an amendment making it more enforceable was deemed necessary.²⁴ It was application of the provisions in the Act that created the formal segregation of Black people into areas separate from whites many years before formal *apartheid* and the associated, and infamous, Group Areas legislation came into effect in 1948 and the 1950s respectively.²⁵ The Urban Areas Act not only restricted the accommodation of Black people to designated areas but limited their opportunities to conduct most forms of business. In effect it forced Black people to support those shops owned by whites but catering primarily for a black clientele and located on the fringes of the Johannesburg central business district (hereinafter the CBD). It is worth noting here that between 1923 and 1976 the only permissible Black-owned trades and formal businesses that were allowed in the Black townships were those that catered only for the 'reasonable' needs of the Black people. In effect such business were restricted to those of General Dealer, Eating-house, Restaurant, Milkshop, Fruit Vegetable and Plant Dealer, Hawker, Wood and Coal Merchants, and Undertakers. Not only were the categories of businesses restricted by statute but the municipality also limited the numbers of such businesses that it would permit per category and by 1950 the overall ratio was approximately one 'reasonable needs' shop per 1 000 families (or 1 per 6 000 people). Furthermore, and by way of an example, there were no dry-cleaning shops, stationers, or pharmacies permitted in the Black townships. After the Soweto Revolt the list of permissible business activities was increased by 19 categories (that included the three types just mentioned), and after November 1977 an additional 39 business types and occupations were allowed. Only after December 1977 were all discriminatory restrictions on Black businesses lifted but ownership of a business in a white Group Area was still denied.²⁶ In addition and in terms of the Job Reservation provisions of the apartheid legislation, associated with the 'civilized (*sic.*) labour policy' of 1924²⁷, not only were businesses in the CBD of Johannesburg white owned but the overwhelming number of employees, and particularly those in white-collar jobs, were white people.²⁸

²¹ See Parnell, 1993.

²² Hellmann, 1935, 1948; Koch, 1983.

²³ Horrell, 1978; Parnell, 1988.

²⁴ See Parnell, 1993.

²⁵ Beavon, 1999.

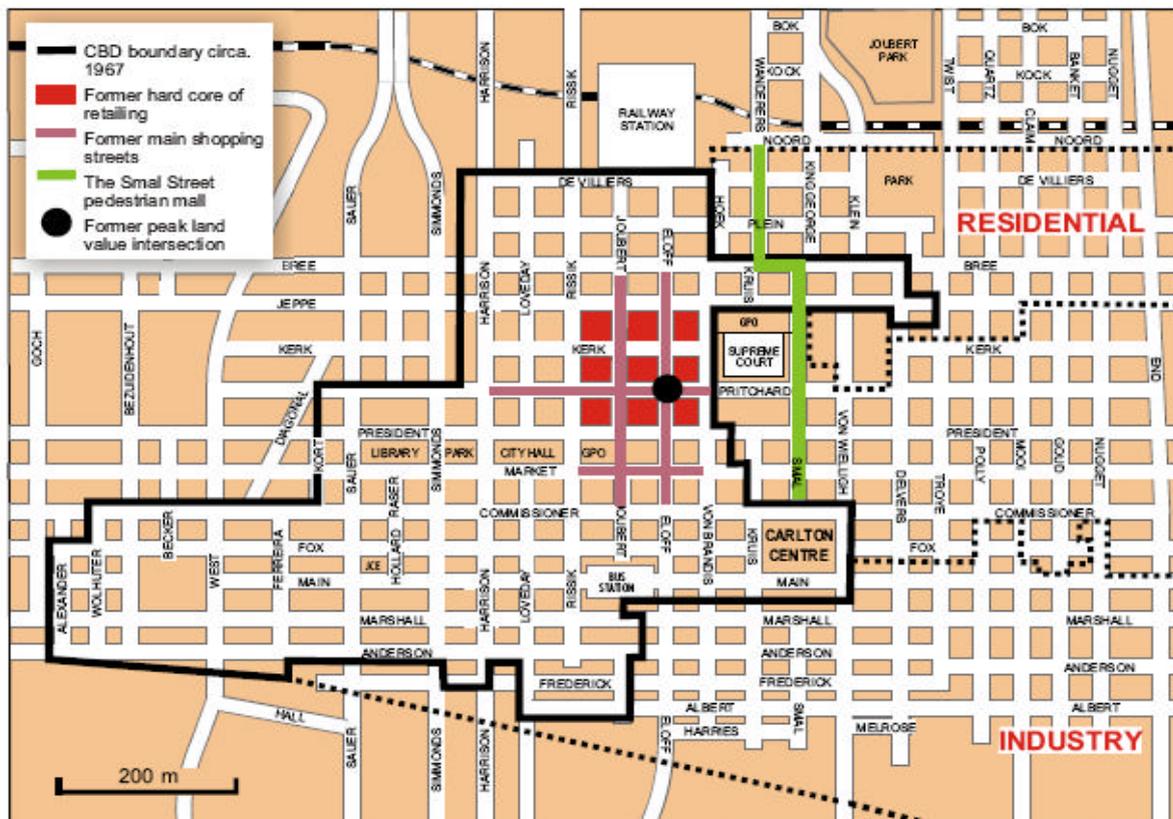
²⁶ Beavon, 1989.

²⁷ Hobart Houghton and Dagut, 1973.

²⁸ Mandy, 1984.

Notwithstanding the above comments the total purchasing power of Johannesburg's Black community began to increase significantly after 1976 when white businesses, either with or without the permission of the central state, not only began to employ Black people in clerical positions but did so at a time when wages for office workers in particular were pushed up (admittedly from a low base). It is important to note that by 1976 the Black population in Johannesburg at large out-numbered the whites by 2 to 1 and given the poor provision of shops and services in the Black areas it was clear that the CBD (Figure 2), then still the most accessible point on the Witwatersrand, would become increasingly the service centre for Black people.²⁹

Figure 2: Street plan of the area colloquially known as the Johannesburg CBD.



Note: The formal CBD boundary *circa* 1967 as determined by the then Forward Planning Branch of the City Council is also shown. The main premier shopping street is no longer Eloff Street but is now the Smal Street pedestrian mall. (Source: after City Engineer, 1967; Beavon, 1994)

In 1978 the CBD businesses that had always relied primarily on white customers began to feel the competitive pressure from businesses located in the first wave of the new mega-malls that were springing up in suburbia adding a new dimension to the decentralized shopping centres already established there. By 1982 the cumulative effect of the malls that were already operating, and other up-market shopping clusters catering for the upper-income

²⁹ Op cit.

customers of the wealthy (mainly northern) Johannesburg suburbs, in addition to those in the neighbouring municipalities, saw most of the big-spending shoppers and high-order commodity stores lost to the CBD. In fact by 1983 the CBD had lost its top-four major departmental stores. The vacated premises in the CBD were not only almost immediately taken over by other businesses but by ones that offered lower-order and more utilitarian goods and services to match the pockets and needs of an ever more predominant Black clientele.³⁰

In keeping with the changes the clusters of small shops that had earlier been located only on the periphery of the downtown area, and mainly near the mass transport terminals, began to increase in numbers and to choose locations more firmly within the CBD boundary. An expansion of such businesses southward into the heart of the CBD was particularly noticeable from the area on the south-eastern, or the then 'Non-Whites Only', side of the main railway station. By 1982 a sample of 1 300 businesses in the CBD showed that only 500 of them still had only white shop assistants and 220 were under Indian management.³¹ Clearly as part of the process of change more black shop-owners were operating businesses in the downtown area of Johannesburg regardless of what was prescribed by law.

The majority of the black commuters, who then were still using mainly the suburban trains to get to Johannesburg, entered the CBD from the south-eastern corner of the main station complex. From there they moved south into the CBD heading mainly along *Smal Street* (meaning narrow; see Figure 2). Given that the Carlton Centre (then the largest integrated office-hotel-and-shopping complex of Johannesburg) was not only located opposite the southern end of Smal Street, and from inception it had succeeded in its attempt to attract black people to its shopping facilities, by the late 1980s Smal Street had replaced Eloff Street (formerly Johannesburg's equivalent of 'Fifth Avenue' New York) in terms of the hustle and bustle of pedestrians and shoppers if not in the order of commodities that had once characterized the latter.

The mid to late 1980s saw countrywide mobilization of forces opposed to apartheid and mass rallies in the major cities became increasingly common.³² As might be expected those rallies were mainly supported by the oppressed groups and from time to time the people's marshals would lose control and damage to property in the central areas of cities would occur. Johannesburg, as the premier city, was no exception. Unfortunately many of the small businesses in the centre of Johannesburg and that were white-owned perceived the area to be one in which they were now afraid to do business. As a result many small shops closed and where possible relocated into the perceived security of the whites-only suburbs. At the same time many white residents in the high-rise and high-density suburb of Hillbrow and Joubert Park (situated on the north-eastern side of the CBD, see Figure 2) also began to move elsewhere as first Indian and later coloured and Black people began to move into the apartment suburb in spite of the Group Areas Act.³³

³⁰ Beavon, 1998a.

³¹ Mandy, 1984.

³² O'Meara, 1996.

³³ See Pickard-Cambridge, 1988; Morris, 1994, 1997, 1999; Crankshaw and White, 1995.

Although Soweto was intimately part of what might be termed Greater Johannesburg it was at the time being administered by three separate 'puppet' councils known as Black Local Authorities.³⁴ As part of their defiance of what had been superimposed on them by the government, in particular the 1986 state of emergency, and as part of the national strategy to make the country ungovernable under the white regime, thousands of Sowetans joined in a rent boycott organized by the Soweto Civic Association (SCA).³⁵ By 1988 it was apparent to all parties that the boycott had to be resolved through negotiations between the Sowetan representatives and the appropriate authorities. As it transpired the authorities were not merely the local municipal councils and their officials but also the organizations that supplied bulk services throughout the Transvaal, namely the Rand Water Board and the Electricity Supply Commission (Escom).³⁶

Eschewing the details suffice it to say here that the way in which negotiations were facilitated was through the establishment of a neutral negotiating forum called the Central Witwatersrand Metropolitan Chamber. It came into existence shortly after the Soweto Accord of September 1990.³⁷ Associated with the Chamber were various technical committees made up of experts from a variety of services. In effect the Chamber had become a sort of *de facto* metropolitan council.

It is important to bear in mind that as a consequence of the spatial shifts and political stances up to 1990, which have been briefly sketched above, downtown Johannesburg and its adjacent residential areas were increasingly seen as a 'Black' area³⁸, and the suburbs, particularly the already well-endowed northern suburbs, were viewed as the 'refuge' of the white population. Soweto by contrast was beset by poverty amongst its residents and set in an impoverished urban landscape.³⁹

It is against the backdrop now provided that one can consider in more detail the changes in spatial ordering that have taken place since 1990. It is important to note that the discussion that now follows is couched as if the expanded municipal boundary that was established towards the end of 2000 was also applicable from 1990. Johannesburg as currently demarcated has an area 2300 km² and according to the 2001 census has a population of 3.2 million.⁴⁰ For the ease of administration the municipality is divided into 11 regions (as shown on Figure 6).

³⁴ Shubane, 1991.

³⁵ Chaskalson *et al.*, 1987; Atkinson, 1991; Seekings, 1991; Swilling *et al.*, 1991.

³⁶ Atkinson 1991; Shubane 1991.

³⁷ Juta, 1990; Central Witwatersrand Metropolitan Chamber, 1992, 1993; Solomon, 1992; Turok, 1993.

³⁸ See Dauskardt, 1993; Shiceka, 1995.

³⁹ For some graphic details see *inter alia* Shuenyane *et al.*, 1977; Morris, 1980; Hall *et al.*, 1993; Rogerson and Beavon, 1982; Beavon and Rogerson, 1986.

⁴⁰ CDE, 2002: 14.

THE 1993 FRAMEWORK FOR THE SPATIAL RESTRUCTURING OF THE METROPOLITAN AREA

Almost two years before the first democratic local government elections scheduled for 1995 a task group of the Metropolitan Chamber made public what was termed an Interim Strategic Framework (henceforth the ISF) for the Central Witwatersrand.⁴¹ The intention of the task group had been that in order to overcome some of the spatial inequalities of the apartheid administration it was essential to curb the unbridled spread of low-density growth that had characterized Johannesburg in the twentieth century. The idea was to encourage a more continuously compact urban area and one that could be achieved by encouraging 'densification' and 'infilling' between existing nodes of activity. The result, it was believed, would increase the common wealth of all.⁴² It appears that many of the ways and means integral to the objectives of the ISF were later incorporated in the national Development Facilitation Act.⁴³ The Act certainly removed much of the 'red tape' that frustrated developments designed to afford much needed relief for the poor throughout the country. Unfortunately it also made it possible for developers in Johannesburg to proceed virtually unhindered by the sound requirements of formal town-planning schemes and to bring about profitable changes for themselves, and their investors, but which were not necessarily in the public interest. In particular it became very easy for businesses wishing to avoid being in the CBD to take up positions along virtually any of the major arterial roads in a residential suburb under the guise of 'densification', or by claiming that new employment opportunities were being created along a 'transportation corridor'. Furthermore rezoning of property rights from residential to business in the suburbs, which had normally been opposed by the former (white) Council and many residents' associations, now became fairly easy to obtain and so did permission for sub-division of residential properties to facilitate increased densities in the suburbs.⁴⁴ Consequently many businesses found it easy to forsake the Johannesburg CBD and head in the main for the northern suburbs, the area that was already the locus of the centre of gravity of disposable income for high-order goods and services. The changes in CBD retailing that had already taken place prior to 1990 now proceeded apace. The formal retailing set about adjusting to its new clientele and the informal economy, especially in the form of hawkers and pavement seller increased in leaps and bounds⁴⁵: a process which while helpful to the Black customers did little to retain or attract white shoppers in any significant numbers.

⁴¹ GAPS, 1993.

⁴² Beavon 1997a, 1998b.

⁴³ See Emdon 1994.

⁴⁴ Beavon, 1998b.

⁴⁵ See Rogerson, 1995.

SPATIAL CHANGES OF COMMERCIAL ACTIVITIES AND CHANGES IN RESIDENTIAL AREAS 1990-2002

Attention can now turn to examining some of the evidence in respect of the massive shifts of commercial activity, and to aspects of spatial change reflected in residential areas over the 13 years that are the focus here.

Decentralization of retailing and office functions from the CBD of Johannesburg to various suburbs, particularly the northern suburbs, was noticeable as early as the 1960s. Although it became more significant after the 1976 Soweto uprising and in the 1980s, during the period of rolling mass action, moves from the CBD were also prompted by changes in retailing technology, the advent and attraction of large suburban malls, and a demand for office blocks that were more energy efficient, designed to be better suited for office computer networks than high-rise buildings, and small enough to be owned by one company or shared by only a few firms.⁴⁶ Consideration will first be given to the shift in retailing and thereafter attention will focus on the burgeoning amounts of office space outside the Johannesburg CBD.

The Great Trek of retailing to the suburbs

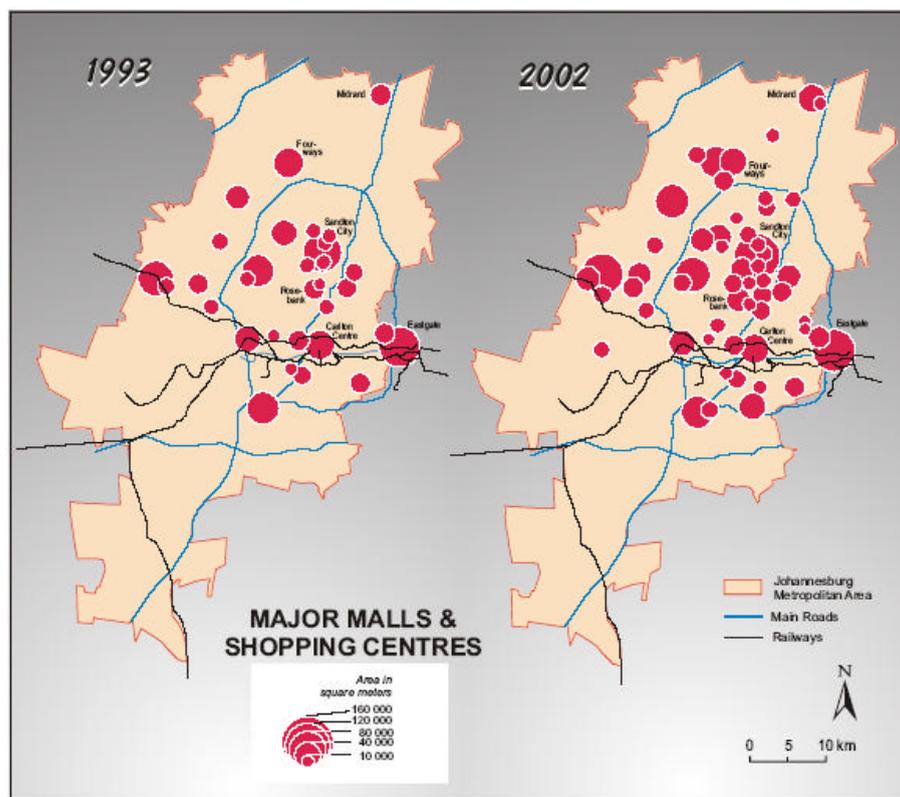
The trek of high-order retailing from the centre to the north was accelerated by the advent of the first major mall (30 000 m²) named Sandton City in the 1970s, next by the Roodepoort hypermarket to the western suburbs of Greater Johannesburg in 1978, and to the eastern suburbs where the Eastgate Mall (90 000 m²) was opened in 1979. By the beginning of 1990 no less than 25 of the current 53 suburban malls and shopping centres, (now) each with a minimum gross leaseable area (gla) of 10 000 m² (Table 1 – see Annex), were already in place. By the end of 1993, when the South African Property Owners Association (Sapoa) began collecting and publishing data on large malls and shopping centres countrywide, an additional nine units of at least 10 000 m² had opened bringing the total gla of the set of large malls outside of the CBD to 970 300 m². A further 11 large malls were opened by the end of 1997 that, together with some expansion of existing malls, added an extra 355 990 m² (a 36.7 per cent increase) of decentralized and mostly high-order retailing. By the end of 2001 another seven large malls had been opened, and some of the existing ones had again expanded, increasing the total gla retailing space by 339 088 m², an increase of 25.6 per cent over the total gla of the decentralized large malls and centres that had been in place at the end of 1997. The magnitude of the changes in the spread of large shopping facilities between 1993 and 2002 is portrayed in Figure 3. It is readily apparent that a significant proportion of the total decentralized retailing offered by the large shopping facilities, which by 2002 totaled 1 665 379 m², is located in the northern suburbs. Furthermore it is important to note that 29 of the 179 leading smaller malls and shopping centres (less than 10 000 m² but of at least 3 500 m² in size) in the country as a whole are also located in Johannesburg. Only one

⁴⁶ See *inter alia* Mandy, 1984; Beavon 1994; 1997b, 1998a; Standard Bank, 1990; Tomlinson, 1999.

of those is in the CBD, two of them are in former blacks-only suburbs, and the rest are in the former white space.⁴⁷

Associated with the changes in the location of high-order and modern malls and shopping centres there has been a shift in the location of cinemas, or to be more precise cinema complexes where patrons would have a choice of films. Although there are still some small 'independent' cinemas in Johannesburg for all intents and purposes the only cinemas of note are controlled by two major chains, Ster-Kinekor and Nu Metro. They in turn have set up their multi-screen complexes in most of the major malls and shopping centres and once again it is the northern suburb residents who have scored most. In contrast, whereas there were only 17 screens still available in the CBD in 1990 the number had dropped to 6 by 2002. In the same period the number of screens in the still predominantly white northern suburbs had increased by almost 167 per cent from 42 to 112. To underscore the point it should be noted that in 2002 there was only one cinema in Soweto and it was not part of the major chains.

Figure 3: The distribution of shopping centres and malls (of at least 10 000m² in size) that existed, opened, and expanded by and between 1993 and 2002.



Source: after Beavon, 2000, 2003; South African Council of Shopping Centres, 2002; and personal communication with a selection of property managers.

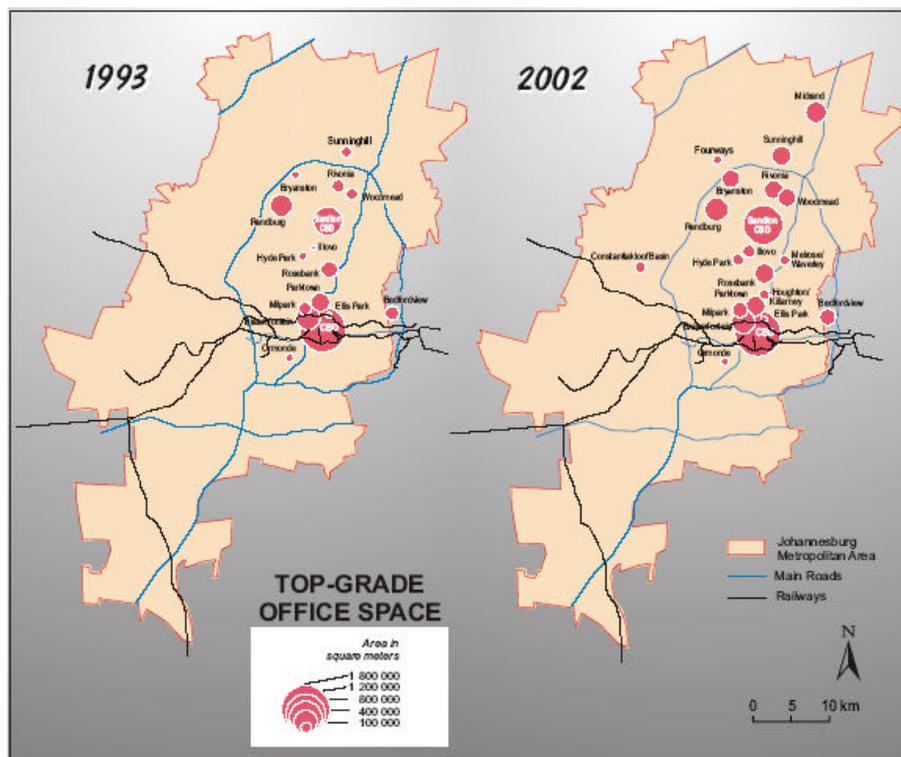
⁴⁷ Based on data in Sapoia, 1993, 1997; South African Council of Shopping Centres, 1999, 2002; and personal communication with property managers of six centres.

Not unexpectedly as high-order retailing, service businesses, and entertainment points headed for the suburbs so the demand for space near them for use as office locations grew. The shift of offices to locations outside of the CBD in the 1970s was significantly affected by a demand for more of the high quality space than was on offer in the CBD. By contrast the take-up of new office space in the 1990s has been associated with a desire to both avoid the declining CBD, which particularly in the 1990s was characterized by grime and crime⁴⁸, and to be close to the shopping and entertainment of the malls and shopping centres that are so undoubtedly shiny new and 'first world' in character.

Offices: following in the retail wake

By 1994 although Greater Johannesburg had strengthened its role as the prime centre for the head-offices of South Africa's major corporations compared to what had been the case in 1982⁴⁹ the actual location of many head-offices of major firms had shown an intra-metropolitan shift. The growing preference has been for a location in the northern suburbs and for Sandton in particular. It was also noted that by 1994 a small but highly significant

Figure 4: The distribution of nucleations of top grade office space in and beyond the Johannesburg CBD 1993 to 2002. (Source: Rode's Reports, 1993-2002.)



⁴⁸ Robinson, 2000.

⁴⁹ Rogerson, 1984.

number of legal firms, leading advertising agencies, and major accountancy firms, had made similar moves.⁵⁰ The pattern of the growing amounts of top grade office space in the suburbs in general and relative to the Johannesburg CBD is shown in Figure 4 (and in Table 2 see Annex). It is perhaps significant that at the end of 2002 the top-graded office space in the Sandton business node was equal to 75 per cent of what is still in the old CBD. Furthermore the northern suburbs alone have about three times as much office space as the CBD.

Some of the reasons why office decentralization has occurred from the Johannesburg CBD have been hinted at earlier in this chapter. It is, however, important to note that a new study, with a novel line of inquiry, is apparently being made⁵¹ as to just how so much decentralized office space became available especially during the pariah years of the apartheid period and how it managed to pull office-based businesses to the suburbs from the CBD.⁵²

Table 3: Rentals in Rands/m² per month for top-grade or prime office space at locations ranging from the Johannesburg CBD through a line of northern suburbs to Sunninghill 24 km out north from the city centre. (Source: Rode's 1990-2002.)

