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• *Megacities – Globalisation – Global change – Latin America*

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## **Megacities and Global Change: Case Studies from Latin America**

*Megastädte und globaler Wandel: Fallbeispiele aus Lateinamerika*

With 2 Figures

Currently there are 21 megacities of more than five million inhabitants across the world. By 2020, this category could include 51 agglomerations. In the following sections we present the distribution, causes, manifestations and problems of these densely populated spaces and discuss cases from Latin America. We hope to show that these agglomerations represent an urgent field of action for new urban policy.

### **1. Megacities – a 21st Century Challenge**

We live in an urbanised world. The United Nations estimate that the worldwide urban population now exceeds that of rural areas. Urbanisation is being viewed as a crucial global challenge of the 21st century. Even if the growth dynamics of small and medium-sized cities in many parts of the world are particularly high, it is the megacities of Latin America, Africa and Asia that carry a multitude of problems and an enormous potential for conflict due to their sheer size. The number of megacities around the globe varies, depending on where you set the quantitative threshold. If you count cities of more than five million inhabitants, then the “developing” and

“emerging” countries alone had 21 megacities in 1990, with a total population of approx. 182 million. By 2010, the number of megacities in these countries is expected to have risen to 40, i.e. to have nearly doubled, with more than 392 million inhabitants. By 2020, their number is likely to rise to 51 megacities with 526 million people (*Mertins and Kraas 2008*). While in Latin America the large cities are already growing comparatively slowly (*Borsdorf 2004*), megacity growth is particularly virulent in South, East and South-East Asia. Africa will follow with some delay.

Megacities are a global phenomenon, but, due to the different urbanisation dynamics between the North and the South, megacity growth is predom-

inantly a phenomenon of the “poorer” world (Coy and Kraas 2003). This becomes clear when we look at the dramatic shifts in the ranking of the world’s largest cities: While New York came second behind Tokyo in both 1980 and 1990, by the year 2000, according to UNCHS figures, it had fallen back to fifth place and is probably going to come only seventh by 2010. At the same time, Lagos, which had first entered the list of the 30 biggest cities of the world in 1990, and then straight into 21st place, had by the year 2000 climbed to the rank of sixth-largest city and is set to reach third place by 2010, behind Tokyo and Mumbai and ahead of São Paulo and Mexico City. In contrast to the mega-urban agglomerations of the South, many megacities of the North (e.g. New York, Los Angeles, Tokyo, London or Paris) also deserve to be called “global cities”. These are cities with a special status, not just because of their size but also, according to *Saskia Sassen* and others, because of their special functions as “global hubs” within the global urban and economic system (cf. *Scholz* 2002 etc.). Inclusion in this “exclusive club” of the global cities has not been uncontroversial for any of the megacities of the South, but there are several candidates, including Singapore, Mumbai, São Paulo, Mexico City and some of the Chinese megacities.

What unites the megacities of the South and makes them a priority field of research and action in global terms is their unresolved problem of control and governance. It boils down to uncontrolled city growth as a global phenomenon on the one hand and the demand for controlled city development in the sense of “good urban governance” on the other hand. As a result of their dynamics and internal structure, the megacities of the South share a particularly high potential for ecological as well as socio-economic risk (cf. *Kraas* 2003; *Münchener Rück* 2005). This risk potential is closely linked to the various facets and dimensions of Global Change. Megacities certainly deserve the label of major future “risk hotspots”. This raises

questions about the opportunities for and limits of control and development of these megacities in terms of sustainability. In their specific local differentiation, they will be strongly influenced by the tension between global impacts on local development and the opportunities for implementing location-specific responses.

## 2. Megacities and Global Change

In debates about “Global Change” discussants often mean predominantly *global environmental change*, i.e. climate change, deforestation, loss of biodiversity, erosion and desertification, contamination of soils, rivers and the world’s oceans and other aspects of anthropogenic change of natural systems. This, however, is just one side of the coin. Global Change also includes shifts within the social, economic, political or cultural spheres, which can be felt across the world and which are debated under the heading of “globalisation”. Most of all, Global Change is about the causal relationships and interdependencies between globally observable changes of the natural and the social systems (*Johnston et al.* 2002). Humans and their actions are always involved as major drivers in all facets of change. Public and political debate, however, swings wildly between these two dimensions of Global Change: while climate warming dominated discussions yesterday, the focus now is on the international economic and financial crisis.

This raises two key research questions. Where do megacities stand in this Global Change? How are they affected in their development by global changes in natural and social systems and how do they contribute to changes around the world? Megacities should thus be seen as both “theatres” (maybe even “victims”) and “motors” of change (*Kraas and Nitschke* 2006). We need to investigate both perspectives to grasp the ambivalent interdependencies and consider both ecological and socioeconomic risks.

The potential impact of environmental change (in the sense of ecological change) can affect the development of megacities directly and indirectly. Let us mention a few examples of such risks. The majority of megacities is situated on a coast and would be massively affected by a rise in sea levels. Many city administrations are already discussing such scenarios. Droughts, floods, desertification, soil degradation and the environmental and resource conflicts that these disasters trigger are also push factors which will continue to cause people to leave their rural home regions in search of a better future in the megacities. Do we have to see megacities as havens for environmental refugees and victims of possible future climate wars?

Megacities are highly vulnerable towards a plethora of natural disasters (earthquakes, fires, storms etc.) that might change in frequency and volume in the context of global climate change (cf. Münchener Rück 2005). We can assume that global environmental changes will have an effect on the local resources on which megacities depend, particularly on drinking water. Global environmental change may also contribute to a change in the pathogenesis and spread of (new) diseases. The case of SARS in Asia a few years ago has highlighted the special role that megacities as global hubs may play in the spread of new diseases (Münchener Rück 2005).

Megacities contribute to global environmental change. Pollution of water, air and soil is particularly high in mega-urban agglomerations because of the extreme concentration of people, utterly overloaded infrastructures and inadequate or lacking basic provision of urban hygiene. CO<sub>2</sub> emissions per head and year are significantly higher in many megacities (e.g. Peking 253 kg/head/year) than the respective values for entire countries (Belgium: 101 kg/head/year; cf. *Kraas and Nitschke* 2006: 20). The uncontrolled sprawl of many megacities seals ever larger areas of soil surface, contributes to the destruction of sensitive ecosystems (e.g. mangroves) and eventually forces

more and more people to settle in ecologically endangered areas (e.g. river banks or slopes).

These briefly sketched scenarios of the interdependencies between global environmental change and the development of megacities cannot be understood without considering the socio-economic changes and the political framework typical of megacities. Income relations, lifestyles and consumption patterns are related