AREA	1990	1994	1998	2002
Johannesburg CBD	30.07	28.99	31.35	36.75
Braamfontein	29.97	27.36	39.75	41.50
Parktown	27.75	34.97	50.68	58.47
Rosebank	28.80	36.12	63.38	67.35
Hyde Park	N.A.	N.A.	56.22	78.03
Sandton CBD	24.25	33.20	65.49	95.02
Rivonia	N.A.	31.19	49.80	71.82
Woodmead	N.A.	32.51	58.89	73.18
Sunninghill	N.A.	N.A.	51.17	65.29

Note: N.A. denotes that data was or is not available.

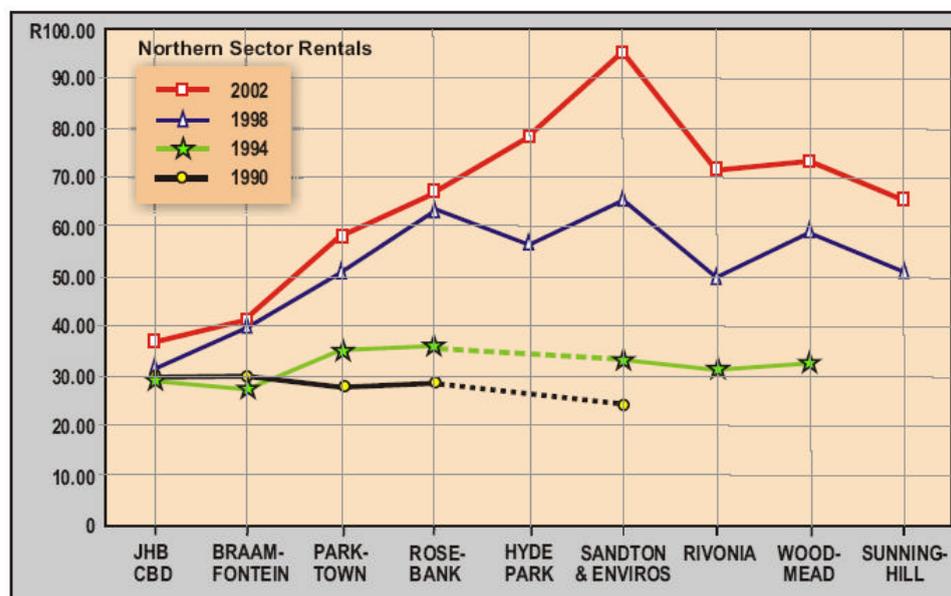
Notwithstanding the reasons for the decentralization of office space the various office nodes, particularly in the north, have been able to command high rentals as shown in Figure 5 (and Table 3). Whereas the rentals in the CBD have increased by 22 per cent between 1990 and 2002, in the same period they have jumped a massive 292 per cent in the case of the Sandton business centre and its environs, flanked by Rosebank and Rivonia where increases have been of the order of 130 per cent. In part the steep increases in rents of offices in and about the Sandton node have been encouraged by the fact that the Johannesburg Stock Exchange, now styled the JSE Securities Exchange, moved there from the Johannesburg CBD in 2000 and the node is also the location of the Sandton Conference Centre the 2001 venue for the World Summit on Sustainable Development.

⁵⁰ Rogerson, 1996.

⁵¹ Goga, forthcoming.

⁵² Goga, 2003.

Figure 5: The changing rentals of top-grade office space in the Johannesburg CBD and in a set of northern suburbs office nodes across a distance of 24 km.: 1990-2002. For the relative locations of the suburbs shown in the above transect consult Figure 4.



Source: Rode's Reports, 1990-2002.

Naturally the substantial increase of office space in the north (of which some 13 per cent was vacant in 2002) means an increase in the working population of the office nodes and a concomitant increase in the support base for the neighbouring malls and shopping centres which continue to expand.

Changes related to the residential component of the city are more difficult to determine as the data either does not exist or is hard to come by.

Selected changes in a sample of residential suburbs

The summary that follows is based on a sample of 17 123 registered residential transfers during the period 1993 to 2000 across four formerly 'whites-only' areas of Johannesburg. One group is located to the south-west of the CBD and near Soweto, a second to the near north-east, a third in the established middle class and predominantly Afrikaans suburbs to the west, and the last is composed of suburbs north-west of the Sandton CBD.⁵³ It was found that the percentage of black buyers of property in formerly whites-only residential areas, with the exception of the south-west group was very low and between only 2.5 and 3.7 per cent. In the south-west suburbs, bordering on the eastern side of the black areas of Soweto and Eldorado Park, the percentage was 24.5 per cent. Although with the exception of the group of suburbs north-west of the Sandton CBD the percentages for the period as a whole were up on those of the first four years, 1993-1996, one cannot claim that anything approaching genuine integration was taking place (Table 4).

Table 4: Summary of data related to a sample of property transactions between 1993 and 2000 for a selection of former whites-only suburbs.

Residential Area	Total number of sales 1993-2000	Number of black buyers 1993-2000	Per cent black buyers 1993-2000	Per cent black buyers 1993-1996
North-west of Sandton CBD	2582	64	2.5	2.0
West	6007	193	3.2	3.9
North-east of 'old' CBD	4965	184	3.7	2.7
South-west	3569	874	24.5	20.6
Total	17123	1315	7.7	7.0

Source: Prinsloo and Cloete, 2002.

Indeed in the case of the south-western suburbs the change appears to be one of white flight. Furthermore it should be noted that the median prices paid for property in the south-west was of the order of R189 000, whereas in the north-eastern group it was R300 000, in the west R370 000, and in the group north-west of the Sandton CBD R430 000; all indicative of class differences within the group of black buyers.⁵⁴

THE GULF BETWEEN HAVES AND HAVE-NOTS

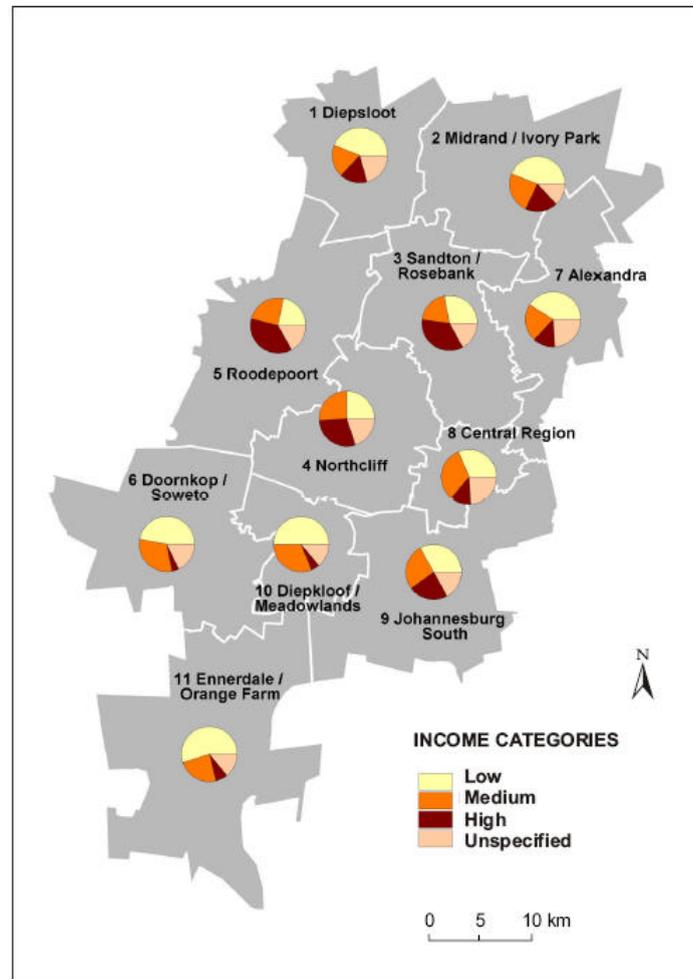
In a previous paper on aspects of the changing urban geography of northern Johannesburg up to 1999⁵⁵ the point was made that in Johannesburg one is witnessing the rapid consolidation of a new system of racial separation this time modelled on the 'accepted' experience of other 'normal' societies. Not, one hastens to add, based on any legal restrictions of movement or right of admission, but on the fact that the overwhelming majority of the population are not in a position, either literally or financially, to enjoy the 'new Johannesburg-in-the-North'. In assessing whether some new form of apartheid, in this instance one based on class rather than race but with racial undertones and implications, one needs to consider two sets of data available at the time of writing. The first relates to incomes and the second to the distribution of black population and the informal settlements, sometimes also termed shack or squatter camps.

⁵³ For a map see Prinsloo and Cloete 2002.

⁵⁴ Prinsloo and Cloete, 2002.

⁵⁵ Beavon, 2000.

Figure 6: An indication of the distribution of income groups across Johannesburg's eleven administrative units.



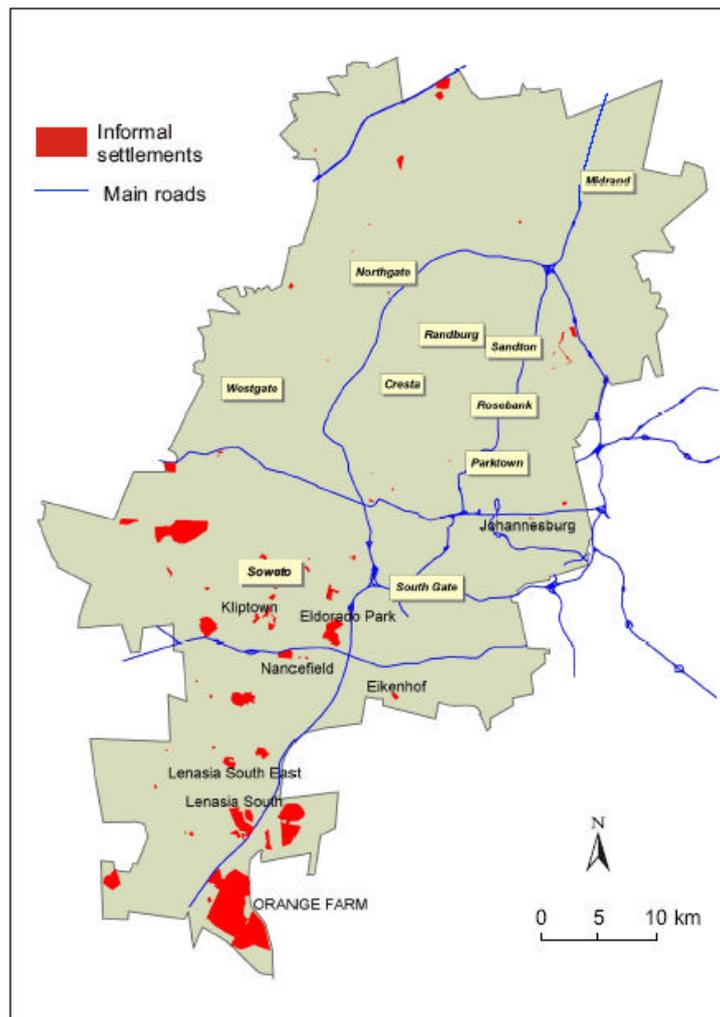
Source: 1996 census data as supplied by the Johannesburg City Council.

Mapping income data from the 1996 census over the 11 administrative units of the 2000 municipal boundary of Johannesburg produces an interesting pattern (Figure 6), the more so when one takes account of the population distributions. There are only three areas where the rich category is larger than either the low or medium categories. They are units 3, 4, and 5 that cover the Sandton/Rosebank, Northcliff, and Roodepoort areas that in turn house only 6, 6.5, and 8 per cent of the population respectively.⁵⁶ Furthermore although the Rand:US dollar exchange rate in 1996 was about 2.5:1 the income limits of R18 000 and R72 000 per annum for the top of the low and medium income categories were still low by the standards of developed economies. What is masked by the lower boundary of the high-income group is just how very much higher that category extends. Given the distributions and volumes of shopping facilities and offices, as discussed above and shown in Figure 3 and 4, it should be clear that they are centrally located and most readily accessible to people in administrative units 1 through 5. Although units 1 and 2 contain substantial numbers of poor

⁵⁶ City of Johannesburg 2002.

Black people the total population of units 1 to 5 amounts to only 26.5 per cent of the whole city. Yet the area sometimes referred to as Greater Soweto, and comprising units 6 and 10 (Figure 6), with only a sliver of high-income earners, is home to 43 per cent of the population.

Figure 7: The 1996 distribution of informal settlements in Johannesburg.



Source: From 1996 census data as supplied by the Johannesburg City Council.

The picture of the massive unevenness in the distribution of what might be termed the trappings of a prosperous and developed metropolis becomes even sharper when one considers the distribution of the informal settlements (Figure 7). The bulk of the shack dwellings are concentrated in administrative units 6, 10, and 11 but small pockets of them occur across a wide area. It was estimated by the City Council that in 1996 there were 373 000 people living in shacks both within formal Black townships and elsewhere. The *Johannesburg Sunday Times* estimates published in October 2002 were of 786 000 shack dwellers. Notwithstanding the actual geographical distribution it seems reasonable to estimate that at least 10 per cent of Johannesburg's population outside Greater Soweto are living in shacks and, by implication, that some 53 to 63 per cent of the population live outside the 'wedge of plenty'. It would seem that the claim made in 2000 might now have even more justification.

CONCLUSION

From what has been presented above one can draw at least two and possibly three conclusions, findings, or concerns depending upon one's point of view. First of all, there has been a substantial change in the spatial order of commercial activities in the last 12 years but to the benefit almost exclusively of the former whites-only suburbs. Second, while one must admit that the physical quality of the new retail, office, and entertainment developments in both size and finish has been impressive and up to the highest world standards, one must also admit that the informal shelters are genuinely comparable with those of the third world. The last point relates to the implication of the resultant geography of haves and have-nots. It is something that deserves some urgent thought by concerned academics, planners, and politicians but that, however, lies beyond the scope of this chapter. Nonetheless those who care to think about it might bear in mind that there are potential lessons to be learnt from what happened in Paris at the end of the Second Empire when the fruits of a social engineering programme, that admittedly extended over somewhat more than twelve years (1852-1869) turned out to bitter indeed.

ACKNOWLEDGEMENTS

I wish to thank Pauline Larsen, Elaine Wilson, and Francois Viruly of Viruly Consulting for making some of their data available to me and for assistance in the data analysis. Dr Dirk Prinsloo of Urban Studies also made available some of the data presented in the chapter. Thanks also go to Marius Pieters of Development Planning and Marcelle Hattingh in the GIS section of the Johannesburg Council for help and advice. I am particularly grateful to Ingrid Booyens, senior cartographer in our Department at the University of Pretoria for preparing the diagrams.

REFERENCES

- Atkinson, D., 1991: One-city Initiatives, pp. 271-289 in M. Swilling, R. Humphries and K. Shubane (eds) *Apartheid City in Transition*, Oxford University Press, Cape Town.
- Beavon, K.S.O., 1982: Black townships in South Africa: *terra incognita* for urban geographers, *South African Geographical Journal*, 64, 3-20.
- Beavon, K.S.O., 1989: *Informal Ways: A Window on Informal Business in South Africa*, Small Business Development Corporation, Johannesburg.
- Beavon, K.S.O., 1994: Upward and Outward Expansion of the White City in the Apartheid Era: 1948-1976, unpublished essay on Johannesburg.
- Beavon, K.S.O., 1996: Johannesburg 1886-1896: the unfolding geography of the first ten years, *Arena*, 3 (9), 12-16.

- Beavon, K.S.O., 1997a: Johannesburg: A City and Metropolitan Area in Transformation, pp. 150-191 in C. Rakodi (ed.), *The Urban Challenge in Africa: Growth and Management of its Large Cities*, United Nations University, Tokyo.
- Beavon, K.S.O., 1997b: Critical Factors in the Long Decline of the Johannesburg CBD: a Warning for Suburban Shopping Centres, invited paper presented at the Property Executive Programme Conference entitled The Challenge -- Get the Basics Right, held under the auspices of the South African Property Owners Association, Johannesburg.
- Beavon, K.S.O., 1998a: Nearer my Mall to Thee: The Decline of the Johannesburg Central Business District and the Emergence of the Neo-Apartheid City, unpublished seminar paper No. 442 presented to the Institute for Advanced Social Research, University of the Witwatersrand, Johannesburg.
- Beavon, K.S.O., 1998b: 'Johannesburg': Getting to Grips with Globalization from an Abnormal Base, pp. 352-388 in Fu-chen Lo and Yue-man Yeung (ed.), *Globalization and the World of Large Cities*, United Nations University, Tokyo.
- Beavon, K.S.O., 1999: Johannesburg, 112 ans de division: de la ségrégation à la ville post-apartheid, pp. 986 in JB Onana (ed.), *Questions Urbaines en Afrique du Sud*, L'Harmattan, Paris.
- Beavon, K.S.O., 2000: Northern Johannesburg: part of the 'rainbow' or neo-apartheid city in the making, *Mots Pluriels*, 13, available at <http://www.arts.uwa.edu.au/MotsPluriels/MP.html>
- Beavon, K.S.O., 2003: manuscript accepted for publication under the tentative title of *Johannesburg 1886-2003: the Making and Shaping of the City*.
- Beavon, K.S.O. and Rogerson C.M., 1986: The Changing Role of Women in the Informal Sector of Johannesburg, pp. 203-220 in D.W. Drakakis-Smith (ed.) *Urbanization in the Developing World*, Croom Helm, London.
- Benjamin, A., Chipkin, C.M., Zar, S., and Aron, H. (eds), 1972: *Parktown 1892-1972: A Social and Pictorial History*, Studio Thirty Five, Johannesburg.
- Brink, E., 1994: *Newtown Oldtown*, Museum Africa, Johannesburg.
- CDE, 2002: *Johannesburg Africa's World City: A Challenge to Action*, CDE Research Policy in the Making No. 11, Centre for Development and Enterprise, Johannesburg.
- Central Witwatersrand Metropolitan Chamber, 1992: *First Annual Report 1991/92*, Central Witwatersrand Metropolitan Chamber, Johannesburg.
- Central Witwatersrand Metropolitan Chamber, 1993: *Second Annual Report 1992/93*, Central Witwatersrand Metropolitan Chamber, Johannesburg.
- Chaskalson, M., Jochelson, K. and Seekings, J., 1987: Rent Boycotts and the Urban Political Economy, pp. 53-74 in G. Moss and I. Obery (eds) *South African Review* 4, Ravan, Johannesburg.
- City Engineer, 1967: *Central Area Johannesburg*, Report by the Forward Planning Branch, City Engineer's Department, Johannesburg City Council, Johannesburg.

- City of Johannesburg, 2002: *Joburg: Integrated Development Plan 2003/04*, City Council, Johannesburg.
- Crankshaw, O. and White, C., 1995: Racial desegregation and inner-city decay in Johannesburg, *International Journal of Urban and Regional Research*, 19, 622-38.
- Curtis, L., 1951: *With Milner in South Africa*, Basil Blackwell, Oxford.
- Dauskardt, R.P.A., 1993: Reconstructing South African cities: contemporary strategies and processes in the urban core, *GeoJournal*, 30, 9-20.
- Emdon, E., 1994: The Development Facilitation Act (DFA), *Urban Forum*, 5 (2), 80-97.
- GAPS, 1993: *An Interim Strategic Framework for the Central Witwatersrand: Document 2 Policy Approaches*, Discussion Document, Central Witwatersrand Metropolitan Chamber, Johannesburg.
- Goga, S., 2003: Property Investors and Decentralization: a Case of False Competition?, pp. 71-82 in Tomlinson, R., Beauregard, R.A., Bremner, L., and Mangcu, X. (eds), *Emerging Johannesburg: Perspectives on the Postapartheid City*, Routledge, New York.
- Goga, S., forthcoming: Property Power vs. People Power, Ph.D. thesis, Rutgers, State University of New Jersey, USA.
- Hall, P., Saayman, G., Molatedi, D. and Kok, P., 1993: *A Profile of Poverty in the PWV*, 2 Vols, Southern Africa Labour and Development Research Unit, University of Cape Town, Rondebosch.
- Hart, T., 1976: The evolving pattern of élite white residential areas in Johannesburg, 1911-1970, *South African Geographical Journal*, 58, 68-75
- Hellmann, E., 1935: Native life in a Johannesburg slum yard, *Africa*, 3, 34-62.
- Hellmann, E., 1948: *Rooiyard, a Sociological Survey of an Urban Native Slumyard*, Oxford University Press, Cape Town.
- Hobart Houghton, D. and Dagut, J., 1973: *Source Material on the South African Economy 1860-1970: Volume 3 1920-1970*, Oxford University Press, Cape Town.
- Horrell, M., 1978: *Laws Affecting Race relations in South Africa (to the End of 1976)*, South African Institute of Race relations, Johannesburg.
- Juta, 1990: Greater Soweto Accord, *Juta's RSC Report*, 4, 23.
- Kagan, N., 1978: African Settlements in the Johannesburg Area, 1903-1923, unpublished MA dissertation, University of the Witwatersrand, Johannesburg.
- Kane-Berman, J., 1978: *Soweto: Black Revolt, White Reaction*, Ravan, Johannesburg.
- Koch, E., 1983: 'Without visible means of subsistence': slumyard culture in Johannesburg 1918-1940, pp. 151-175 in Bozzoli, B. (ed.) *Town and Countryside in the Transvaal*, Ravan, Johannesburg.
- Mandy, N., 1984: *A City Divided: Johannesburg and Soweto*, Macmillan, Johannesburg.

- Maud, J.P.R., 1938: *City Government: the Johannesburg Experiment*, Clarendon Press, Oxford.
- Morris, A., 1994: The desegregation of Hillbrow, Johannesburg, 1978-82, *Urban Studies*, 31, 821-834.
- Morris, A., 1997: Physical decline in an inner-city neighbourhood: a case study of Hillbrow, Johannesburg, *Urban Forum*, 8 (2), 153-175.
- Morris, A., 1999: *Bleakness and Light: Inner-City Transition in Hillbrow*, Johannesburg, Witwatersrand University Press, Johannesburg.
- Morris, P., 1980: *Soweto*, Urban Foundation, Johannesburg.
- O'Meara, D., 1996: *Forty Lost Years: The Apartheid State and the Politics of the National Party 1948-1994*, Ohio University Press, Athens.
- Palestrant, E., 1986: *Johannesburg One Hundred: A Pictorial History*, Ad Donker, Johannesburg.
- Parnell, S.M., 1988: Racial segregation in Johannesburg: the Slums Act, 1934-1939, *South African Geographical Journal*, 70, 112-126.
- Parnell, S.M., 1993: *Johannesburg Slums and Racial Segregation in South African Cities, 1910-1937*, unpublished Ph.D. thesis University of the Witwatersrand, Johannesburg.
- Pickard-Cambridge, C., 1988: *The Greying of Johannesburg: Residential Desegregation in the Johannesburg Area*, South African Institute of Race Relations, Johannesburg.
- Pirie, G.H., 1984: Letters, words, worlds: the naming of Soweto, *African Studies*, 43, 43-51.
- Prinsloo, D.A. and Cloete, C.E., 2002: Post-apartheid residential mobility patterns in two South African cities, *Property Management*, 20 (4), 264-277.
- Robinson, S., 2000: Back to the future, *Time*, 155 (18) (May 8), 34-35.
- Rode's Report, 1990-2002: *Office Rentals Survey*, Quarterly Reports 1993-2002, Rode and Associates, Bellville.
- Rode's Report, 1993-2002: *Office Vacancy Survey*, Quarterly Reports 1993-2002, Rode and Associates, Bellville.
- Rogerson, C.M., 1984: The spatial concentration of corporate control in South Africa, 1965-1980, *South African Geographical Journal*, 66, 97-100.
- Rogerson, C.M., 1996: Dispersion within concentration: the changing location of corporate headquarter offices in South Africa, *Development Southern Africa*, 13 (4), 567-579.
- Rogerson, C.M. & Beavon, K.S.O., 1982: Getting by in the 'informal sector' of Soweto, *Tijdschrift voor Economische en Sociale Geografie*, 73, 250-265.
- Rogerson, J., 1995: The changing face of retailing in the South African city: the case of inner-city Johannesburg, *Africa Insight*, 25 (3), 163-171.

- Sapoa, 1993: *Shopping Centre Directory 1993*, South African Property Owners Association, Sandton.
- Sapoa, 1995: *Shopping Centre Directory 1995*, South African Property Owners Association, Sandton.
- Sapoa, 1997: *Shopping Centre Directory 1997*, South African Property Owners Association, Sandton.
- Seekings, J., 1991: Township Resistance in the 1980s, pp. 290-308 in M. Swilling, R. Humphries and K. Shubane (eds) *Apartheid City in Transition*, Oxford University Press, Cape Town.
- Shiceka, S., 1995: The Future of Johannesburg's CBD: A Gauteng Government Perspective, unpublished paper presented at the Conference on Commercial Opportunities in Rejuvenating Johannesburg, AIC Conferences, Johannesburg.
- Shubane, K., 1991: Black Local Authorities: a Contraption of Control, pp. 64-77 in M. Swilling, R. Humphries and K. Shubane (eds) *Apartheid City in Transition*, Oxford University Press, Cape Town.
- Shuenyane, E., S. Mashigo, C. Eyberg, B.D. Richardson, N. Buchanan, J. Pettifor, L. MacDougal, and Hansen, J.D.L., 1977: A socio-economic, health and cultural survey in Soweto, *South African Medical Journal*, 51, 495-500.
- Solomon, D., 1992: Metropolitan Chamber, *Urban Forum*, 3 (1), 75-85.
- South African Council of Shopping Centres, 1999: *Shopping Centre Directory 2002*, Sapoa, Sandton.
- South African Council of Shopping Centres, 2002: *South African Shopping Centre Directory 2002*, Malnor, Auckland Park.
- Standard Bank, 1990: *Standard Bank Centre: the Heartbeat of a Bank*, Standard Bank Group, Johannesburg.
- Swilling, M., Cobbett, W. and Hunter, R., 1991: Finance, Electricity Costs, and the Rent Boycott, pp. 174-196 in M. Swilling, R. Humphries and K. Shubane (eds) *Apartheid City in Transition*, Oxford University Press, Cape Town.
- Sunday Times, 2002: Informal Directory of Who Lives Where Around Joburg, *Sunday Times*, 13.10.2002, Johannesburg.
- Tomlinson, R., 1999: From exclusion to inclusion: rethinking Johannesburg's central city, *Environment and Planning A*, 31, 1655-1678.
- Turok, I., 1993: The Metropolitan Chamber: a view from the sideline, *Urban Forum*, 4 (2), 69-81.
- van Onselen, C., 2001: *New Babylon, New Nineveh: Everyday Life on the Witwatersrand 1886-1914*, Jonathan Ball, Johannesburg.

ANNEX

Table 1: Major malls and shopping centres with a minimum size of 10 000 m² since 1993: note that those malls or centres listed below were not necessarily as large as 10 000 m² if first developed prior to 1993. (Source: Sapoa, 1993, 1995, 1997, South African Council of Shopping Centres, 1999, 2002).

Mall or Centre	Retail Area 1993 m ²	Retail Area 1995 m ²	Retail Area 1997 m ²	Retail Area 1999 m ²	Retail Area 2002 m ²	First Developed
Balfour Park	21000	21000	25700	34700	35425	1985
Bedford Centre	25699	26312	30105	28978	29359	1970
Benmore Gardens Shop Centre	14826	10539	10539	18299	19333	1969
Broadacres Fourways Sandton	-----	-----	-----	-----	20000	2001
Bruma Boardwalk	-----	-----	11650	11650	11650	1996
Bryanston	-----	10065	11140	11221	11374	1976
Campus Square Melville	-----	-----	-----	-----	16000	2001
Carlton Centre	53832	53832	53832	53832	53832	1972
Centro Continental Rosettenville	-----	14178	15179	15179	13175	1995
Cloisters Rivnia	-----	-----	13000	13000	16084	1997
Cresta	63000	66000	68000	73321	74647	1976
Dobsonville	-----	17320	17320	17320	17317	1994
Eastgate	100000	105000	106000	106000	109000	1979
Flora Centre Florida	16667	16667	16667	16667	17889	1968
Fourways Crossing	-----	-----	-----	46515	46515	1998
Fourways Mall	55800	55800	60251	60251	61095	1993
Game Bruma	-----	-----	-----	-----	10208	1982
Heathway Blkhth	14570	14570	22950	21935	20966	1970
Highgate Maraisburg	42000	42000	42000	42000	42000	1988
Hillfox Value Cnt Wel Pk Rdpoort	-----	52400	52211	52211	35712	1994
Horizon View Rp	17500	17500	17500	21790	19985	1992
Hyde Park	15576	20866	21931	21931	33080	1970
Killarney Mall	15756	15756	15756	15756	22696	1966
Kyalami Downs	-----	-----	-----	-----	13138	1999
Midrand City	-----	-----	11340	11340	11340	1984
Montecasino	-----	-----	-----	-----	25000	2000
Mutual Gdn Rsbk now The Zone**	-----	15261	18874	18874	22619	1994
Mutual Village Rivonia	-----	-----	-----	-----	20918	1992
Northgate	35000	56500	58000	58000	71000	1991
Norwood Pick'nPay Hyper	23300	23300	24700	24700	24750	1978
Oriental Plaza	26616	26616	26616	26616	26616	1974
Ormonde Pick 'n Pay Super	11397	11397	11397	11397	11289	1982
Piazza Randburg	-----	-----	13032	13032	13032	1996
Princess Crossing Roodepoort	-----	-----	-----	-----	36921	2000
Protea Brixton	10636	10636	10636	10636	10496	1970
Randburg Waterfront	-----	28000	28000	33000	35508	1995
Randridge Mall	18500	18500	18500	18500	19587	1990
Roodepoort Hyper Constantia Kloof	25317	25317	25317	25317	29113	1978
Rosebank Firs	10000	10000	12000	12000	12000	1974
Rosebank Mall	27000	27000	28000	30000	35000	1976
Sandton City	92800	104000	104000	110000	128000	1973
Sandton Sq.	-----	16500	16500	16000	16000	1994
Sanlam Randburg	42300	42300	42300	42300	40952	1978
Southdale	21786	21786	21786	21786	21786	1963
Southgate Mall	65000	65000	65000	65000	65000	1990
Southgate Value Mart	-----	-----	18780	19242	19242	1997
Steeledale	26209	26209	26209	26209	26209	1980
The Glen, Oakdene, Jbg	-----	-----	-----	43500	45000	1998

Thrupps	14700	14700	14700	14700	14700	1993
Village Walk	13546	13546	14783	15307	15161	1992
Westgate	75000	94700	94700	100000	106270	1984
Woodmead Value Mart	-----	16756	17222	17222	17222	1995
Boulders Midrand	28800	28800	46000	46000	48000	1992
TOTALS	1024133	1256629	1380123	1513234	1719211	

Table 2: Total amounts of office space in the major nodes of Johannesburg between 1993 and the end of 2002. The nodes numbered 19 to 22 are relatively new and so no data is recorded prior to 2003. Data for Midrand prior to its inclusion into Johannesburg in December 2000 was not available. (Source: Rode's, 1993-2002.)

Space is indicated in m ²							
Node	Name	1993	1994	1995	1996	1997	2002
27	Johannesburg CBD	1616200	1606250	1616300	1730300	1730500	1613695
1	Bedfordview	156200	155900	165000	165000	215600	202750
24	Braamfontein	451500	474850	474900	474900	484400	427788
3	Bryanston	59000	62250	79500	91700	101300	261027
25	Ellis Park	28400	31300	31300	31300	31300	31300
7	Hyde Park	54600	56600	60500	66200	66000	107342
8	Illovo	24200	28300	30900	34100	34200	124059
11	Millpark	124900	124900	126800	126800	126800	192884
26	Ormonde	54200	54200	54200	54200	54200	54200
12	Parktown	276900	281900	283900	287600	333400	305312
13	Randburg	396600	389800	415000	409000	434900	451474
14	Rivonia	128600	126450	132700	155700	153200	272992
15	Rosebank	221600	244250	249500	259400	283500	297475
16	Sandton Business District	654300	663100	717300	787600	891700	1209594
17	Sunninghill	89400	120000	120000	127700	180600	304852
18	Woodmead	105700	111900	114200	130200	155100	259641
19	Constantia Kloof Basin						94510
20	Fourways						65746
21	Houghton/Killarney						88867
22	Melrose/Waverly						85541
23	Midrand						354845
	NORTHERN SUBS	2587300	2684300	2805200	2950900	3245100	4809439
	ALL SUBURBS (CBD excluded)	2826100	2925700	3055700	3201400	3546200	5192199

3. Decadal Changes in the Spatial Order of Mumbai

By *Tapati Mukhopadhyay*

INTRODUCTION

Ever since Lewis Mumford, the noted urban historian asked in 1937: "What is the City?"⁵⁷, the theoretical construct of the 'city' has evolved from earlier characterizations of the 'metropolis', 'megalopolis', etc. to the more recent concepts of the 'global city' and 'global city region'. Global economic integration has given rise to 'global cities'⁵⁸, and 'new regional forces' have shaped 'global city regions'.⁵⁹ Scott, in his pioneering work based on 1995 UN data, identified over 300 million cities in the world, of which 30 have the potential to grow into centers with 10 million plus residents by 2015. In this list of 30 cities, Mumbai takes the number two position after Tokyo, with a population projected to increase from 18.1 million in 2000 to 27.4 million in 2015. Among the other cities located in developing countries on this list are São Paulo, Shanghai, Beijing, Jakarta, Kolkata, Delhi, Karachi, Bangkok and Hyderabad.

In the transformation from a mega city into a global city/global city region, the urban structure changes, giving rise to a new urban spatial order. The objective of the present study is to highlight spatial changes in Mumbai in the context of globalization from 1990 to 2003. The study covers the city area, which is under the jurisdiction of the Mumbai Municipal Corporation. It has 21 Wards and 88 sections spread between the city and the suburbs of Mumbai (434.02 km²; the Mumbai Metropolitan Region is much bigger, with 4355 km²).

METHODOLOGY, DATA BASE, AND TECHNIQUE OF ANALYSIS

Landuse maps detailing different phases and intensities of development were prepared to help understand changes in the spatial order of Mumbai over several decades.⁶⁰ The specific focus of the present study, however, is to assess and analyse the decadal changes of the spatial order for the period 1990-2003. This seems to be a very short period to understand actual change. Indeed, the process of spatial change in the urban context is extremely slow in India. Several existing laws act as a major hurdle to rapid changes, the most important being the Urban Land Ceiling Act and the Rent Control Act.⁶¹ Despite the recent issuance of a government ordinance regarding land acquisition or possession, conflict between individual land

⁵⁷ Mumford, Lewis 1937: What is the city?...

⁵⁸ Sassen S. (1991) *The Global City: London, Tokyo, New York*: Princeton University Press

⁵⁹ Scott Allen J. (2001) *Global City- Region :Trends, Theory, Policy*: Oxford University Press

⁶⁰ In the first section, a landuse map of Mumbai is prepared based on the information available in the Survey of India map at 1:50000 (published in 1976). The map has been scanned, digitized and land use functions identified. Percentage of land under each function in relation to the total land has been calculated with the help of GIS and presented in tabular form.

⁶¹ This refers the Model Rent Control Legislation which was formulated and table in the Parliament in July 14, 1999, which was circulated among the Union Territory for amending their existing rent control laws on in acting new rent act on the lines of the model rent control legislation. Government of Maharashtra has enacted a new act since then. (Maharashtra Rent Control Act 1999).

The Urban Land (Ceiling and Regulation) Act came into force on February 17, 1976. The Act was repealed through an Ordinance on January 11, 1999, which was followed by Urban Land (Ceiling and Regulation) Repeal Act, 1999. The Act emphasises the need for imposition of vacant land tax on the land likely to be made available after the repeal of the Act and also provide for Economically Weaker Section Houses while sanctioning housing process (from Government Document).

owners and government authorities are often protracted. Judicial intervention often draws out the process even more.

During the 1970s urban centers rapidly grew and gained importance all over the world, especially in the developing world. Mumbai was no exception. This development contributed to the diversification of secondary and tertiary functions, which further helped add a number of new dimensions to city life. In the light of the above-mentioned particularities of the in Indian context, it has been suggested that changes in the spatial order could be studied only by studying long spans of time. Hence, 1970 was taken as the base year, in comparison to which subsequent change was sequentially studied. With the help of the Geographical Information System (GIS), a database was created for analyzing the spatial pattern of the city of Mumbai since 1970.

Weaknesses of Micro Level Data Base for Urban Studies

There are certain weaknesses in creating a micro-level database, especially in the urban context. In the case of India, the main sources of data on the population/work force are obtained from census records, which are available only with a considerable delay of ten years. Other databases are upgraded only infrequently. Furthermore, the databases generated by various agencies under the control of the same government are frequently incompatible with each other. It therefore is virtually impossible to carry out a proper study within a spatial-temporal framework.

As for urban land use in Mumbai, little data was collected up until 1990, with the exception of a series of old maps and some planning documents. While there are some interesting research publications, they suffer from the described lack of coordination and integration of databases. Hence, such data can not be used to make quantitative observations of the urban function.

Low resolution satellite imagery has helped overcome these problems to a certain degree. This imagery is available in quick succession, which is helpful for maintaining a database in temporal frame. The information revealed by the imaging can be verified by primary surveys.

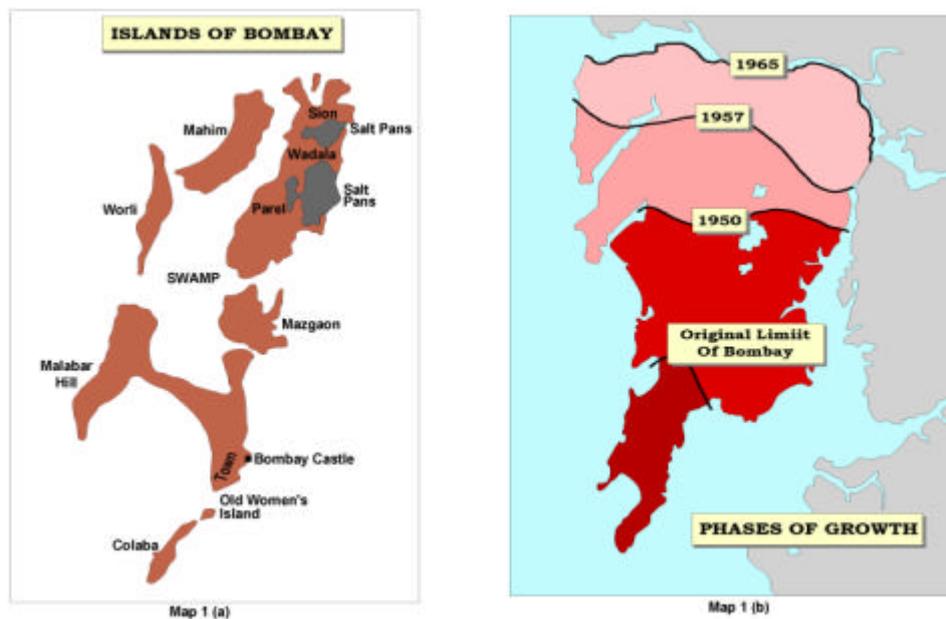
EARLY GROWTH OF MUMBAI - SPATIAL PATTERNS IN POST-INDEPENDENCE INDIA

The growth and evolution of the city of Mumbai from a small fishing island into a mammoth commercial city occurred during a period of 300 years. Until 1661 the island was in the hands of the Portuguese. In 1661, the Portuguese transferred the island to the United Kingdom. Soon the British shifted their administrative headquarters for India from Surat to Bombay, in the southern tip of the island, close to the open harbour.

Maps 1(a) and 1(b) show the growth phases of the city of Mumbai. The original nucleus was on the southern tip of the island. All subsequent expansions were inevitably went northwards, engulfing the entire island by 1940. After the 1950s the city expanded to Salsette across Mahim Bay and even further towards the North, into formerly rural areas. The

momentum of city building continued thanks to the population boom of the 1960s and 70s. In 1970 Mumbai's economic prosperity peaked, putting further pressure on the urban landscape.

Maps 1(a) and (b): Islands of Bombay and Phases of Growth.

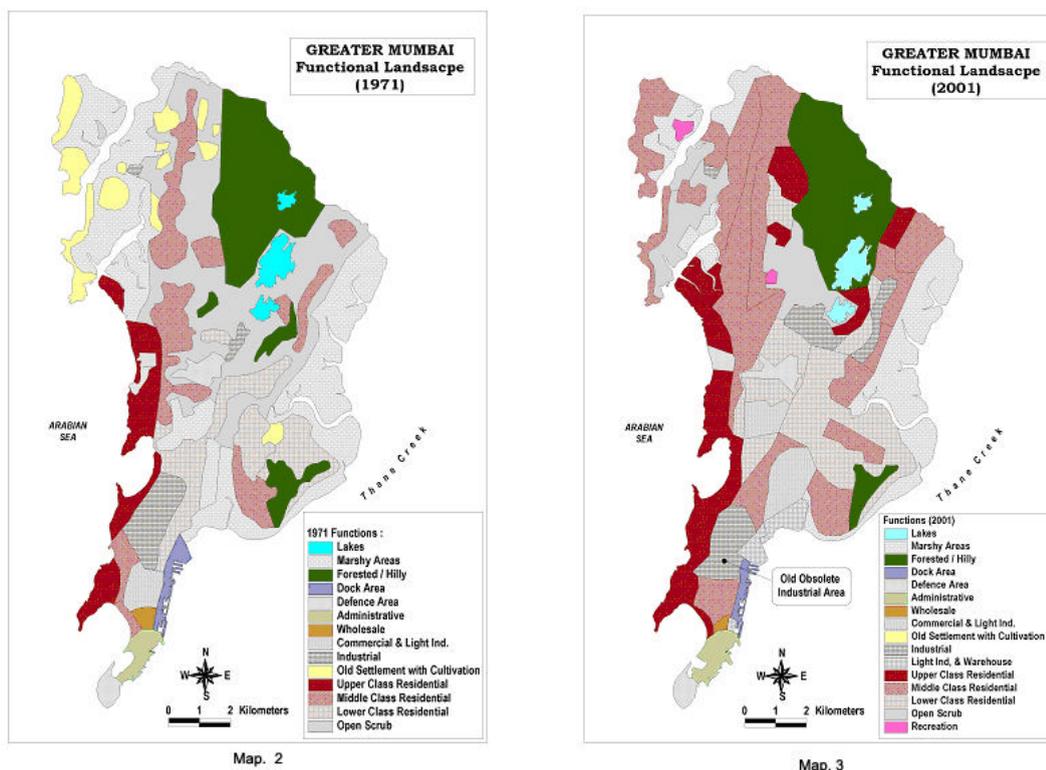


FUNCTIONAL CLASSIFICATION OF THE BUILD-UP AREA

This demographic and economic boom initiated a new phase of urban development, moving the city suburbs to the vast land adjacent to the old island, across the creek known as Salsette. In 1976 a land-use map was prepared based on the Survey of India map and another map, this time based on satellite imagery, was made in 2001. The most striking feature to be revealed is that until 1970 the built-up area constituted only 28.93% of the total area. Mud, marshes, hills, forests, and open spaces made up roughly 60% of the total area. Up to 2001, this proportion declined significantly. Marshlands declined by 9.6% and open spaces by 16%. Inhabited areas grew by 23.45% rise, reaching 52.38% of the total area by 2001.

A map of Mumbai published in 1990 by the Survey of India further shows that the built-up area grew mostly in the suburbs. This trend continued until 2001 with a massive decline of marshy areas and open spaces. In the old Island city there was no scope for further extension, except in the backbay area where the built-up area has been extended through land reclamation.

Maps 2 and 3: Functional Landscape in Greater Mumbai 1971 and 2001.



Maps 2 and 3 provide a detailed classification of the built-up areas. The southern parts of the city (Fort North, Fort South, and Esplanades) coincide with the “European town” of the 18th century. The Fort area continues to be the administrative core and main financial district of the city.

To the north of the Fort, adjoining the docks and rail yards, is the commercial core. Commercial/retail activity spreads along the main roads and forms clusters at important nodal junctions. The production of commodities is systematically segregated from the eastern waterfront towards the west. Starting with agricultural products in the east, it gradually changes to industrial products, and finally ends with the production of consumer goods in the west. The area used to be mixed with a number of associate functions, like warehouse agencies and transport services. The Eastern coast of the city is the waterfront, humming with dock activities.

Upper class residential areas developed on the western coast from Walkeshwar-Malabar Hill, which later was extended along the seafront. Central Bombay is dominated by big industries. Mill chimneys dot the entire landscape and low-income residential quarters intermingle with the mill areas. The north of the city, beyond Dadar, is a middle-class residential area with sporadic industrial development. The Western suburb is essentially a middle-income residential area with pockets of upper-class residences, which is changing from purely dormitory to self-sustained residential areas.

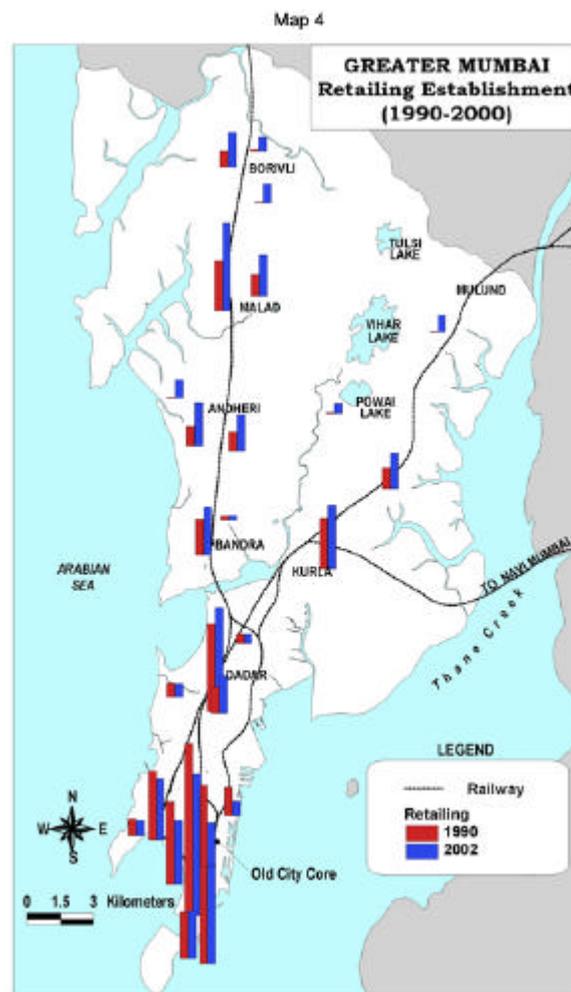
The inter-rail zone of the suburb between the central and western rail corridor is a zone deprived from the economic function. Low-income residential areas are interspersed with industrial areas. The large area in the inter-rail zone is occupied by hills and open scrub. This land remained unused until 1980.

Retail Commercial Landscape: A comparison Between 1987 and 2001

Until 1990, the city core maintained its primacy as a commercial center, mainly due to the pull of commuters from the suburbs into the center and its high concentration of specialized shops (machinery, stationary, garments, etc.). Fort, the original city core, had the highest floor-space-ratio for retail functions. (Mukhopadhyay 1995).⁶²

A major retail spread into suburban areas occurred after 1990. An earlier study (Mukhopadhyay 1995) revealed that there is a relative decline in the number of retail shops in the old city, while there is a considerable rise in the number of retail outlets in the newly-developed suburban areas. Until 1990 retail clusters in suburban areas used to be along the railroads. However, after 1990, with the expansion of private enterprises, there was a growth of specialized retail enclaves. This is also associated with a rapid rise of population in the extended suburbs, followed by a real estate boom. This was the major incentive for the expansion of retail clusters outside of nodal junctions.

Map 4: Retailing Establishment in Greater Mumbai 1990-2000.



⁶² Mukhopadhyay Tapati (1995): Commercial Geography of a Metropolitan City: Concept Publishing Company, New Delhi.

The urban land-use functions within the old island city underwent considerable changes in the 1990s, exemplified in a decline of commercial, port, and industrial functions, in particular the decline of the textile industry. In addition, the population density went down. Let us consider the causes and the impact of decline on urban space one by one.

Decline in Commercial Functions

The preceding section described the predominance of commercial functions in urban spaces and articulated that the wholesale business districts of the city, which grew and developed adjacent to the city's administrative center, continue to function as a major economic magnet of the city. Over the years, this particular area posed several threats to city authorities.

Due to the lack of space for further expansion, the urban infrastructure services lacked renewal. City authorities decided to shift a substantial part of the market outside the metropolitan boundary. This decision was in 1975, but the shift occurred only between 1991 and 1995. To quantify the impact of this action on urban space, a study was carried out by Mukhopadhyay in 1999. Landuse data used in this section was obtained from that study.

The data reveals that until 1980, the predominating function in the ground floor used to be wholesaling. Wholesaling occupied 35.16% of the total area, followed by semi-wholesaling (25.91%), and retailing (21.54%).⁶³ The trading function occupied 82.61% of the total area. The remainder of the area was distributed among services linked with the wholesale business. These included transport agents (7.93%) and import-export agents (2.34%). An insignificant proportion of land was occupied by commercial organizations. The non-tertiary function was equally insignificant (3.18%).

Around 1995 there was a drastic change in the functional composition of the area. There was a sharp decline in wholesaling activities, which came down to 19.78% of the total area. Beyond that, there was a decline in retail activities as well as in some functions related to wholesaling. On the other hand, there was also a rise in the area occupied by semi-wholesaling, which increased by 8.99% to 34.90% of the total area.

The decline of wholesaling functions is related to the shift of the agricultural-products wholesale market outside the municipal boundary of the city. With the shift of the market, commodities like grains, spices, flour, coconut sugar, jaggery, and dry fruits were withdrawn from this area. The shift further stopped the inflow of 4,820 tonnes of commodities into the market.⁶⁴ The area released from the wholesale market was converted into warehouse space used by the Government for storing food grains.⁶⁵ With the emergence of low value added functions there has been an economic decline of the area.

⁶³ The wholesaler is the direct link between the producer and the retailer. While semi wholesaler is an intermediary who sale their commodities to the retailer as well as to the individual customers.

⁶⁴ The data obtained from the project report on Development of Agricultural Product Market at Vashi (1982) by City and Development Corporation.

⁶⁵ The study conducted by Mukhopadhyay shows that with the withdrawal of the wholesaling function the area has rolled into non profit making urban function. There is no change in the urban landscape.

Decline in Industrial Function

Until 1980, the central part of the old island of Mumbai was the city's industrial hub. The mill land occupies an area of 25 km².⁶⁶ The decline in the industrial area began in 1980, with mammoth textile mill strikes in Mumbai. The strike remained unresolved, gradually leading to the closure of mills. With the closure of the mills, the existing function stopped without being replaced by any viable alternative function. In 1990 the textile mills died completely.

Only in 2000 a new approach was developed for the former mill lands. According to the Development Control Regulation Report for Greater Mumbai of 1991, the vacant plot within the mill should be developed under the condition that one-third of the area would be reserved for public housing or open space.

The textile mill area has undergone a fundamental transformation. A number of multinational and domestic corporations have opened their offices in the newly constructed complex. A number of old mill areas have been converted into entertainment centres with large shopping malls. From mill to mall, a new transition in space arrangements can be visualized.

The Decline in Port Function

The eastern port of the old island city is occupied by docks. This elongated coastal area is divided into two districts. There once was a series of docks with modern amenities intermixed with small "bundars".⁶⁷ The northern districts had 10 bundars, while in the southern part there were five bundars. In between, there were two sets of bundars and five important docks – Mazagaon Dock, Princess Dock, Victoria Dock, Indira Dock, and Ballard Pier.

The bundars on the northern district used to be in operation until 1980 for coastal trade. However, the bundar function gradually declined and the coastal trading operation finally shifted to roadways. In 1990 the infrastructure near the bundars was converted into godowns mainly for storing building materials like sand and iron. This spatial change is related to changes in technology. However, some small bundars located in the southern parts are still in operation, mainly for fishing.

With the emergence of the restructuring plan of ports (1999-2001)⁶⁸ and the proposal of privatization, the function of the small "bundars" has to change. Most bundar areas operate in an unhygienic condition. In addition, a large part of the area is occupied by slums/shanty towns. It is likely that private investment in port operations will not flow unless the port environment attains an international standard.

⁶⁶ Mumbai Metropolitan Region Development Authority: Draft Development plan from Bombay Metropolitan Region (1996-2011).

⁶⁷ These are the small ports with low infrastructure handling mainly the local regional commodities.

⁶⁸ The Estate Department of port has prepared their Master Plan for 1999 to 2001. From Port Trust Authority, Mumbai.

The Decline in Population Density in Old Island City

One of the main symptoms of intra-urban spatial change is the shifting population density in the old city and suburbs. The old island city, consisting of 38 sections, has a shrinking population density. The population from the southern part of the island city has moved towards the northern part in the suburbs. The suburbs can further be divided into two parts, the inner and the extended suburbs. Until 1981, the main growth areas were the inner suburbs. Later, in the 1980s and 1990s, people moved further out to the extended suburbs in the areas Kandivli, Borivli in the Western suburb, and Mulund in the Eastern Suburbs, where the population density increased sharply in the last decade (Census of India 1981, 1991 and 2001 Maharashtra series).

Table 1: Population density and distance from city center

Section name	Distance from city center	Density 1991	Density 2001
Fort	0	49755.56	41491.67
Market	2.2	62042.42	78293.94
Byculla	4.31	74710.60	78674.65
Parel	8.05	54530.53	50473.45
Dadar	10.17	66772.57	76792.33
Mahim	12.85	61234.00	54866.67
Bandra(W)	14.66	27492.07	32687.20
Santacruz(W)	17.54	49686.00	18466.67
Ghatkopar	19.41	13646.09	15239.99
Parle(E)	19.6	21191.13	22691.67
Andheri(W)	21.88	49389.07	60351.01
Goregaon	26.77	2944.20	3568.06
Malad(W)	29.16	31223.44	34217.70
Mulund	30.47	36629.82	45568.12
Kandivali Charkop	31.31	19310.42	30563.67
Borivli Shimpoli	34.03	23365.59	41113.25

The drastic fall of population density in the old island city and simultaneous rise in the suburbs has its direct impact on urban spaces. Some of them are given below:

- ?? With the decline of the population in some old residential areas, especially close to the city centre, the available space immediately was replaced by low-value-added tertiary function businesses.
- ?? With the decline of population density, several tertiary and marketing services like hotels, cinemas, schools, colleges, hospitals, and medical services suffered from a lack of threshold population. The old city today still faces such problems.
- ?? This encourages the continuous rise of informal functions and informal settlements.

The situation is different in the suburbs, as will be shown in the following section.

THE DEVELOPMENT AFTER 1990

Until 1990 the population increased sharply in the suburban areas. This trend continued from 1991 to 2001. This created a vertical shift in the population density structure from South to North, which was accompanied by a shift and re-establishment of a number of functions. This brought a structural change in the overall urban landscape. This has turned the focus of development from the old city towards the suburbs, thereby creating new centers outside the metropolitan boundary in the satellite town, Navi Mumbai.

The Bandra-Kurla Complex

By 1970 the city's administrative core, the old Fountain area, became completely saturated and was incapable of accommodating any new functions. By 1980, Mumbai's industrial importance started declining, and the city transformed itself into an international trade and financial centre. An area adjacent to the old island city at the southern boundary of the suburban area was acquired through reclamation for the development of a competitive international financial and commercial complex. The total area of 365 hectares was divided into 9 blocks. The objective was to restructure the city's development by attracting private capital and know-how to reduce the financial burden of the Government of Maharashtra (Master Plan for International Finance and Business Centre Bandra-Kurla Complex).

The area was selected at a point between city and suburbs, connected by rail and roadways. It was suggested that a new residential area would eventually develop on the western side of the complex. There is indeed a proliferation of residential buildings in the complex, which also is offering good facilities and modern accessibility. From the investor's point of view, it holds promise for capital returns. In 2001 the capital return in areas such as Nariman Point or Cuffe Parade and Worli Prabhadevi Areas was higher than in old city centre.

Though the Bandra-Kurla complex has 9 blocks, there are only three important blocks, as far as the commercial and financial institutes are concerned. Block G is the international centre for commercial activity. The total area in G block is 119.89 hectares, out of which 51.03 hectare are occupied by financial institutes. This centre is built up to act as a counter-magnet for the over-exploited, existing centres located either in the Central Business District (CBD), namely Nariman Point, or in close proximity to the CBD. The Bandra-Kurla complex has attracted large number of domestic and international financial institutes.

Spatial Restructuring of the Suburbs of Mumbai – Post-1990

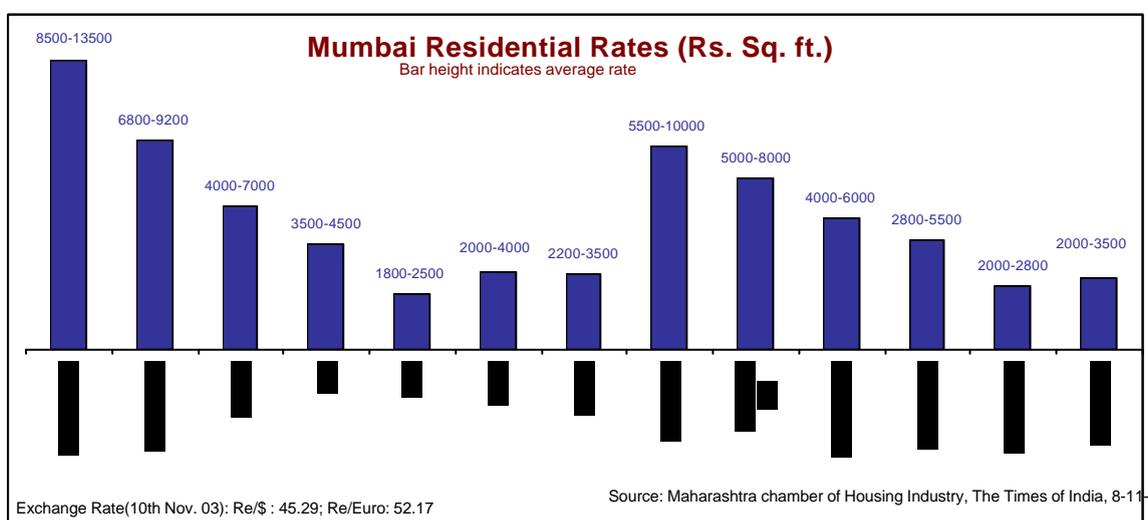
The 1990s witnessed the extension of suburbs in a multi-dimensional way. During the 1980s a number of manufacturing units located in suburbs were closed. These included units from the engineering, chemical, and pharmaceutical industries. However, during the 1990s several multinational companies established production centers in the suburbs. Simultaneously, many private-sector organizations also set up their offices, preferably in the western suburbs. This brought changes in the urban landscape of the suburbs, marked most notably by a construction

boom. The construction sector has expanded and reached the level of international competition. In the central part of the suburbs, namely at Andheri, Saki Naka, Marol etc., a large number of information-technology-based companies have sprung up.

Although the Santacruz Electronics Export Processing Zone (SEEPZ) was established in this region in 1973-74, mainly for the export of electronics goods, its activities have expanded since the 1990s. The SEEPZ worked as a magnet attracting IT, finance, and banking to this region. The SEEPZ also has been designated a Special Economic Zone (SEZ), adding further growth stimulus in the area.

As a sequel to this development, a number of changes emerged in the suburban landscape. It already has been mentioned that the thrust of the population shifted from the old Island city to the suburbs. This shift impacted the function of the land. There has been a rapid rise of residential enclaves. On the western side along the coastal area, a new reclamation process started along Versova, Madh, Manovi, Malad, where new high-rise buildings were constructed. Along the central corridor, several new enclaves intermixed with both middle and upper-income areas. Some of them are worth mentioning – Hiranandani Complex in Powai lake area, Chandivali in central suburb. The most astonishing is the west-central suburb along Kandivali-Borivali, a wide-spread, residential area, with a number of modern towers, posh residential structures, and commercial buildings. This undoubtedly indicates a new spatial order in Greater Mumbai. A graph based on the existing land value of the city underlines the rising strength of the suburbs.

Graph 1: Mumbai Residential Rates.



Shanty Towns/Slums

In Mumbai, lower class areas are divided into two groups. The first consists of low-quality housing systems with inadequate space per capita, no access to water, and a lack of common sanitary facilities. In Mumbai terminology these residences are known as 'zopadpatties'. The second group consists of settlements without any formal approval by city authorities. New migrants have built up their shanty residential enclaves on empty spaces of land. These settlements are better known as slums. A slum is defined as an area with at least 300 people or

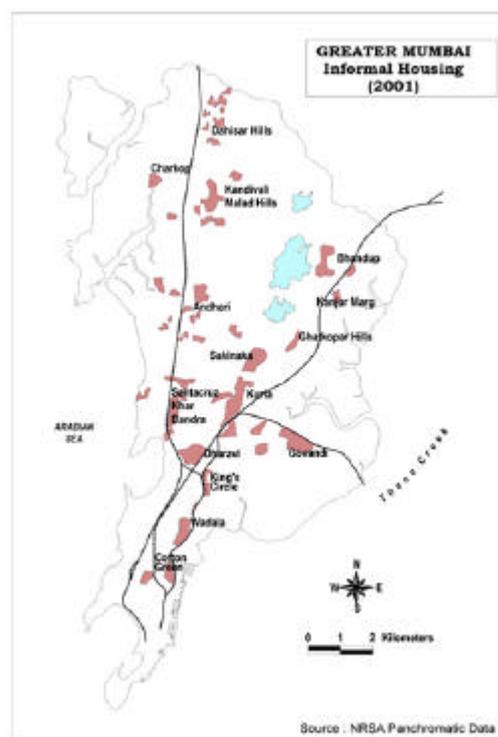
some 70 households living in poorly-built and congested tenements on land that does not belong to them. The environment is unhygienic and the infrastructure to support the habitation woefully inadequate or even non-existing.⁶⁹

According to the Registrar General of the Government of India 2001, there were 5.82 million people in slums in Greater Mumbai out of a total population of 11.91 million. However, this is only an estimate. The actual number should be higher than the existing figure.

Slums are spread all over the city, from the Southern tip of the island up to the Northern end, from the Backbay reclamation at the Southern end to the adjacent area of the docks at the eastern front of the city, from the old administrative core of Fountain to the old commercial area. With the shift of the markets to the suburbs, informal settlers have occupied empty spaces. Where dock functions became obsolete, there is an encroachment of unauthorized residence. In fact, the harbour sky line of the city is flanked by unauthorized housing on both sides. Mumbai is host to Asia's biggest slum located at the junction of old city and the suburb on the marshy land known as Dharavi. In the suburbs, there has been a growth of slums in Kurla Chembur over last two decades. Shanty towns are located on the eastern side and the central corridor.

A map is prepared based on the imagery (due to the absence of any other source of data) to show the location of slums in Mumbai. This clearly shows that in the suburb the extension of such slums has taken place in the last 15 years. As a result, a mixed landscape has emerged.

Map 5: Informal Housing in Greater Mumbai 2001.



⁶⁹ Human Development Report Maharashtra, 2002.

The Government of Maharashtra launched a comprehensive Slum Rehabilitation Scheme in March 1991, allocating extra facilities to the slum dwellers. The Government established a Slum Rehabilitation Authority to serve the planning authority for all slum areas in Greater Mumbai and to facilitate the redevelopment of slums.

Growth of Navi Mumbai as a Counter Magnet to Absorb the Excess Pressure on Mumbai

Since independence, the city of Mumbai has grown very fast. The size of the population has increased by leaps and bounds. Gradually, the built-up area encroached on marginal land, such as marshy hill slopes. In 1971 city authorities realized that the city was losing sustainability, which was reflected, inter alia, by the decline of population in the city core and simultaneous increase of population in the suburb and peri-urban areas. To save the city from congestion and suffocation, and also to decentralize its activities, the Mumbai Metropolitan Regional Development Authority (MMRDA) developed the concept of a twin city adjacent to Mumbai, known as Navi Mumbai. The site was selected across the Thane Creek, in the west.

The developmental activities started in 1973 under the leadership of the government-established City and Industrial Development Corporation (CIDCO). In the initial period, growth was slow due to the lack of a strong economic base. In 1980, the government decided to shift the agricultural-product wholesale market from South Mumbai to Navi Mumbai. Likewise, the iron and steel market was to be relocated from the old wholesale market of South Mumbai to Navi Mumbai. The government also decided to shift a number of government offices from the old administrative area to the new CBD at Belapur in Navi Mumbai.

Though the decision to shift markets and some government offices had been taken already in 1980 and the actual operation started in 1981 with the relocation of the onion and potato market from south Mumbai to Navi Mumbai (Vashi), major changes could be seen only after 1990 with the commissioning of the wholesale agricultural product market at Vashi and the construction of a commuter railway line from Mankurd to Vashi in May 1992. These developments caused a sudden growth in economic activities and population in Navi Mumbai. The demand for land for residential and commercial uses has increased several times over.

By the mid-1990s a series of urban nodes developed along the coastal area, mainly on reclaimed land. The development began around Vashi village, the first point of contact after crossing the creek. Within 15 years, Vashi has been converted into a bustling commercial center. A number of other nodes developed subsequently along the coast. Each one has a distinct urban social-economic character.

Navi Mumbai developed with the help of public financial support. The main approach was to give welfare payments to the 'have nots'. Yet by the end of the 1990s, the planning authority of Navi Mumbai initiated private participation in the developmental activity of Navi Mumbai. This was necessary due to a lack of public resources.

The decadal changes in the spatial order indicate a tendency towards decentralization of administrative and commercial functions. With the emergence of private finance both from domestic and foreign sources, the focus of development has shifted from the old city centre to the fringe areas. The construction boom in the suburbs, the massive expansion of residential areas in the extended suburbs, and the growth of commercial and business structures indicate the nature of the city's future growth process.

IMPACT OF GLOBALISATION ON MUMBAI'S SPATIAL PATTERN

Since July 1991, the Government of India has started to introduce market-oriented reforms. The national economy has opened to the global market, attracting, inter alia, foreign direct investment (FDI). FDI entry is subject to government approval, however. Thus, FDI can enter only in selected sectors. As of now, FDI is not permitted in the construction/real estate sector. This may change in the future. For historical reasons, the construction/real estate sector is still part of the unorganized, or informal, sector (i.e. it is a sector not covered under the Factory Act of 1950).

However, considering the fact that the Indian economy has been progressively liberalizing, multinational construction/real estate companies have already opened offices and have been conducting business surveys. They expect that, sooner rather than later, the construction/real estate sector will be opened to FDI. Several multinational consultancy firms have conducted such surveys in a number of metropolitan cities like Mumbai, Delhi, Bangalore, Chennai etc. McKinsey & Company Inc. has prepared and elaborated a study, called Vision Mumbai,¹³ which is now being considered by the Government of Maharashtra for implementation.

This, in turn, has already had an impact on the Indian construction/real estate business. There has been a rapid inflow of both foreign institutional investment (\$ 20 billion from 1993 to 2003) as well as FDI, albeit on a low volume (\$ 20 billion during the same period).¹⁴ While foreign portfolio investment has contributed to the two-third growth of the stock market, the small volume of FDI has been distributed across industries and the country. Since Maharashtra has a large share of overall investment, both domestic and foreign, it is likely that the Mumbai-Pune industrial belt has received the highest share of FDI. However, city-specific data on FDI is not available. Besides, FDI is not equally accessible in all industries, e.g. construction and real estate. Furthermore, due to restrictions on the acquisition of land, imposed by the Urban Land Ceiling and Rent Control Acts, land is very scarce, contributing to astronomically high real estate prices. Land prices relative to income levels are higher in Indian cities than in the cities of other countries. Ratio of land cost per sq meter to per capita GDP is 2 in Kuala Lumpur, 6 in Sydney, 7 in Bangkok, 12 in Singapore, 52 in Bangalore, 100 in New Delhi, and as high as 115 in Mumbai. In 1995 rent per sq meter for commercial space in Mumbai's CBD was one of the highest among major cities of the world.¹⁵ This has been a crucial deterrent to business expansion, even for cash-rich multinational companies.

However, during the early 2000s, real estate prices came down by 15 to 20 per cent for

residential uses but they continued to remain high for commercial uses. Scarcity of space in the CBD compelled offices to move to the Bandra Kurla Complex, as has already been noted. Thus, with the emergence of a new administrative and commercial land-use function in Bandra-Kurla Complex as well as Andheri, Goregaon, Kandivali etc. in the western suburb, and Mulund in the eastern suburbs of Mumbai, it can be stated that transition has been occurring in the city's land-use pattern.

Even after the decade-old reform, land and land use rights have yet to be liberalized in India. Such changes will not be easy, largely due to historical baggage, vested interests (eg. land owners vis-à-vis tenants), and system rigidities. Under the WTO's General Agreement on Trade in Services (GATS), renegotiation of which has been going on since 2001, India may have to open a number of sectors in several phases. Whether the construction sector will immediately be opened is not yet certain. The multinational process of WTO got delayed due to census failure. However, it seems certain that within the next 5 years, India's real estate sector will be opened to global operations. In that case, there would be a significant impact on Mumbai's land use and spatial pattern. As of now, it is too early to evaluate the impact of globalization on Mumbai's spatial pattern.

In order to acquire the full-fledged status of a global city, Mumbai must add several new dimensions to its future development plan, emphasizing the following: (i) boosting economic growth; (ii) expanding the transportation sector; (iii) attracting capital; (iv) creating efficient government; and (v) integrating public and private finances. These are suggested by the recently-completed McKinsey Report, *Vision Mumbai*.¹⁶ Whether, when, and how these recommendations will be implemented has yet to be seen.

REFERENCES

- Allen J. Scott 2001: Global City –Regions, Oxford University Press, New York.
- Edward S. M. 1902: The Rise of Bombay A Retrospect. . . Times of India.
- Forbes J.1834 : Oriental Memories, Vol. 1, London, pp 94-96.
- Mukhopadhyay, Tapati 1995: Commercial Geography of a Metropolitan City - Concept Publishing Co., New Delhi.
- Mukhopadhyay, Tapati 1999: Pattern of 'Wholesaling Function in the City of Mumbai, ICSSR Funded Project Completed – 1999.
- Mumbai Metropolitan Regional Development Authority (MMRDA) 1975 : Report of the Ad-hoc Committee on the Revision of the Lag Out For the BACKBAY RECLAMATION SCHEME.
- Mumbai Metropolitan Regional Development Authority (MMRDA): Master Plan for International Finance and Business Centre (Bandra-Kurla Complex).
- Mukhopadhyay, Tapati 2000: Reorganisation of Port Infrastructure, in: Indian Cartographic, Vol. 20, No.2.
- Prakasa Rao V. L. S. 1983: Urbanisation in India: Spatial Dimension, Concept Publishing Co., New Delhi.

APPENDIX

List of Documents Used in the Study:

Map No – 47 A/16 Bombay City Bombay Suburb Scale 1 : 50000

Published - 1976 by The Survey of India

Tourist Map Series - Scale 1 : 50000

Bombay Published – 1990 The Survey of India

Master Plan for Greater Bombay

(Rough Land Allocation & Road System) Scale 1 inch to 1 mile

Retail Landscape - Commercial Geography of a Metropolitan City

(Spatial Structure of Retailing in Bombay) –

Tapati Mukhopadhyay – 1995 (upgraded by the Author)

Wholesale Landscape – Pattern of wholesaling functions in the city of
Mumbai

Prepared by Tapati Mukhopadhyay (upgraded by the Author)

Bombay as viewed B IRS – IA 1990

Bombay as viewed B IRS – IA 2001

4. Changing Spatial Structure of Metropolitan Shanghai 1990–2002

By Gerald Chungu

INTRODUCTION

Shanghai is located on the Huangpu River, near the Yangtze's mouth to the East China Sea. The city has the administrative status of a municipal district, yet it is directly under the control of the central government in Beijing. Shanghai is China's most important port, commercial hub, and industrial center. During the last decade Shanghai has undergone a tremendous transformation in its socio-economic structure and, consequently, its spatial structure has responded to these changes. Entire city blocks of old dilapidated housing have disappeared, replaced by new, modern shopping malls, residential complexes, and city parks. In doing so, the city is striving to turn itself into one of the main economic, financial, trade, and international shipping centers in the world and bring itself within the mainstream of the globalization process.

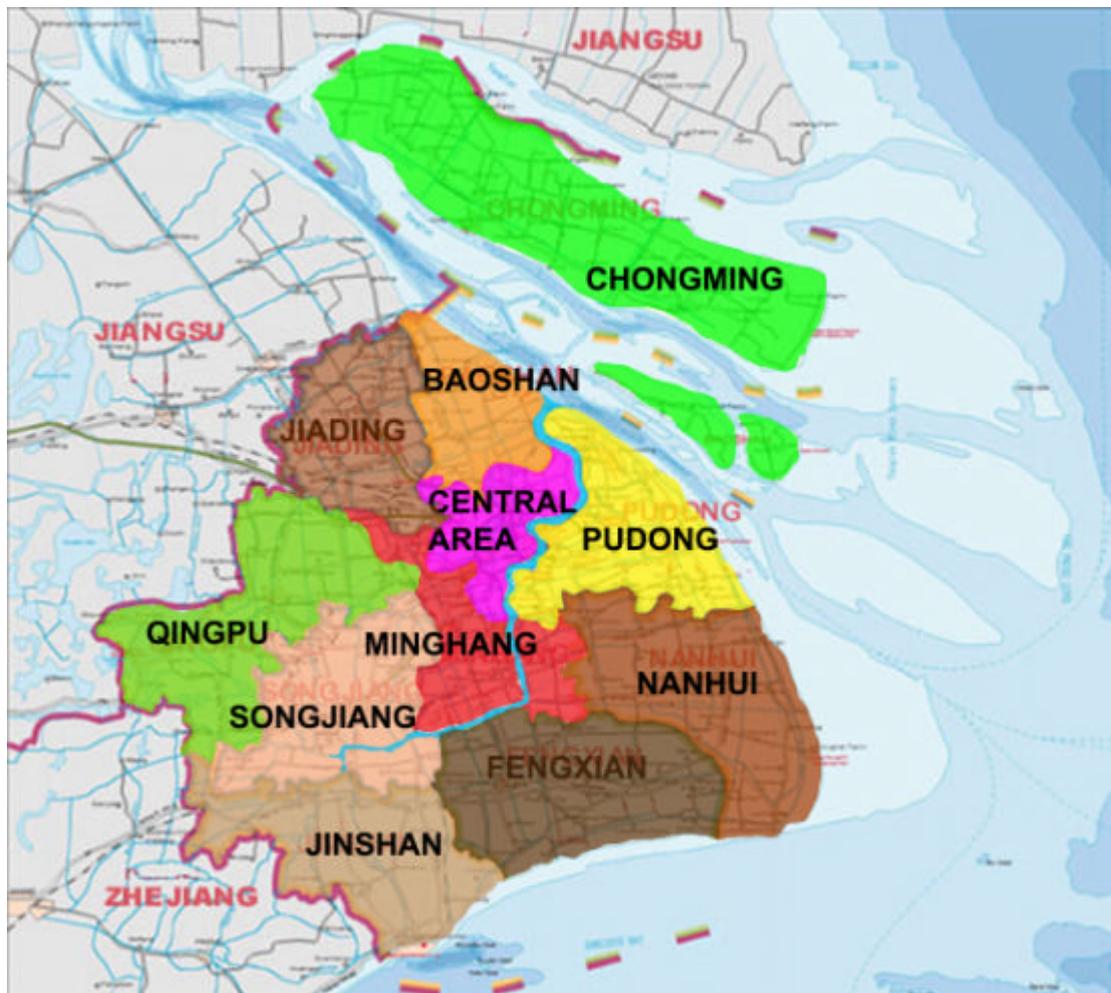
This article discusses the spatial changes by focusing on the various aspects and changes in the urban-built environment as it relates to changes in the economic structure as influenced by globalization in general. The paper argues that the spatial change of Shanghai is intrinsically linked to the city's economic development and restructuring (influenced by globalization). This has resulted in increased investment in the city, leading to changes in the physical spatial structure as evidenced by increases of investment in the built environment in general and in the infrastructure and real estate sector in particular.

BACKGROUND – ADMINISTRATIVE DIVISIONS

Shanghai was established as a metropolis directly under control of the central government in 1930. Back then it included 17 districts with a combined area of 527.6 km². Since then the city has undergone several changes in its administrative divisions. At the end of 2002 the city had a total area of 6,340.5 km² with a population of 13.3 million. The administrative division is twofold: the Shanghai city proper, or central area, which is predominantly urbanized, and the outer, less urbanized rural districts. The central city area comprises about 289.44 km² and has a population of about 7 million people.

Shanghai now has 18 districts, most of which are located in the central area and in one county. In the central area are Huangpu, Luwan, Xuhui, Changning, Jing'an, Putuo, Zhabei, Hongkou, and Yangpu Districts. The remaining outer districts include Jiading Baoshan, Minghang, Jinshan, Songjiang, Qingpu, Fengxian, Nanhui Districts, and Chongming County. Generally, Pudong also belongs to the outer districts, although parts of it, such as the Pudong New Area, could arguably be said to belong to the central area.

In this study, the discussion of Shanghai's spatial change is limited to the central area or the city proper. This area is predominantly urbanized and largely makes up the city's business, finance, and trade center. The other districts of Baoshan, Minghang, Songjiang, and Jiading are predominantly growth centers for industry.

Map 1: Shanghai Administrative Divisions.

SPATIAL STRUCTURE BEFORE 1990

Shanghai's spatial structure, like that of many cities on rivers, has been strongly influenced by its location on the Huangpu River. The area to the west of the Huangpu is referred to as "Puxi" (West of Huangpu), and the area of east of the Huangpu is known as "Pudong" (East of Huangpu). Radiating from the Huangpu River and Suzhou River confluence and extending outwards to the west, the development of the city's spatial structure was largely influenced by the two rivers. Another major influence on the earlier spatial structure was the various foreign concessions, which existed before 1949. Before 1990, the core, located in the central area near the Huangpu river, constituted the CBD and its surrounding area, where land use was mainly residential, administrative, and business-oriented. Immediately adjacent is a belt (located between the current inner ring road and the core) where industrial functions (mostly located along the Suzhou river) were mixed with residential uses. Small two to three-storey alley-type

residential buildings, commonly referred to as “Long tang”, were a common feature here. The existence of industrial blocks within this area was a legacy of the time before 1949, when factories were established in the formative settlements. This was compounded by the land policies after 1949, which emphasized development of industry almost anywhere possible.

Beyond that there was a second belt, extending outwards from the current inner ring road. That belt could be divided into two parts. The inner part consisted of the urban fringe and was dominated by residential land use mixed with industrial uses, which were, unlike in the first belt, separated into different zones. The outer part at the urban/rural fringe was dominated by agricultural uses.

The land-use structure as described above was disorderly and not appropriate for the city’s developmental goals. In the 1990s, the city’s land use faced the following problems, which required new solutions for a city seeking regional or even international status:

Within the central city a high proportion of land was used for industry and storage. Factories in the central city contributed to a major pollution problem. The location of industries in this area resulted from land policies, which allowed indiscriminate use of urban land (i.e. with little regard to function). This hindered the development of proper city functions and contributed to poor urban environment.

The road network (consisting mostly of narrow roads) and other public facilities and services were inadequate for a city of this size. In comparative terms, public infrastructure covered only a quite small proportion of the urban area. Commercial and financial land uses accounted for only a small part of total land usage and were way below figures in developed countries. This required major improvement.

A significant portion of the central city was occupied by dilapidated residential units. These units had a high population density and few green, open spaces. Over-crowding and over-use of these buildings was a major problem.

The high population density, land use structure as well as the inadequate economic infrastructure in the central area were unfavorable for Shanghai in transforming itself into an international metropolis.

URBAN ECONOMIC GROWTH AND INVESTMENT IN THE URBAN BUILT ENVIRONMENT

Since 1990, Shanghai has been actively exploring new development paths. The 1990 report Shanghai, Towards the 21st Century: A Research Report on Economic and Social Development Strategy outlined the government’s intention of developing Shanghai into an international economic center by the end of the first decade of the 21st century.

Accordingly, in the early 1990s, under the direction of the government, Shanghai was moving forward in the economic reform process. This process led to greater interaction with the

global economy and an increase in foreign investment. Significant changes in both the socio-economic and spatial structure of the city resulted.

During the 1990s Shanghai experienced increased economic growth. The GDP increased from 75.63 billion Yuan (\$9.4 billion) in 1990 to 455.115 billion Yuan (\$55.5 billion) in 2002. The period between 1990 and 2000 can be subdivided into 3 stages:

1. 1990-1991. A stage of economic recovery from the years prior to the opening up to reforms. In this period the city experienced an economic growth rate increase from 8.6% to 18.2%;
2. 1992-1995. During these years the growth rate varied between 24 and 35%;
3. 1996-2002. In this stage of economic adjustment the growth rate slowly dropped from 17% to 8% a year.

The rapid growth of the economy was followed by rapid urban physical change. The period from 1990 and 2002 saw large-scale growth and change as a result of increased investment in social fixed assets, infrastructure, and real estate (see Table 1). Economic restructuring in Shanghai evidently has led to a corresponding restructuring in its built environment.

Table 1: Urban Economic Growth and Investment in the Built Environment (Renminbi).

Year		1990	1992	1994	1996	1998	2000	2001	2002
GDP	Total billion	756.5	1114.3	1971.9	2902.2	3688.2	4551.1	4950.8	5408.8
	Growth rate (%)	8.6	24.7	30.5	17.9	9.8	12.8	8.8	9.2
Social fixed asset investment	Total billion	227.1	357.4	1123.3	1952.2	1964.8	1869.6	1994.7	2187.1
	Growth rate (%)	5.7	38.4	71.8	21.9	-0.6	0.7	6.6	9.6
	GDP in %	30.0	32.1	57.0	67.3	53.3	41.1	40.3	40.4
Basic infrastructure investment	Total billion	47.2	84.4	238.2	378.8	531.4	449.9	510.8	583.5
	Growth rate (%)	30.1	37.5	41.9	38.3	28.7	-10.3	13.5	14.2
	GDP in %	6.2	7.6	12.1	13.1	14.4	9.9	10.3	10.8
	Fixed asset investment (%)	20.8	23.6	21.2	19.4	27.0	26.7	25.7	26.7
Real estate investment	Total billion	8.2	12.7	117.4	657.8	577.1	566.2	630.7	
	Growth Rate (%)		67.1	433.6	41.1	-6.0	9.9	11.4	
	GDP in %	1.1	1.1	6.0	22.7	15.6	12.4	12.7	
	Fixed asset investment (%)	3.6	3.6	10.5	33.7	29.4			

Source: Shanghai Statistical Yearbook (1991-2002).

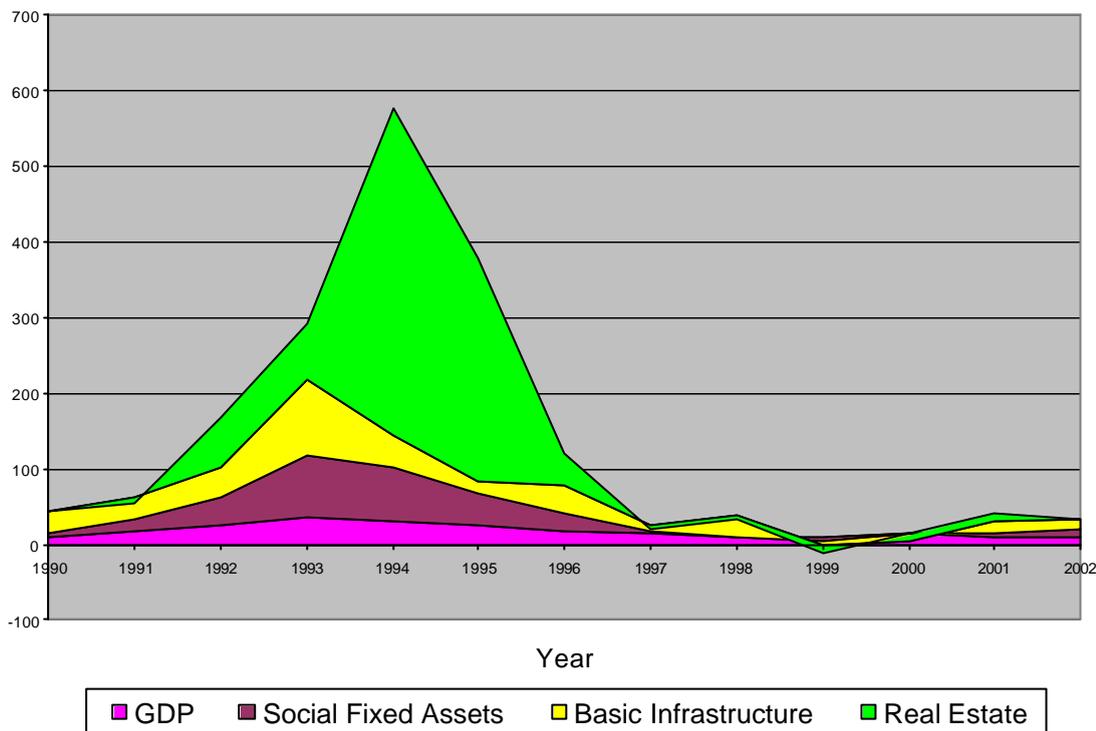
Chart 1: Investment in Urban Built Environment.

Chart 1 shows that the investment in social fixed assets infrastructure (hospitals, schools etc) and real estate was on the rise in the 1990s. This increase manifested itself in changes to the built environment. The growth curves of social fixed assets and infrastructure matched each other, though with some fluctuations. In the early 1990s, real estate investment was behind general economic growth, but rose sharply during the mid 90s and then declined again in the late 90s. While investment in infrastructure was necessary to fulfill the demand and the new requirements of a regional center city, the supply of real estate surpassed economic demand by far, as shown by negative investment growth from 1997.

The growth curves also correspond to the general economic environment within the East-Asian region, which enjoyed high growth rates in the early and mid 1990s, but which experienced less growth after the economic bust in the late 1990s. This trend would suggest increased links to external economies and the influence of regional and global economic activity.

Economic and Industrial Restructuring

For a city seeking to attain global and regional status, the city's ratio of primary, secondary, and tertiary industries was not optimal and therefore had to be restructured. Economic development was to be shifted from its traditional secondary-industry base to a tertiary-industry base in order to create an economic structure consistent and appropriate for the functions of major global regional cities. The share of the tertiary sector in the economic structure in the early 1990s still

lagged far behind the average share in other international metropolitan areas. During the 1990s, Shanghai's industrial structure underwent a strategic change: the first and second sector decreased from 4.3% and 63.8% in 1990 to 1.6% and 47.4% respectively in 2002, while the third sector increased from 31.9% to 50.9% over the same period. Within this tertiary-economy base, recent research has outlined 3 basic characteristics of the economies of 'global or regional cities' (Wang 2000):

- ?? The aggregation of headquarters of multinational corporations;
- ?? Development as a financial and services center (for real estate, legal services, information, advertisement and technology, consulting, etc.);
- ?? High standards of transportation and communication.

Accordingly, finance, insurance, and trading were to be first in the economic stratification, transportation and communication second, and real estate, information and tourism third. From 1990 all the above sectors have experience continued growth.

Table 2: Industrial Restructuring 1990-2002.

Year	Shanghai GDP		1st Sector		2nd Sector		3rd Sector	
	Billion RMB	%	Billion RMB	%	Billion RMB	%	Billion RMB	%
1990	756.45	100.0	32.60	4.3	482.68	63.8	241.17	31.9
1992	1114.32	100.0	34.16	3.1	677.39	60.8	402.77	36.1
1994	1971.92	100.0	48.59	2.5	1143.24	57.8	780.09	39.6
1996	2902.20	100.0	71.58	2.5	1582.50	54.5	1248.12	43.0
1998	3688.20	100.0	78.50	2.1	1847.20	50.1	1762.50	47.8
2000	4551.15	100.0	83.20	1.8	2163.68	47.5	2304.27	50.6
2002	5408.76	100	88.24	1.6	2564.69	47.4	2755.83	50.9

Source: Shanghai Statistical Yearbook (2002).

In addition to the above-mentioned changes in the economic structure, there was a major push to attract foreign direct investment (FDI). From 1990 - 2002 FDI in Shanghai increased to over USD 50.04 billion, thereby surpassing the United States as the highest recipient of FDI (www.tdctrade.com).

The increase in FDI was accompanied by a corresponding increase in the presence of multinational corporations (MNCs), again evidencing the growth of the city's global links. In Shanghai's industrial production, the contribution of foreign enterprises and foreign-related enterprises was 15.5% in 1993 and increased to 47.2% in 2002 (Shanghai Statistical Yearbook

2002). Here the impact of the opening policy and globalization is particularly obvious. In the tertiary sector of the economy, the number of foreign financial offices increased from 79 in 1993 to more than 160 in 1998, revealing a trend of integration with the rest of the world. Further efforts were made to increase participation in regional and global economic structures. The global influence rose after China's accession to the World Trade Organization in 2001.

As a consequence of the above-mentioned economic changes there ensued massive construction activities, which led to dramatic changes in Shanghai's spatial order. There was increased investment in infrastructure and other fixed asset development. Investment in infrastructure rose from 4.722 billion in 1990 to 53.138 billion Yuan 2002 (see table 1). While investment in public infrastructure (electricity, water supply and gas) decreased, there was an increase in communication and civil infrastructure (environment and green spaces). The investment in transportation maintained a high level. However the city's public infrastructure still lagged far behind the requirements for a regional city.

Table 3: Investment in Infrastructure 1990 – 2002.

Year	Transport		Telecommunications		Public Utilities		Urban Construction		Total	
	Billion RMB	%	Billion RMB	%	Billion RMB	%	Billion RMB	%	Billion RMB	%
1990	7.16	15.2	2.90	6.1	28.36	60.1	8.80	18.6	47.22	100.0
1992	15.01	17.8	6.43	7.6	33.35	39.5	29.56	35.1	84.35	100.0
1994	36.84	15.5	35.85	15.0	68.34	28.7	97.14	40.8	238.1	100.0
1996	69.66	18.4	77.55	20.5	125.9	33.2	105.6	27.9	378.7	100.0
1998	108.7	20.5	72.67	13.7	147.9	27.8	201.9	38.0	531.3	100.0
2000	48.83	10.9	68.69	15.3			163.3	36.4	449.1	100.0
2001	60.72	11.9	107.7	21.1			177.9	34.8	510.8	100.0
2002	63.01	10.8	108.2	18.5			201.7	34.6	583.5	100.0

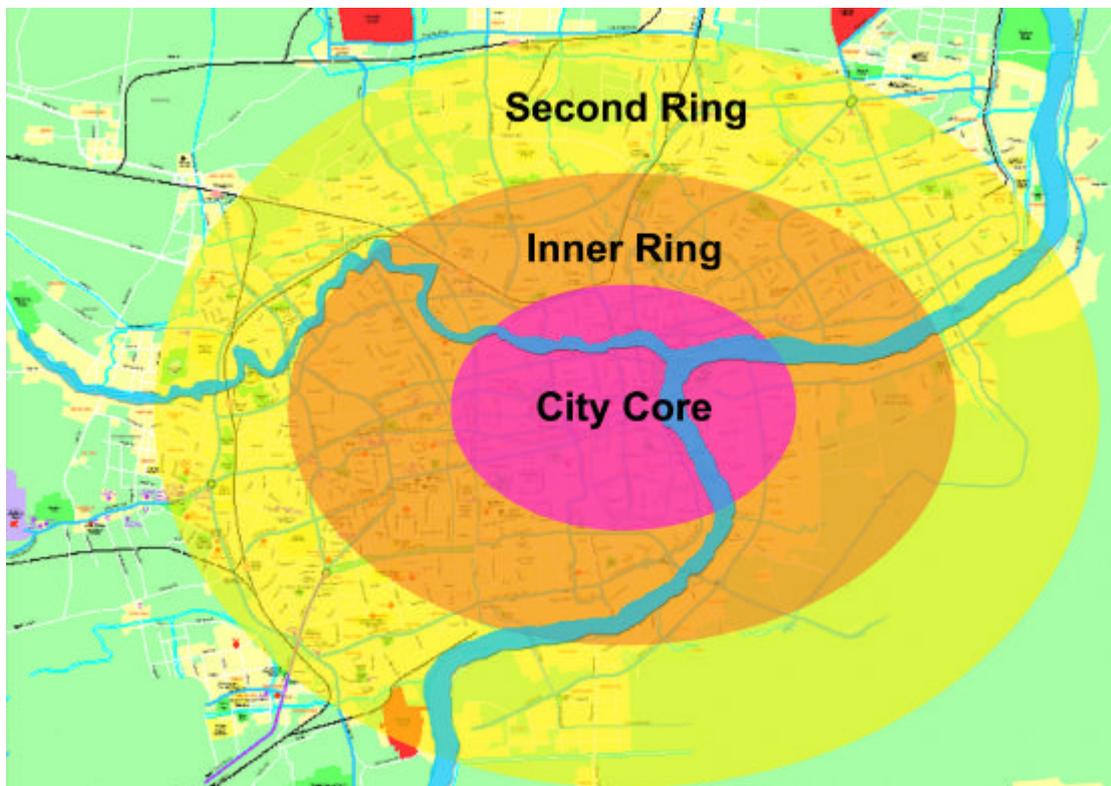
Source: Shanghai Statistical Yearbook (1991-2002).

CITY DEVELOPMENT AND URBAN SPATIAL RESTRUCTURING – CHANGE IN SPATIAL ORDER

As a result of the economic restructuring and the need to meet the demands and requirements of a regional international city, the old spatial structure underwent structural adjustments. The old urban spatial structure was seen to be neither adequate nor suitable for the new economic structure, and as such change was inevitable. The land-use structure needed to be overhauled. This need was particularly acute in the central city areas where residential, commercial, and industrial uses were mixed together with relatively high proportions of residential and industrial uses. While all the districts underwent major changes, particular attention could be paid to the restructuring of the central business district (CBD) and development of a new CBD at the Pudong New Area, which was aimed at spearheading the city's economic development.

The ring spatial organization was restructured with clearly distinct and separate land use structures. Three belts were defined. An inner belt was bounded by the Inner-Ring Road, which goes along the circular Zhongshan Road and links up the two sides along the Huangpu River through the Nanpu Bridge and the Yangpu Bridge. It includes Huangpu, Jingan, Luwan, Nanshi districts and LujiaZui (in Pudong). The second belt includes Hongkou, Zhabei, Yangpu, Changning, Xuhui and Putuo districts and lies between the inner ring road and the outer ring road. The rest of the districts belong to the third belt.

Map 2: Spatial Structure.



The first two belts make up the central city area or metropolitan area, while the third one makes up the non-central city area. Most of the Pudong new area belongs to the third belt. Within the first belt (the city core), the focus was placed on second-sector development, such as finance, commerce, and trade. Between the internal and external ring road (inner city), the focus was on the second and third economic sector, such as real estate, commerce, transport, and communication, among others. Beyond the external ring road is the first economic sector with particular emphasis on Hi-tech industry.

In addition to this change was the emergence of a strong east to west linear zone connecting Pudong and the Hongqiao Economic Development zone. This zone has developed as a major specialized commercial zone and includes the shopping streets of Nanjing Road and Huai Hai road.

For such massive and drastic change to occur the old had to give way to the new. Manipulation of land values led to the replacement of many old residential dwellings by commercial facilities. Industries have been relocated to the outer districts by financing and infrastructure incentives. Due to the ongoing spatial restructuring, the author has not been able to find any current comprehensive land use maps.

Change in the Built Environment

The built environment is one of the clear indicators of the spatial changes in Shanghai. Due to the above-mentioned economic restructuring process and the increase in investment there was a great spur of project completion after 1993. The changes in the built environment could loosely be seen from two perspectives. On the one hand is the increase in buildings (architecture) and on the other is changes in city infrastructure. Regarding the buildings, several changes are noticeable. First, there was an increase in the number of buildings completed. Second the general height of buildings increased. Third, the volume of built up floor areas increased. The total number of buildings in Shanghai increased by 30% between 1993 and 2002 (Table 3). The floor areas of offices, commercial, and residential buildings increased 120%, 70%, and 50% respectively. In contrast, the share of industrial buildings dropped by 11%. This trend indicates the city's economic and industrial restructuring from a manufacturing center to more a financial and service-oriented center. Accompanying this growth spurt was an increase in support infrastructures such as roads and mass transit facilities. A change worth noting here is the demolition of old Shanghai residential buildings and changes in the city fabric and city-scape. In addition to all these was an increase in the amount of green spaces in the city.

While infrastructure was in a large part driven by the city government, changes in the architecture was largely driven by private and/or para-statal enterprises. In this period the real-estate market developed from one of low supply and high rental prices to an over-supplied market with significant rental adjustments reaching a level of stabilization and steady rise of rental prices beginning in 2000.

With this massive construction, the emerging architecture of the city not only reflects a

very modern and international city but also reveals the influence of external forces and global influences. Some of the world's most renowned architects and designers have participated in this change.

Changes Built Environment and Distribution of buildings

The change in the built environment is discussed here in terms of the different building types and their distribution in the various districts of the city. In general there is an increase in commercial and office buildings in the districts within the inner ring road (first belt). Most of the districts outside the inner ring road (second belt) are witness to an increase mostly in residential building. Another aspect of change is the growth of local commercial centers.

First Belt. Huangpu district, the traditional commercial and financial center, increased its share of commercial and office buildings. Jing'an Luwan and Nanshi districts did the same, with a fast growth rate. The area of the city (inside the first belt) experienced significant reductions in the amount of residential uses. The drop in the share of industrial buildings is even sharper than of residential buildings. The commercial status of this area was challenged by the development of city commercial centers in various districts. Despite the fact that there is a slight drop of central city status, the growth of its commerce and business status remains positive. The area is still a dominant commercial zone, particularly with the redevelopment of Nanjing Pedestrian Street. Dubbed "China's first commercial street", Nanjing Road attracts more than 200,000 visitors a day and may attract as many as 500,000 during national holidays.

Second Belt. In the Second Belt, the share of residential and office buildings increased sharply, and the sub-center and commercial center status both got enhanced. Industrial buildings decreased. Thus, the most evident change is the emphasis in becoming the leading residential functional area. City commercial centers in various districts grew considerably, particularly on transportation nodes.

As the city was seeing all these dramatic changes in the amount of built-up area, the spatial distribution of the various building types also changed, as shown in table 4.

Table 4: Changes in building structures in different areas.

			Residential		Office		Commercial		Industrial		Total	
			10000 m ²	%	10000 m ²	%	10000 m ²	%	10000 m ²	%	10000 m ²	%
City Core	Huangpu	1993	288	47.1	122	20.0	63	10.3	33	5.4	611	100.0
		1998	222	38.9	162	28.4	72	12.6	19	3.3	570	100.0
	Jingan	1993	509	53.7	53	5.6	28	3.0	203	21.4	947	100.0
		1998	565	51.3	176	16.0	52	4.7	148	13.4	1102	100.0
	Luwan	1993	458	54.1	42	5.0	28	3.0	199	23.5	846	100.0
		1998	525	53.9	137	14.1	61	6.3	128	13.1	974	100.0
Nanshi	1993	460	64.1	15	2.1	20	2.8	123	17.1	718	100.0	
	1998	498	58.5	78	9.2	59	6.9	111	13.0	852	100.0	
Inner Ring	Hongkou	1993	922	56.0	68	3.8	38	2.1	388	21.9	1771	100.0
		1998	1295	58.2	103	4.6	77	3.5	395	17.7	2226	100.0
	Zhabei	1993	799	53.2	35	2.3	29	1.9	430	28.6	1502	100.0
		1998	971	53.8	77	4.3	53	1.9	451	25.0	1804	100.0
	Yangpu	1993	1199	45.1	31	1.2	42	1.6	992	37.3	2657	100.0
		1998	1915	56.0	48	1.4	53	1.5	997	29.1	3421	100.0
	Putuo	1993	962	54.1	67	3.8	39	2.2	462	26.0	1777	100.0
		1998	1627	63.7	115	4.5	89	3.5	430	16.8	2554	100.0
	Changning	1993	822	54.5	60	4.0	33	2.2	333	22.1	1507	100.0
		1998	1128	56.6	205	10.3	53	2.7	304	15.3	1992	100.0
Xuhui	1993	1196	54.3	100	4.5	29	1.3	473	21.5	2201	100.0	
	1998	2194	68.9	217	6.8	47	1.5	318	10.0	3185	100.0	
Pudong	1993	1498	63.1	55	2.3	53	2.2	561	23.6	2375	100.0	
	1998	2767	78.9	114	3.3	51	1.5	425	12.1	3505	100.0	
Shanghai	1993	9183	54.3	648	3.8	402	2.4	41.93	24.8	16912	100.0	
	1998	13707	61.8	1432	6.5	666	3.0	3726	16.8	22185	100.0	

Source: Shanghai Statistical yearbook (1991-1999).

Changes in Infrastructure

For a city of its size and with rapid economic growth, Shanghai's infrastructure was clearly inadequate. For various political, commercial, traditional reasons and also in order to meet the requirements of a regional city, the urban transportation and communication network had to be restructured and improved. The period 1990-2002 saw a rapid surge in road construction and the rehabilitation of the transportation network. The transportation system within the city and region and with the rest of the world was enhanced.

From 1990 onward, major infrastructure projects included the following:

- ?? An Elevated Highway Network. An elevated inner-ring road of 48 kilometers links Zhong Shan Road in Puxi with Pudong, the Nanpu bridge (1991), and the Yangpu bridge (1993). The Puxi side of the road is 29.2 kilometers long and is elevated, while the Pudong side is 8 kilometers long and mostly at the street-level. The 8.5 kilometer elevated North-South Road (1999) the 14.8 kilometer elevated Yan'an Road (1999) cuts through the center of the city. The Yanan elevated road links the city center with Hongqiao Airport.
- ?? A Mass Transit Railway Network. Metro Line 1, running north-south through the city center, was completed in 1995. In July 2000 Metro Line 2, running east-west, was put into operation, linking Puxi and Pudong. The first phase of the Pearl Light Rail was

completed in 2000 with a total length of 21.5 kilometers. Within the various areas of the city roads were upgraded and widened to alleviate related traffic problems (caused in part by an increase in private car ownership).

- ?? Cross River Projects. Pudong New Area was to spearhead economic development in the city, but this area did not have convenient links with the rest of the city (Puxi). There was no bridge across this river in Shanghai's urban districts until 1990. In the early 1990s, several bridges were constructed: the Nanpu bridge (1991) and the Yangpu (1993) bridge. Other notable projects include the Lupu Bridge (opened 2003), Dalian Road tunnel (opened 2003), East Fuxing Road tunnel and the Outer-Ring Road tunnel, the latter of which are still under construction. The magnetic levitation train line (based on German technology) connecting Puxi with Pudong international Airport opened in 2002. It the first commercial operation of magnetic levitation train technology in the world.
- ?? Inter-City Expressways. Several intercity expressways were constructed. This network is part of the state expressway system. Some it cuts through the city. Significant projects here include the Hu-Qing-Ping expressway, completed in 2002. It links Shanghai with Jiangsu, and Zhejiang provinces.
- ?? International Links. The first phase of the Pudong International Airport was opened to international air travel in October 1999. According to plan, the airport will eventually have four runways and an annual handling capacity of 70 million passengers.

Table 5: Change in Infrastructure 1990 – 2000.

Facility	Unit	1990	1995	2000
Waterworks production capacity	10,000 tons/day	462	823	1048
Length of water pipeline	kilometer	3483	10647	15943
Length of natural gas pipeline	kilometer			1742.4
Natural gas user	10,000 households			38.1
Length of city roads	kilometer	1631	3008	6641
Area of city roads	10,000 m ²	1787	3434	8147
Length of sewage pipeline	kilometer	1892	2536	3920
Sewage treatment capacity	10,000 tons/day	41	49	463
Urban green area	hectare	3570	6561	12601
Public green area	hectare	983	1793	4812

Source: Shanghai Statistical Yearbook (1991-2001).

Urban Greening

For a city of its size, Shanghai had a disproportionately low level of open green areas. In addition to the massive building projects, the number or the area covered by green spaces has increased in the last few years. By the end of 2002, the city's green areas, parks, and gardens increased drastically, reaching a volume of 18,800 hectares, 7,810 of which were public green areas. In addition, trees and grass have been planted along many of the major roads, notably Central Yanan road, Taipingqiao, Century Park, Huangxing Park, and Xujiahui Park. New buildings or public parks have replaced areas of old dilapidated buildings in the city core area.

Table 6 : Change in Urban Green Spaces in hectares.

Year	Forest Area city	Public Green Space	City Parks for parks	Street Landscaping	Special use Green Spaces
1990	3570	983	712	271	2255
1991	4167	1070	717	352	2755
1992	4399	1121	732	389	2936
1993	4654	1189	741	448	3141
1994	5939	1431	752	679	4142
1995	6561	1793	920	873	4429
1996	7231	2008	933	1076	4889
1997	7849	2484	961	1523	5083
1998	8855	3117	976	2141	5456
1999	11117	3856	993	2863	6888
2000	12601	4812	1153	3658	7346
2001	14771	5820	1291	4529	8624
2002	18758	7810	1411	6399	9591

Source: Shanghai Statistical Year Book (2003).

Changes to the Old City Built Environment

The changes in built environment spurred by new building and infrastructure construction or space readjustments saw the large-scale demolition of old Shanghai residential housing units (commonly known as Longtang). At the same time other old, dilapidated areas were rehabilitated. These housing units, located on high value urban land, have been replaced by new, higher-value buildings and the functions mentioned above. Between 1990 and 2002, more than 16 million m² of dilapidated housing were demolished (www.shanghai.gov.cn). As a consequence, thousands of households were relocated to other districts, mainly those outside the metropolitan area such as Songjiang, and Jiading. Another reason for the demolition and relocations was the reduction of over-crowding in many areas. The displaced inhabitants have the option of either being relocated to new areas or to receive a lump-sum amount to find alternative housing. In most cases the monetary compensation is insufficient to buy a new apartment in the new residential developments. Due to the absence of a comprehensive legal frame work for compensation, there has been much debate about adequate compensation.

Pudong New Development Zone

Pudong is a triangular area to the east (Dong) of the Huangpu (Pu) River (hence the name Pudong) and to the west of the Yangtze River estuary. The area includes Nanhui District and Fengxian District. Prior to Shanghai's push in the 1990s to develop into an international metropolis, this area was no more than farmland and old harbor facilities. It was considered merely to be a zone adjacent to the city. The area had no bridges or tunnels across the river and lagged far behind the old downtown in its economic development.

In the early 1990s, the Chinese central government announced to the world the opening up and development of Pudong. It sought to stimulate international development in Pudong by calling it a "A dragon Head" of economic development in the Changjiang valley (Jinfen Chu,

Foster D. Harold et al 1998). Within a ten-year period Pudong New Development Zone has become Shanghai's showpiece. Pudong covers an area of 533.44 km² and had a population of 1.7282 million at the end of 2002.

Since 1990 Pudong has spearheaded Shanghai's economic reform and development. Pudong's economic output value has increased from 6 billion Yuan in 1990 to more than 125 billion Yuan in 2002, representing an annual growth of 19%. By 2002, Pudong had received in excess of 20 billion dollars of foreign capital. With Pudong spearheading growth, Puxi also experienced accelerated growth.

To meet the demands of an international business center, the infrastructure had to be improved. From 1990, there was massive construction in Pudong new area. Ten years later the place has been completely transformed. More than 110 billion Yuan have been invested in urban construction projects. Most of the infrastructure projects focused as transportation, communications, and energy. They aimed at fostering and improving both city and international transportation and communication networks.

In the development of Pudong, relatively independent sub-areas emerged with specialized specific economic activities.

Lujiazui Financial and Trade Zone

This area is the core of Pudong New Area, located inside the inner ring road, along the Huangpu River and facing the Bund (the old financial zone). The area covers approximately 1.8 km², with offices for finance and trade, commercial services, and cultural and recreation centers. Adjacent to this area along Zhangyang Road is another component of this zone focusing on commerce, domestic and foreign trade with some residential uses. A considerable number of global multinational corporations have relocated their regional headquarters to Lujiazui. In addition, many of China's biggest corporations have also moved their head offices to Lujiazui.

After 1990 there was a spurt of building activity in this area. By 1995 many modern and world-standard office buildings were under construction. Since the mid 1990s hundreds of skyscrapers had been completed, representing the work of the world's accomplished architects.

Waigaoqiao Free Trade Zone

Located about 20 kilometers from Shanghai central area, Waigaoqiao consists of Waigaoqiao New harbour (currently under construction) and bonded storage, trade management, and export processing facilities. It is one of the largest bonded areas in China, with a planned full annual handling capacity of 50.4 million tons of cargo, 5.25 million tons of which will be container-handling capacity (www.pudong.gov.cn). This harbour is the future keystone of the New Shanghai Port. Many domestic and foreign-funded projects are under construction and cover an operational area in excess of 900,000 km². By the end of 1995 more than 50% of projects under construction were funded by foreign Capital (Foster D. Harold, et al 1998). Notable projects here include the development of the container terminal in step with the dredging of the navigation

channel at the mouth of the Yangtze River. It will take approximately ten years and RMB11 billion to increase the depth of the water there from the present -7 meters to -12.5 meters. This area is to become the largest international free trade zone for the Western Pacific.

Jinqiao Export Processing Zone

This zone is located in the central area of Pudong New Area. It aims at becoming a modern industrial zone with a high-efficiency, high-technology, export market and an advanced tertiary sector. By 2002 more than 200 enterprises had set up in this area with total contracted investment of 9 billion dollars. Notable multinational that have established plant operations in this area include General Motors, Bell, IBM, Schindler, Sharp, Nokia, and Dupont.

Zhangjiang Hi-Tech Park

With a planned area of 17 km² this area located in the central part of Pudong New Area. It is supposed to tap the city's science and technology resources. The area features enterprises in the fields of microelectronics, life sciences and bioengineering, ecology, environmental protection, and pharmaceuticals. By 2002 more than 10 km² and over 20 research and development institutes had been developed. Notable Corporation here include Citicorp Software and Technological services, Setvam, and Bearing Point. Total investment in this area has been more than \$650 million.

From the above it is evident that globalization has had a major influence in the development of Shanghai since 1990. Over the years, Pudong has grown into an internationally significant economic, financial, and trade zone.

FACTORS INFLUENCING SPATIAL CHANGE

The 1990s saw the readjustment, restructuring, and reforming of Shanghai's economic structure, which resulted in spatial restructuring and change in the built environment, as discussed above. In the foregoing it has been shown that foreign influence in the form of FDI has been a contributing factor to economic change and development. Hundreds of multinationals have invested and set up in Shanghai. During this development, the government remained active. The government role can be traced to the opening-up reforms, which set the stage for economic development and restructuring. The government also played an important role by creating an enabling environment to attract foreign investment. Evidence of this is the inauguration of economic development zones with preferential conditions specifically tailored to attracting FDI. Furthermore, the government's role can be seen in the many ambitious infrastructure projects undertaken in order to create the appropriate conditions for an international metropolis. Between 1991 and 2002, the Shanghai government invested more than 410 billion Yuan in urban construction projects, most of which were aimed at supporting the new economic structure.

The government's role can further be evidenced in the regulation of land values.

Through targeted infrastructure developments, land values, particularly in the inner core area, were raised to attract investment in the developments in these areas. Private sector investment in public has been encouraged.

Private investment can be seen in specific investments in various economic sectors. In the 1990s Shanghai saw an increasing flow of foreign investment in various sectors. There was an increase in public-private partnerships, where the government moved in to absorb the social and economic impact of certain changes. An example is in the real estate market, where the government has manipulating land values to promote real estate development. While the developers are largely responsible for new development, the government can exercise compulsory acquisition rights to acquire land for new real estate development. With the government largely in control of land, its role in influencing spatial change cannot be over-emphasized.

SOCIAL ECONOMIC SEGREGATION

With a communist – socialist background and the old economic system it is difficult to acquire reliable data to show the spatial distribution of social economic segregation (income). The city's economic prosperity led to an increase in average income. The changes in the distribution of wealth and poverty can be analyzed by the use of remote sensing in residential property and rental values within the context of the ring model spatial structure. In most of Shanghai, distribution of residential areas has no direct relationship to income levels. However, within the circular model, residential property costs tend to decrease in the outer regions. From the 1990s onward rental values increased in the inner city areas. These areas experienced an increase of new, higher-value residential developments, which had replaced the old, dilapidated housing. On the other hand the areas outside the ring have seen development of sub-urban residential development most of which come with complete foreign themes and designs concepts. This situation makes it difficult to accurately pattern the spatial distribution of poverty.

Socio-Economic Impact

The impact of these adjustments is manifold and could be the topic of another study. Nevertheless, a few significant trends can be outlined here. First, as a result of the changes in the built environment, there have been significant changes in the population of the various districts. The inner city districts experienced a reduction in population levels due to changes in the land use structures and an emphasis on commercial developments in this zone. One result was an increase in incomes and consequently the standard of living. The city population has experienced a general upgrade in housing conditions: improvements in sanitary facilities, an increase in green spaces and public parks, and improved recreation facilities. The per-capita living space was increased for many households. A visible social impact is the importation of lifestyles and ways of living, which can be observed on Shanghai streets. Western-style coffee shops, entertainment places and restaurants have mushroomed in many parts of the city, particularly in the city core area. Here the one can see the global influence in the social sphere.

While China has undergone economic development, most of it has not been equally distributed in the country. Large strides have been made in the Eastern Coast areas with Shanghai at the top. However, the western parts of the country largely remain underdeveloped and impoverished. With its surge in economic activity and construction in particular, Shanghai has attracted immigrant workers from the poorer and lesser-developed western areas. The immigrant population has increased steadily over the years. The fifth national census report, released in 2000, placed Shanghai's floating population at 3.87 million, or 22.6 percent of the city's total population. Most of these migrants have become de facto residents who leave the city only for a week once a year during the spring festival. This population in some ways impacts the urban infrastructure as it adds a degree of pressure on the use of facilities that were designed and planned for the official population figures.

Other important issues are conservation of old buildings and of the urban fabric. With old giving way to new architecture, taller buildings replacing low ones, and infrastructure construction and city parks, the largest victim in the city's modernization drive may be said to be the thousands of old buildings with historical and cultural significance. Professor Ruan Yi San of Tongji University, an authority on architectural conservation, notes that the great majority of the destroyed structures were basically useless and shabby buildings. Yet some of them represented unique architectural styles, which were actually of great historic value. Some of the city's century-old stone-arched buildings (Shikumen) have been pulled down, depriving the city of some of its historical heritage. In light of this the big question arises as to what and how much should be conserved for posterity in light of needed modernization.

This situation highlighted the one shortcoming of the city's development blueprint, which did not provide an adequate legal framework on what is to be conserved and how. A new law recently was drafted, in which the range of protected items has been broadened from the current 398 items and under which stiff fines are to be imposed on offenders (Shanghai Star. 2002-08-01). In addition, the new law also aims to curb indiscriminate demolition by requiring developers to obtain government permission when they come across buildings that have not yet been protected but have some historical and cultural significance. It is hoped that the new law will control any construction which may harm the historical and cultural significance of the city.

CONCLUSION

Of all the changes in Shanghai between 1990 and 2002, the built environment and spatial order top the list by far. The city's skyline has been transformed so much that it is a common topic of discussion among the many visitors to the city. New high-rise buildings now dominate the skyline. From the buildings one can note the influence of globalization in the change in Shanghai's spatial order. The built environment shows an increasing influence of international practices in architectural design and building technology. In the background of these physical manifestations of globalization lie the players that have brought about the intangible impacts of this change.

The government's vision of what is intended for the city is well articulated and can be seen in most of the policy papers and development plans for the city. The general population's view or contribution to the change remains minimal or, to be exact, there is no evidence of this. While information exchange is a corner stone of globalization, it seems to be lacking in Shanghai. Information exchange and decision-making regarding the changes seem to be a one-way avenue. One case in point is that residents of the old residential units that have been marked for redevelopment have no say about the nature of compensation they are to receive.

Regarding the spatial change, two processes can be said to have taken place: Internal reorganization and outward expansion. The period from 1990-2002 saw Shanghai's urban built environment experience internal spatial reorganization and outward expansion.

Under the objective of striving to become a regional center, Shanghai has achieved tremendous results from the interaction between economic restructuring and the evolution of urban built and spatial environment. However it also faces a set of new challenges regarding city development. First, the urban infrastructure conditions are still far behind the level that a regional center would require. Vast investment remains to be made in the transportation, communications, environmental protection, and bioscience sectors. Second, the supply of buildings has exceeded demand and a large amount still is under construction (the 2002 Vacancy rate was 13.7% in Puxi and 17% in Pudong). The local government must take effective measures to reach equilibrium of supply and demand in a short of time. Third, the reform of land regulation must be deepened, and the unreasonable conditions of mis-allocation of land resources, inherited from the old system, should be further altered.

Generally, most of the physical changes create a positive image in the city's drive to international status. They indicate that global influences on the city's development are largely favorable to the developmental objectives.

REFERENCES

Foster, et al (ed.) 1998: *The Dragon's Head: Shanghai, China's emerging Megacity*, Western Geographical Press.

Friedman J. 1986: *The World City Hypothesis*, *Development and Change*, 17, pp. 69-83.

Luna Feng 2000: *The Development and Evolution of Shanghai in the 1990s*, Tongji University Post-Graduate Thesis 2000.

Liberation Daily, January 11th 2000.

Liberation Daily, February 11th 1997.

Liberation Daily, May 24th 1997.

Liberation Daily, March 18 2000.

Sassen S. 1991: *The Global City*, Princeton University Press, Princeton.

Shanghai Statistical Bureau. *Shanghai Statistical Yearbook (2002)* China Statistical Publishing Company.

Shanghai Star, January 31st 2000

Shanghai City "Shanghai towards the 21st Century", Subject Leading team: *Shanghai towards the 21st Century*. Shanghai People's Publishing company 1995.

Zhang Guang Geng 2000: *Shanghai's Jin'an District: A case Study of City Development from 1992-1998*, Tongji University Post-Graduate Thesis 2000.

www.tdctrade.com

www.pudong.gov.cn

www.shanghai.gov.cn

5. An Urbanistic Approach to the Metropolitan Region of São Paulo at the Beginning of the 21st Century

By Regina Maria Prosperi Meyer and Marta Dora Grostein

A CONTEMPORARY URBAN TRANSFORMATION

The transformations which have taken place in Metropolitan Region of São Paulo since the 1980s, both functional and spatial, indicate the beginning of a new cycle in the process of adaptation of the metropolitan area to a new pattern of production and the further integration of Brazil into certain aspects of the globalized economy. As in earlier cycles in the construction and consolidation of the metropolitan area, the present period is producing its own pattern of structuring. New urban sectors are arising, with places, spatial arrangements, architectural programs, forms for using and occupying the land, appropriation of natural resources, forms of illegal occupation of urban sectors, all distributed throughout the Metropolitan Region of São Paulo and, more specifically, in the City of São Paulo itself, according to conditioners and potentialities present in the *existing city*, which today is one of the most important representatives of social inequality in Brazil, as well as of potential for economic development, as this new century begins. This new urbanization is becoming representative of the present moment, referred to as globalized metropolization. As in earlier phases, the current cycle is producing spaces and places that allow one to identify its historical determinants.

There have certainly been no changes that might suggest variations in the models of appropriation of the territory or substantial alterations in the distribution of productive activities. If observed carefully, these processes indicate only the intensifying of important aspects in the relationships between society and the metropolitan area.

Today it is no longer sufficient to consider the relationships of physical and functional approximation among urban hubs within the area, the classical type of conurbation whose graphic representation results in a number of geometric figures tangentially related with one another and creating more or less intense reciprocal relationships. The *metropolitan city* is a space that has been urbanized in a *continuous* way and within which a very broad economic, social, cultural and functional reality has been organized. Its most visible characteristic is the *dispersion* of urbanization throughout the entire territory. As we will see when identifying its features, this *dispersion* has not resulted in a cohesive territory from an urban point of view because *dispersion* and *discontinuity* correspond to internal forms of organization of urban relationships and functions.

The explanation for this aspect, which has not yet been very extensively explored, could well be the embryonic nature of the process. Since the purpose of this paper is to discuss the features of this new metropolitan cycle, it must be recalled that the essence of the concept of *metropolitan city* is intimately related to the changes that are taking place in the metropolitan area. Also basic is the fact that the cycle's main characteristic is the reorganization and articulation of the existing structure and of its internal functioning, in view of its active participation in the new stage.

THE SITUATION OF THE METROPOLITAN REGION OF SÃO PAULO AT THE TURN OF THE 21ST CENTURY

In the 1970s the conjugation of the urban question with the regional context became consolidated with the institutionalization of *metropolitan action*⁷⁰. From it emerged the decision to name a number of large urban areas in Brazil as metropolitan regions. The National Development Plans (PNDs) formulated during the period are clear indications of this new approach. In 1973, by initiative of the federal government, nine metropolitan regions were instituted: São Paulo, Salvador, Fortaleza, Belo Horizonte, Belém, Curitiba, Recife, Rio de Janeiro and Porto Alegre. An analysis carried out in 1999 regarding the Brazilian urban system⁷¹ concluded that the country's urban agglomerations concentrated 55.85% of the country's total population. These agglomerations were classified in the following way: two global metropolitan areas (São Paulo and Rio de Janeiro), seven national metropolitan areas, four regional metropolitan areas, sixteen regional centers, and eighty-two sub-regional centers.

The Metropolitan Region of São Paulo stands out from the other metropolitan regions in various aspects, including the fact that it concentrates Brazil's largest urban population and, at the same time, shows the highest demographic density in the country (2,548.72 hab/km²). In addition it relates intensely with the surrounding region – within a radius of 200 km – known as the *macro-metropolis* or *extended metropolitan complex*. This complex includes the Metropolitan Region of São Paulo (17.9 million inhabitants), plus the metropolitan regions of the Santos Coastal Region (1.5 million inhabitants) and of Campinas (2.3 million inhabitants), both within 110 kilometers of São Paulo. The urban agglomerations of Sorocaba and of Paraíba Valley, as well as a number of smaller regions, are also part of its perimeter.

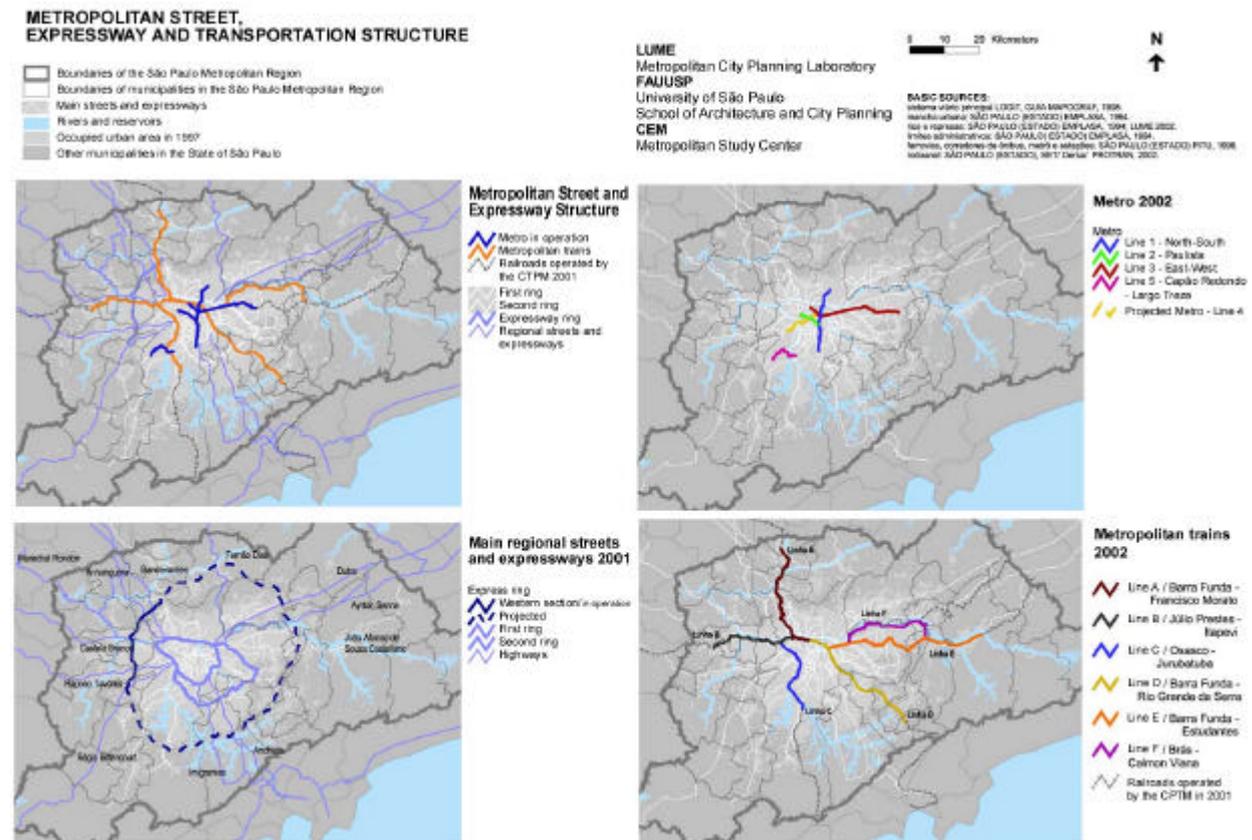
The most advanced complex for production, research and technology in the country is concentrated within this territory of the Metropolitan Region of São Paulo, and includes: *"The metropolitan activities typical of a financial center, an administrative center, and a hub for headquarters of companies and economic organizations in general, polarized in the metropolitan area. It also encompasses centers of scientific and technological research distributed throughout the metropolitan area and in the cities of Campinas and São José dos Campos, as well as university and technological centers for training qualified personnel (Santos, Sorocaba, Campinas and São José dos Campos, and the Metropolitan Region of São Paulo itself), oil refineries (Santos Coastal Region, Cubatão, Paraíba Valley, Campinas-Paulinia, Greater São Paulo-Capuava), broad sectors of industrial production distributed throughout the regions of direct influence on the metropolitan centers and those that can be considered regional capitals and a port and shipping area of great capacity, although functioning with outdated administrative and operational procedures (Port of Santos/Vicente de Carvalho-Guarujá)."*⁷²

⁷⁰ The term *metropolitan Action* correspond to the whole of initiatives that the State Government makes to provide an articulated network of actions issued of different areas that contributes to the functioning of the metropolitan region.

⁷¹ Instituto de Pesquisa Econômica Aplicada (IPEA) and Universidade de Campinas (UNICAMP), 1999.

⁷² EMPLASA, 1994: 126.

This complex covers 17.18% of the area of the State of São Paulo and has a population of 26.2 million inhabitants, meaning 71.13% of the state's population. It is responsible for 79.30% of the state's general product and 27.70% of the Brazilian GNP.⁷³ The relationships which affect the use and occupation of the land in this territory are extremely complex and interdependent, and result from processes of different natures, ranging from the macro-economic to those that determine micro-relationships which define the spaces for housing for the metropolitan populations.



The MRSP⁷⁴, comprising 8051 km², includes 39 municipalities, with that of São Paulo (1509 km²) occupying its center. This region, with its total population of 17.9 million inhabitants, shows three outstanding characteristics: 95.75% of the population is urban, 10.4 million persons are concentrated in the City of São Paulo and only eight of the 39 municipalities are not part of

⁷³ <http://www.emplasa.sp.gov.br/metropoles/cme.asp>

⁷⁴ The municipalities which comprise the Metropolitan Region are: in the center, São Paulo; to the west, Osasco, Carapicuíba, Barueri, Jandira, Santana do Parnaíba, Itapevi, Pirapora do Bom Jesus, Cotia, and Vargem Grande Paulista; to the southwest, Taboão da Serra, Embu, Itapequerica da Serra, São Lourenço da Serra, Embu-Guaçu, and Jquitituba; to the southeast, São Caetano do Sul, Diadema, Santo André, São Bernardo do Campo, Mauá, Ribeirão Pires, and Rio Grande da Serra; to the east, Ferraz de Vasconcelos, Poá, Itaquaquecetuba, Suzano, Mogi das Cruzes Guararema, Biritiba Mirim, and Salesópolis; to the northeast, Guarulhos, Arujá, and Santa Isabel; to the north, Cajamar, Caieiras, Franco da Rocha, Mairiporã, and Francisco Morato.

the continuous, uninterrupted geographical territory comprised of the remaining municipalities.⁷⁵

**FUNCTIONS OF THE MUNICIPALITIES
IN THE SÃO PAULO
METROPOLITAN REGION**

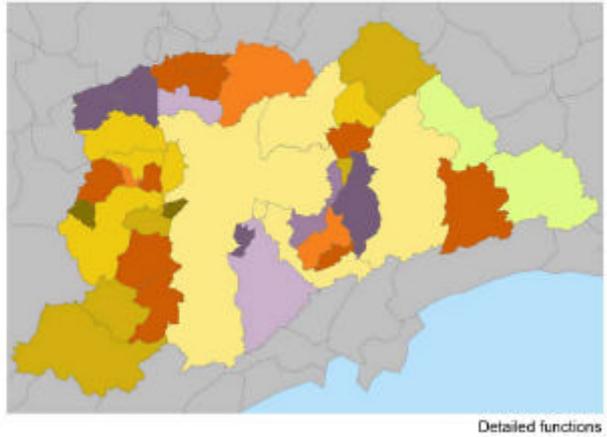
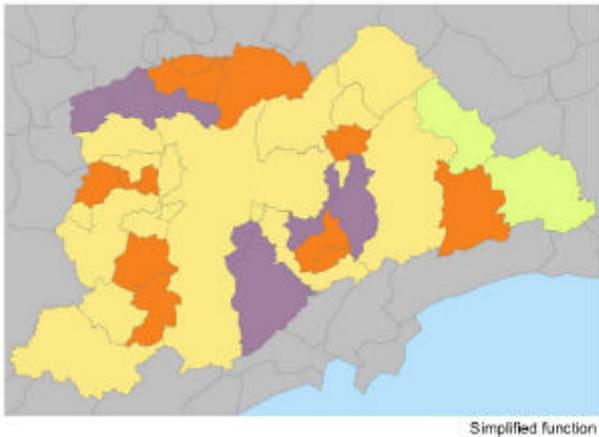
- Simplified function**
- Farming
 - Diversified
 - Dormitory
 - Industrial

- Boundaries of other municipalities in the State of São Paulo
- Atlantic Ocean

- Detailed function**
- Farming
 - Diversified - high
 - Diversified - high income
 - Diversified - low income
 - Diversified - median income
 - Low-income dormitory
 - High-income dormitory
 - High and median income industrial
 - Low-activity industrial
 - Low-income industrial

LUME
Metropolitan City Planning Laboratory
FAUUSP
University of São Paulo School of
Architecture and City Planning
CEM
Metropolitan Study Center

0 10 20 Kilometers
N
Source:
LUME - Laboratório de Urbanismo da Metrópole
BASIC SOURCE:
União Administrativa: EMPLASA, 1994, LOGIT,
dados: EGE, 2001.



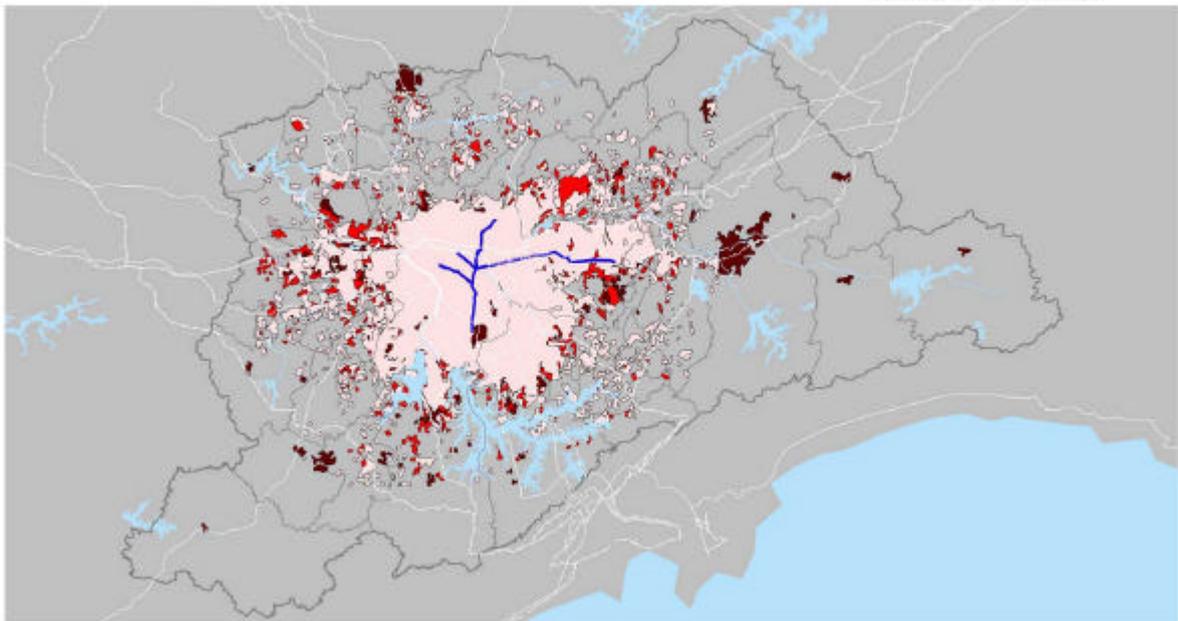
**EVOLUTION OF THE URBANIZED
AREA 1980 to 1992**

- Occupied urban area**
- 1980
 - 1981 - 1985
 - 1986 - 1992

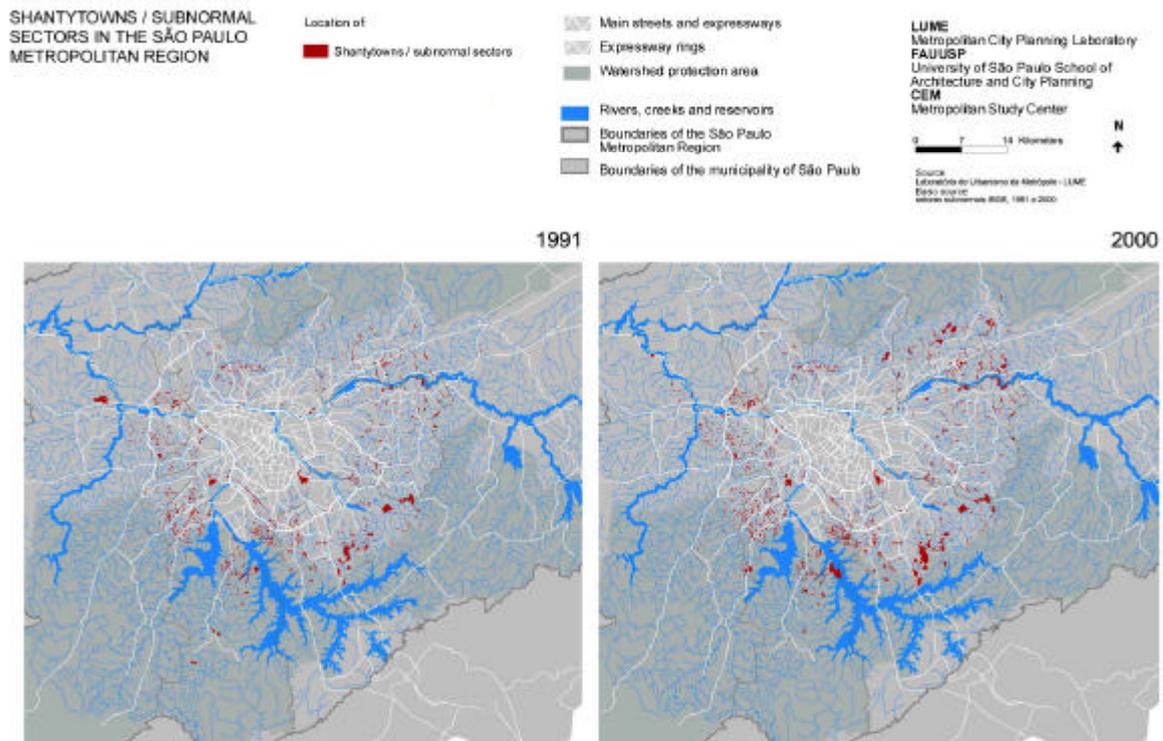
- Regional streets and expressways
- Railroads
- Boundaries - Greater São Paulo
- Boundaries - Metropolitan São Paulo
- Rivers
- Reservoirs
- Boundaries of other Municipalities in the São Paulo Metropolitan Region

LUME
Metropolitan City Planning Laboratory
FAUUSP
University of São Paulo School of
Architecture and City Planning
CEM
Metropolitan Study Center

0 10 20 Kilometers
N
Fontes de dados:
see also: PLANO METROPOLITANO DA EMPLASA 1993
see also: PLANO METROPOLITANO DA EMPLASA 1994
União Administrativa: PLANO METROPOLITANO DA EMPLASA 1994
Instituto de Planejamento Urbano e Regional: SÃO PAULO (GRUPO), 1994.



⁷⁵ The non-conurbated municipalities are Salesópolis, Biritiba Mirim, Guararema, Santa Isabel, Mairiporã, Pirapora do Bom Jesus, Jujutiba and São Lourenço da Serra.



According to a recent study carried out by the João Pinheiro Foundation, the estimated housing deficit in the São Paulo Metropolitan Area is 596,000 units, almost half of the deficit of the entire State of São Paulo. This shows the weight of the metropolitan dimension of this deficit. As an aggravating factor, 71.2% (401,239 units)⁷⁸ of this deficit is concentrated in the income bracket of those receiving three minimum monthly wages or less and, therefore, its being addressed will depend on the efficiency of public metropolitan policies. In the absence of governmental action, the phenomenon of the favelas in the periphery will tend to worsen. Simultaneously the number of vacant dwellings has risen from 771,000 in 1991 to 1,230,000 in 2000.⁷⁹

Although the pace of growth of the Metropolitan Region of São Paulo has fallen, its rate of demographic growth in absolute numbers is still considerable, having been 2.4 million inhabitants in the 1990s. As a result, in absolute numbers, the population in the metropolitan region grew at a rate of 1.63% per year, totaling 15.70% during the decade. At the same time, the population in the favelas increased by 57.96%,⁸⁰ with an average yearly growth of 5.21%. Simultaneously, the process of growth of dispersion of favelas also increased in the region's municipalities.

⁷⁸ Fundação João Pinheiro, 2001: 58.

⁷⁹ Fundação João Pinheiro, 2001: 29.

⁸⁰ The calculation of the population living in shantytowns was collected from the information available at the moment regarding subnormal sectors in 25 municipalities of the Metropolitan Region, which represent 95% of the metropolitan population.

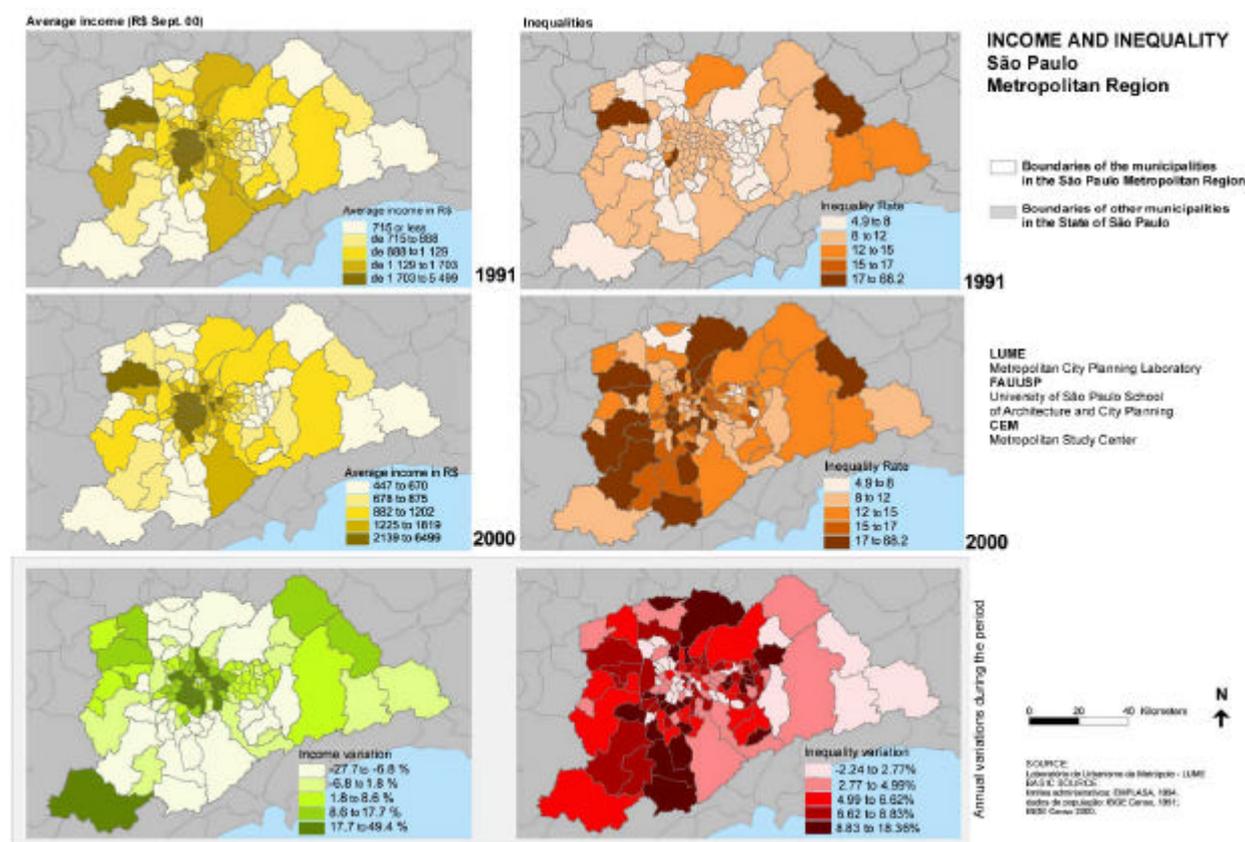
Table 1: Sub-normal sectors in the Metropolitan Region of São Paulo, resident population. Percentage of growth in subnormal sectors between 1991 and 2000, by municipality, in the Metropolitan Region of São Paulo.

Municipality	POP 1991	POP 2000	Average % of growth 91-00	Total % of growth
BARUERI	10218	11988	1.79%	17.32%
CARAPICUÍBA	14964	36963	10.57%	147.01%
DIADEMA	62016	86781	3.80%	39.93%
EMBU	9381	21824	9.84%	132.64%
F. DE VASCONCELOS	0	1660		
GUARULHOS	52506	163757	13.47%	211.88%
ITAPECERICA	2216	3038	3.57%	37.09%
ITAQUAQUECETUBA	254	579	9.59%	127.95%
MAUÁ	38930	68437	6.47%	75.80%
OSASCO	64656	114584	6.56%	77.22%
RIBEIRÃO PIRES	351	1614	18.47%	359.83%
S. PARNAÍBA	0	854		
SANTO ANDRÉ	53985	70022	2.93%	29.71%
SÃO BERNARDO DO C.	80139	147483	7.01%	84.03%
SÃO PAULO	647400	909628	3.85%	40.50%
TABOÃO DA SERRA	12125	18024	4.50%	48.65%
TOTAL RMSP	1049141	1657236	5.21%	57.96%

Source: SEADE/CEM (setores censitários), IBGE (National Census Bureau) 1991, 2000 (dados populacionais), LUME (tabulação), 2002

90% of RMSP's population live in the 21 municipalities mapped. They are: São Paulo, Barueri, Carapicuíba, Diadema, Embu, Ferraz de Vasconcelos, Guarulhos, Itapecerica da Serra, Itaquaquecetuba, Jandira, Mauá, Osasco, Poá, Ribeirão Pires, Rio Grande da Serra, Santana de Parnaíba, Santo André, São Bernardo do Campo, São Caetano do Sul, Suzano and Taboão da Serra.

Approximately 900,000 inhabitants live in housing complexes of social interest in the Metropolitan Region of São Paulo. Since the 1970s, the state and municipal governments have built approximately 210,000 dwellings in *housing complexes of social interest* in the region. Of these, 130,574 units were constructed by the *Companhia Metropolitana de Habitação de São Paulo* (COHAB-SP) and 79,270 by the *Companhia de Desenvolvimento Habitacional e Urbano do Estado de São Paulo* (CDHU).⁸¹ Comparing this inventory with the data on the region's estimated housing deficit, it can easily be seen how difficult it will be to address this demand, especially if one considers the government's limited capacity to produce houses, and the limited availability of financing to address the income brackets of up to three minimum monthly wages, where most of this deficit is concentrated.



THE MAIN FEATURES OF THE CURRENT SET OF URBAN TRANSFORMATIONS

The impact of the reorganization of the area's great mobility and accessibility systems

Urban interventions⁸² in general, and especially those taken on a metropolitan scale, associated with mobility and accessibility, are, by definition, systemic and commanded by the various levels of government, which are responsible for carrying out this costly obligation. They correspond to the true urban development, to the extent that they are projects and works aimed at expanding and diversifying the supply of mobility in the metropolitan territory. They generate impacts on the functional and spatial urban organization on the local, metropolitan and regional scales, especially on the consolidated urban structure.

Besides concrete aspects, that is, those aspects that emerge from the conjugation of physical and functional aspects, there is the relevant socio-economic dimension of the RMSP development. The adoption of new procedures carried out by the real-estate market in sectors that receive public investments results in chain reactions in transformations and

⁸¹ Houses per promoting Agency. GCI (Information Control Management) and SPE-CDHU Vice-president's Office 2002. The CDHU constructed, in the municipality of São Paulo, 25% of its total production throughout the State, to wit, 51,834 units in São Paulo and 27,886 in other municipalities.

⁸² In urbanism the term *urban intervention* is a consagrated expression that indicates a very broad and diversified amount of works done in the city with the goal is to solve a specific problem that is linked to a spatial or infraestructural question. The majority of the *urban interventions* nowadays aim at the improvement of the urban performance.

impacts which require discussion and planning. The basic components of the socio-economic impact blend in with the territorial dimension giving rise to specific positive processes collectively termed "urban development."

Whereas the needs deriving from the constant expansion of the territory associated with demographic growth were the driving force behind governmental action, especially during the period of greatest expansion of the metropolitan area, the "negative effects" of these interventions were not so clear, or even perceptible at all. Based on the known, and even measurable, demands, the great projects of intervention, all associated with mass transportation, proposed objective and even somewhat simple answers.

The discussions concerning the conceptual framework adopted for planning the stations along the east-west line of the metro system in the central region of São Paulo in the early 1980s identified a conflict and, later, a new posture in the treatment given to the impacts of the installation of large infrastructures in consolidated areas. But it was only when environmental issues came on the scene that the conflict between distinct logics took on a methodological dimension.

The impasse over the implementation of the highway ring around São Paulo⁸³ is the most recent example of the difficulty in moving toward an integrating and sustainable project. Later in the chapter, this highly relevant issue will be treated as a specific type of process.

Today, in São Paulo, the main challenge involving the projects and actions of mass transportation⁸⁴ and mobility is how to guarantee the functioning of the metropolitan machine⁸⁵ in all its various sectors. The expansion of the metropolitan territory which currently determines the plans and projects of mobility and transportation involves the articulation of this metropolitan area based on pre-suppositions for expansion. The purpose is no longer to address the demand for transportation, mobility and accessibility throughout the entire area in a piecemeal fashion, this demand has been addressed by the bus system over the last 50 years, although inadequately.

This system favored the great expansion of the metropolitan area far beyond tolerable limits. The centrifugal network of bus lines, insufficiently articulated with other modes of transportation, determined the growth of the metropolitan area until the early 1980s, when the issues involved began taking on different forms. Here we are seeking to analyze the new complex of plans and projects proposed or in progress and their repercussion on a consolidated metropolitan territory. We consider that new processes are already present

⁸³ The Mario Covas Highway Ring is an expressway surrounding the São Paulo Metropolitan Region. It traverses 19 municipalities, is approximately 174 km long, and its radial distance from downtown varies from 20 to 40 km. It was designed to connect the ten state and federal highways and the five railroads leading into and out of the metropolitan area, giving priority to cargo transportation and reducing the traffic moving directly into São Paulo. Its course crosses sectors of peripheral occupation and environmental protection areas. Accesses will be blocked along its entire perimeter, allowing access only to the highways it intersects with.

⁸⁴ The most important set of projects and actions related to mass transportation are assembled in a unique project named PITU—Integrated Urban Transportation Plan (2020) which target is the integration of all mass transportation operating in the RMSP, including train, metro and bus. See also note 20. NOTE 20.

⁸⁵ The expression *metropolitain machine* is used here to stress the functional and operational dimension of the metropolitan region.

which, during our analysis, were identified as the "construction of the *city over the city*."⁸⁶ In this case, the projects of mobility on a metropolitan scale were of major importance.

One of the most notable characteristics of the new stage that the region is entering into is the distribution of the activities carried out by the society⁸⁷ that lives there. It is now very clear that, without a discussion of the specific aspects of the current organization in progress, where the *metropolitan scale* has been considered as referring only to *surface*, nothing is added to the way the new organism is understood, much less is any evaluation made of the impacts of the broad projects associated with mobility. The exact functioning of the metropolitan gears must therefore be examined. One should also remember that not only the substitution of the conventional forms of industrial activity, with new types of labor, is involved, but something much more complex.

Organization of the centers of metropolitan mobility⁸⁸ and their impact on the structuring of the territory

The centers of metropolitan mobility are precise urban locations distributed throughout the metropolitan territory where local and metropolitan urban functions are articulated with mass public transportation. They derive directly from the characteristics taken on in view of the increasing complexity of the functioning of the metropolitan territory under the influence of urban dynamics that generate the two characteristics most in evidence in the current phase: functional *dispersion* and territorial *discontinuity*. The appearance of a *metropolitan pole* is therefore intimately associated with two aspects of public mass transportation: the presence of all modes of public transportation and the guarantee of functional and territorial articulation on a metropolitan scale. In this regard, the *pole of metropolitan mobility*⁸⁹ is distinct from other forms of aggregation of functions and territorial cohesion because today it is the antidote for the functional dispersion and territorial discontinuity discussed in earlier chapters.

Mobility is thus the urban function with the greatest potential to add and connect urban sectors that are segregated from the social standpoint, dispersed from the functional standpoint, and discontinuous from the spatial standpoint. The consolidation of a pattern of spatial organization described as the *metropolitan city*⁹⁰ requires an infrastructure of transportation whose efficiency is to be found in its capacity to integrate activities that are scattered throughout the *metropolitan territory*. Strong and efficient *local organizing poles* should then be set up, for they are capable of guaranteeing the socio-spatial integration of

⁸⁶ This expression describes the concept formulated by the catalan urbanist Jordi Borja that is based in the idea of a permanent action of adaptation of the city space and infrastructure. To "build up the city over the city" is a concept elaborate to oppose the modernistic idea of urban reconstruction *ex novo*.

⁸⁷ The activities carried out by society corresponds, at this very moment, to a new distribution of employees in the industrial and the tertiary sector, confirmed by the data and maps presented in this paper.

⁸⁸ *Centres of metropolitan mobility* are those nodes of metropolitan transportation provided by the new projects in the RMSP

⁸⁹ See notes 18 and 21.

⁹⁰ *Metropolitan City* is an expression created to indicate the new arrangement of the metropolitan territory with the most notorious attribute is the continuous spread of urbanized areas accompanied by the emergence of a very strong pluricentrality.

the metropolitan population.⁹¹

The impasse of industrial sectors and installations

It is clear that the transformations introduced in the form of industrial production directly influence the urban functional systems on their different scales. One of their best known aspects is related to the arrival of the advanced technology industry, based on microelectronics and informational communication which have created new criteria for locating industries.⁹² The essence of this new pattern of urbanization, generically known as "new industrial space," has become one of the major characteristics of metropolitan territories in their current phase. In developed countries, new industrial locations have corresponded to the flexibilization of production made possible by newly developed means of communication and caused a notable evaluation of urban industrial sectors. Some large cities, especially those located in developed countries, have drawn up public policies to face the consequent problems and, at the same time, to make the best of the opportunities for restructuring urban sectors in the metropolitan areas.

Although this fact cannot be clearly proven, at least with the necessary precision, many sectors of industry in the various municipalities of the São Paulo Metropolitan Area are in a process of functional restructuring. This observation leads to a consideration of two major aspects of the issue. On the one hand, there is the beginning of a movement of functional displacement of industrial activity to other regions in the state. This process has been stimulated by public policies which specifically aim at industrial decentralization, but it is also stimulated by private enterprise in search of better economic results. The other aspect, which can be interpreted as an outcome of the first, is the closing down of which large complexes are then gradually adapted or replaced with buildings constructed for new functions of the metropolitan area, especially those identified with the tertiary sector. There is also some presence in the metropolitan area of small installations located in former industrial districts. They have been undergoing a slow process of substitution, almost always governed by the real-estate market.

The role of the growth of networks of consumption, services and equipment based on the logic which determines the construction of the *metropolitan city*

The analyses presented to date confirm that the physical changes underway in the metropolitan region as it becomes a *metropolitan city* are partially materialized by major public works in urban infrastructure. This is especially true of works associated with mobility and accessibility which, by their systemic nature and because they are carried out by different levels of government, create new scales of intervention centralized by the state

⁹¹ Among other projects, it is illustrative to cite once again the Integrated Urban Transportation Plan (PITU 2020), developed jointly by various public institutions of the São Paulo State Government (CPTM, EMTU and the Metro). As was seen above, plans are for a high-capacity network of transportation on tracks, designed to interconnect railroad lines of the metropolitan train system and of the metro.

⁹² Castells, 1999.

government. However, the actual consolidation of the *metropolitan city*, which is seen today as a more complex stage in the process of metropolization, incorporates other processes of transformation as well, which depend on the distribution of services – both simple and specialized – as well as of public and private equipment, and chains of consumption, which, until recently, were present only in more central districts, considered more important. This group of activities, which is gradually spreading throughout the São Paulo Metropolitan Area, has a specific logic and is what is now guaranteeing the construction of a *metropolitan city* and will later sustain its functioning.

The migration of consumption systems toward areas with inferior infrastructure, services and public equipment, creates a situation which can only be analyzed as a "new logic" for the location of consumption systems. This fact can be seen in empirical research both in the outlying areas of the City of São Paulo and in other municipalities in the region. The installation of shopping malls, supermarkets, hypermarkets and fast-food franchisers in the periphery is a phenomenon that has arisen mostly during the last decade. Until fairly recently, this type of establishment did not exist in these regions.

The migration of central functions and the constitution of *new centralities*

According to some standards, the migration of the *central functions*, that is, of the urban functions that took on characteristics of the central area, began in the 1950s, and had major repercussion in the downtown area itself as well as in other districts. Without a doubt, as of that period, there was a decentralized reorganization of central functions⁹³ which moved to more distant districts in the City of São Paulo and to the emerging central areas of the neighboring municipalities. This was a natural process propelled by metropolization, which can be considered positive to the extent that it addressed the expansion of the complexity of urban life in the metropolitan area. The urban repercussions of this processes in the City of São Paulo were significant, since, as a result, the *neighborhood centers*⁹⁴ were created or consolidated. The unfolding of these processes in the region's municipalities was essential for structuring the metropolitan area.

However, the process described above has specific characteristics and is part of another process that became clearer as of the 1980s. It had a very different origin and development from the functional decentralization described in the paragraph above. We are referring to a migration of central functions with two essential characteristics. On the one hand, there was a dispersion of traditional functions of a downtown area to new urban sectors which cannot be identified as *district centers* because the arrival of the new functions did not correspond to the emergence of any centrality supplementary to that of downtown. On the contrary, it is, more precisely, an alternative for real-estate investments whose preferred locus, until then, had been the downtown area. It clearly corresponded, from the

⁹³ The downtown area lost by the beginning of the 50's its hegemony in the localisation of the commercial and specialized services in the city. They migrated to new areas and initiated a movement towards places that were named later *new centralities*.

⁹⁴ The *neighborhood centers* correspond to a movement of decentralization of retail commerce, services and state agencies from downtown area towards the districts that until that period were strictly residential.

beginning, to a migration of real-estate capital within the municipality of São Paulo.

Analyzed from this point of view, the migration of the central functions does not correspond to a process of urban development, strictly speaking, but only to a movement based on speculative interests. During the late 1950s and throughout the 1960s, the central axis of the displacement of the central activities toward new spaces was toward the region of Avenida Paulista, and then relocated toward the southwest during the 1970s, consolidating new sectors such as Avenida Faria Lima, the Itaim district, later reaching the expressways along the Pinheiros River and then the regions of Avenidas Luiz Carlos Berrini and Verbo Divino, in the 1980s and 1990s. This chronology is clearly relative, especially in regard to the 1970s and 1980s, the process was simultaneous.

The migration of the *central functions* to these new areas is a significant fact in the functional organization of the municipality of São Paulo. It is also an indispensable factor for analyzing the current restructuring of the metropolitan region. Although the origin and development of this process occurred long before the 1980s, it became clearer as of that period. The transfer of the central activities and of real-estate capital to the southwest of the City of São Paulo has been the object of numerous academic and institutional papers and articles. Some authors see the evolution of the *central functions* as the result of a strong tropism exercised by the establishment of groups of elite which had already occupied the residential neighborhoods in the region since the 1950s. This is a correct hypothesis in some cases, and can be backed up by solid data. However, although the direction of this migration remained faithful to the central-southwestern axis of the municipality for five decades, each of these displacements has shown specific characteristics.

Residential emptying of the *central districts* and the growth of *inner-city slums*

The areas known as *central districts* of the City of São Paulo – namely, Bom Retiro, Pari, Brás, Cambuci, Liberdade, Bela Vista, Consolação, Santa Cecília, Barra Funda, Moóca, and Belém – underwent a decrease in population⁹⁵. This loss was expressed both by the overall reduction in the number of domiciles and of rented domiciles, and by the deterioration or vacating of buildings in these sections, giving rise to inadequate housing, especially inner-city slums,⁹⁶ which do not always show up in the official statistics. According to city hall, the payment of property taxes has fallen considerably. In contrast and as part of the same process, the outlying areas of the metropolitan areas continue to show high rates of demographic growth. The visible face of this process of distribution of the population in the City of São Paulo and in the metropolitan area in general is related to the deterioration and the state of neglect that can be seen in both the "central districts" and the outlying areas. The constant search for space for housing by the poorer strata of the population is a basic factor in this process. Its irrationality is causing ruinous urban occupation whose principal feature is

⁹⁵ As is expressed in the text itself the decrease in population in these central districts is clear, but there aren't any specific data relating to the substitution of "old population" followed later by an in-migration of poor people.

⁹⁶ Old single-family mansions located in originally wealthy neighborhoods but since transformed into collective housing for the poor. These buildings are frequently referred to as "casas-de-cômodos," where numerous families

the wasting of large tracts of urban land that are nevertheless fully equipped with basic infrastructure.

This process took place in São Paulo in an intense way and created a new urban paradox: areas completely equipped in infrastructure and mass transportation are undergoing processes of demographic emptying⁹⁷, while new and distant sectors of urban expansion are opened up indiscriminately. This centripetal expansion takes place both in function of dwellings for the poorer strata in the periphery, virtually devoid of urban infrastructure and social equipment, and for the wealthy, closed into private condos located near the expressways that give access to the central area, a situation which overburdens even more the insufficient urban street and highway system.

It is clear that the most basic and essential component of a metropolitan urban policy, that is, one which would guarantee articulation among housing, water supply, sanitation, and mass public transportation, has not been the object of governmental action. During recent decades it has been stressed by all those who deal with urban issues, both globally and sectorially, that the weakening of the metropolitan areas and the total disorganization of their functioning is the corollary to omission by all three⁹⁸ levels of government in the conduction of the area's form of expansion.

The permanence of urban inadequacy: the continuous expansion of the *informal city*⁹⁸

Three simultaneous movements are taking place: 1) the densification of the large favelas with the hope of their eventual integration into the urban structure; 2) the construction of illegal housing tracts using new operative strategies, especially in areas of environmental protection, thus giving rise to social and institutional conflicts, and; 3) the multiplication and dispersion of favelas in the metropolitan periphery, usually in situations of environmental risk. Therefore, in large and ever growing parts of the territory, predatory and unsustainable processes of occupation predominate, thrust ahead by the limited access to adequate housing. The occupation of the area of protection of the watersheds that supply water to the Metropolitan Region of São Paulo is the most conflictual and revealing expression of this process and a clear indication of the lack of effective urban development policies.

In the process of expansion and evolution of the Metropolitan Region of São Paulo, the neighborhoods comprised of illegal settlements for the poorer classes – government housing projects, favelas, and inner-city slums – continue marking and defining the metropolitan territorial structure. The excessive size of the metropolitan area and the inexpressive role of the traditional instruments of urban and territorial planning are different facets of the reality that still determines the process. In the 1980s and 1990s these characteristics became accentuated, at the same time that the informally produced city was

share a single bathroom and a single kitchen. It is estimated that 600.000 people live in this type of housing in the central districts of São Paulo.

⁹⁷ See note 25.

⁹⁸ The expression *informal city* is used to indicate the articulation of socio-economic and physical aspects presents in the organization of popular housing. In essence it represents the absence in suburban popular housing of a legal process of parcelling and its consecutive commercialization.

incorporated as an object of new public policies.

The concept of *informal city* is the most inclusive term used to designate these urban spaces that result from abusive processes whose structural components are their inadequacy and illegality. The concept associates the phenomenon of illegal urban expansion with that of social exclusion, and includes all the forms assumed by the illegal settlements in the metropolitan area, that is, illegal and irregular housing, favelas, and inner-city slums. This approach makes implicit the pre-supposition that access to the city occurs in various ways and is always socially determined. The supply of housing through public social programs has been low in comparison with the demand and with the existing deficit, concentrated in the population with income of up to three minimum wages. Nevertheless, the municipal and state housing policy has gradually broadened its scope of action. During the 1980s and 1990s, new approaches were put into place to provide housing and refine programs of action in informally produced areas, such as the urbanization of favelas, the regularization of unregistered and clandestine housing on new scales, the transfer of populations living in areas of risk, the urban and environmental recovery of protected areas, programs in inner-city slums, and other public programs, as well as the production of areas of urbanized subdivisions and the construction of housing complexes through neighborhood joint work projects. This set of initiatives shows that the *informality* present in the production of metropolitan space has become a basic factor for projects as well as the object of public policies. Nevertheless, the scale of the action is generally minimal in view of the dimension of the inadequacy found in spaces destined to housing in the poorer-class neighborhoods.

THE URBAN CHALLENGES OF THE METROPOLITAN CITY

The development of the Metropolitan Region of São Paulo described above shows that the current transformations are assuming very particular features. This, of course, was also true all during the area's industrialization period in the 20th century, when the occupation of the metropolitan territory created specific conditioned forms. Both the construction of the theoretical framework and the presentation of the history of the metropolis are aimed at creating an analytic model that will allow us to identify and analyze the transformations that São Paulo has been undergoing since the early 1980s.

A new cycle is now beginning, which we identify here with the concept of *metropolitan city*. Besides the characteristics described above, the metropolitan city has a clearly tertiary profile, marked by an intense process of modernization of neatly defined urban areas where productive activity is being installed.

One very important aspect of the present analysis is its treatment of the metropolization process based on the tension between two urban systems present in the metropolitan territory - the industrial and the tertiary. These two aspects have been successive in time and continuous in space, but they have distinct features and produce urban processes that are likewise distinct. The commitments of these aspects to their respective urban cycles have led them to operate

and continue operating in the metropolitan territory in a direct and instrumental way, transforming the region into an active agent which contains similarities and contrasts, continuities and ruptures. Thus, the metropolitan territory, as well as geographical space in general, is seen here as an active agent in the processes taking place, and by no means a simple consequence of social and economic dynamics.

Some of the topics concerning the history of the transformation of the metropolis of São Paulo are classified here as emerging, however it is implicit that we are not necessarily dealing with merely transitory events, since the situation today has its origin in earlier stages of the structuring of the metropolis. It would be well to recall that the various situations involved have generated a structure that is seen today as *contemporary*. It should also be mentioned that socio-spatial issues, especially those associated with processes of ever increasing precariousness in the metropolitan territory, are presented separately. Each topic is treated in view of the articulation of its two dimensions, like two sides of the same coin, with modernized territory on one side and precariously installed territory on the other.

A well-known report published by the United Nations in 1994⁹⁹ lists a number of megacities and classifies São Paulo as the fourth largest urban agglomeration in the world, behind Tokyo, New York and Mexico City. This report reinforces the phenomenon of the appearance of urban agglomerations of over 10 million inhabitants in various social and economic regions as the most significant feature of the activities and functions that the new economy has made operationally indispensable. However, as is correctly recalled, there is need to define the important distinctions between those metropolises that can be classified as *global cities*, and those referred to as *megacities*. The UN report calls London, New York and Tokyo global cities, meaning key points in the command and control of the worldwide economy. Megacities, on the other hand, which articulate important national economies in the system, include Paris, Madrid and São Paulo.¹⁰⁰

The aspect of *dimension* took on greater importance when it was seen that some of the megacities mentioned in the UN report are recognized as "points of convergence" of the globalized economy, whereas others are huge urban sprawls that are related to the globalized system only as important consumption markets. Therefore, since the issues associated with dimension are generalizable only up to a certain point, other attributes, especially those related to the performance of the metropolises, are distinct in their various contexts and deserve closer attention and analysis.

A number of authors have sought to broaden the consistency of the current theories and indicate directions for the practical application of these two dimensions of the execution, planning and determination of public policies, and have synthesized them into two categories, *plan* and *project*.¹⁰¹ In terms of theoretical and analytic formulation and of political decisions, it is generally held today that urban *plans* and *projects* are equivalent forms of intervention into reality. They are also mutually articulated ways of approaching their subject. Both forms depend directly on the type and degree of knowledge of reality placed at the disposal of those

⁹⁹ United Nations Centre for Human Settlements (UN-Habitat) 1996: 16,1.

¹⁰⁰ Ibid.: 21.

¹⁰¹ Portas, 1998.

responsible for drawing up, executing and administering broad, supra-sectorial urban policies.

This is a crucial point of this approach, since empirical knowledge cannot be produced and published unless it is based on a clearly elaborated theoretical perspective. The inevitable correct and incorrect measures taken can only be verified and revised in the light of theoretical premises. Basically, it should be stressed that the cartography presented in this paper provides information that may be used to sustain the observations and hypotheses set down in the text.

The simultaneous occurrence of reductions in industrial investments, on the one hand, and the growth of the service sector, on the other, has created a new urban panorama for the metropolis of São Paulo. The process that began in the 1980s in São Paulo has many of the same characteristics as those undergone by other large cities, where there are indications of the beginning of a post-industrial phase. However, although the classification is the same, these features are not identical, because their roles in globalized capitalism are different. Also different are their processes and their internal material organizations.

REFERENCES

Borja, Jordi and Castells, Manuel 1997: *Local y Global. La gestion de las ciudades em la era de la información*. Madrid: UNCHS/Taurus.

Castells, Manuel 1999: *A sociedade em rede*. São Paulo: Paz e Terra.

Fundacao João Pinheiro 2001: *Déficit Habitacional no Brasil*. Belo Horizonte: Fundação João Pinheiro, 2001.

IPEA (Instituto de Pesquisa Econômica Aplicada), NESUR (Núcleo Interno de Economia Social Urbano e Regional) - IE (Instituto de Economia) – UNICAMP (Universidade de Campinas), IBGE (Instituto Brasileiro de Geografia e Estatística) 1999: *Caracterização e tendências da rede urbana do Brasil*. Campinas: UNICAMP/IE.

Meyer, Regina M. P., Grostein, Marta Dora and Ciro Biderman 2004: *São Paulo Metrópole*. São Paulo: Edusp/Imprensa Oficial do Estado.

Miralles-Guash, Carme 1997: *Transport i ciutat. Reflexió sobre la Barcelona contemporània*. Barcelona: Universitat Autònoma de Barcelona/Servei Publicacions/Bellaterra.

Portas, Nuno 1998: L'emergenza del progetto urbano, in: *Revista Urbanística*, No.10, June.

State of São Paulo, Secretaria de Estado dos Transportes Metropolitanos 1999: *Pitu 2020: Plano Integrado de Transportes Urbanos para 2020*, São Paulo: STM.

Sola Morales, Manuel 1997: *Las Formas de Crecimiento Urbano*. Cidade: UPC.

UNITED NATIONS CENTRE FOR HUMAN SETTLEMENTS (UN-Habitat) 1996: *An urbanizing World: Global Report on Human Settlements 1996*. Oxford University Press: Oxford.

6. About the Authors

Keith S.O. Beavon is professor and head of the Department of Geography, Geoinformatics and Meteorology at the University of Pretoria. Urban Geography is his current research interest and he has published many studies on Johannesburg. Among the newest publications is his book *Johannesburg. The Making and the Shaping of the City* (2004).

Gerald Chungu is a Zambian architect and researcher living in Shanghai. He teaches interior and urban design at the Lassalle-DongHua University in Shanghai.

Marta Dora Grostein is professor at the Department of History at the Faculty of Architecture and Urbanism/ University of São Paulo. Together with Regina Maria Prosperi Meyer, she is program coordinator within the "Laboratório de Urbanismo da Metrópole" – LUME.

Regina Maria Prosperi Meyer is an architect specialized in Urban Design and Urban Planning. She teaches at the Department of History at the Faculty of Architecture and Urbanism/ University of São Paulo. Through the University of São Paulo/Cebrap convention she is currently researching on the topic "São Paulo Tertiary Metropolis: between post industrial modernization and the territorial legacy of industrialization".

Tapati Mukhopadhyay is reader of geography at Siddarth College of Arts, Science and Commerce in Mumbai. She is author of a book that compares this city with Shanghai: *Shanghai and Mumbai. Sustainability of Development in a Globalizing World* (2001).

Simon Raiser is research fellow at the Institute of Political Science, Free University Berlin and the coordinator of the Global City Regions project. Recent publications include *Public Problems – Private Solutions? Globalizing Cities in the South* (with Klaus Segbers and Krister Volkmann, forthcoming) and a working paper on the globalizing civil society (*Die Globalisierungskritiker: Anatomie einer heterogenen Bewegung*, with Björn Warkalla, 2002),

Krister Volkmann is research fellow at the Institute of Political Science, Free University Berlin. Recent publications include the volume *Public Problems – Private Solutions? Globalizing Cities in the South* (with Klaus Segbers and Simon Raiser, forthcoming), an article on the new role of global cities (*Die neue Rolle der Metropolen*, in: Kleger (ed.) 2001) and a book on the Local Agenda 21 (*Lokale Agenda 21 in Potsdam und Osnabrück*, 2002).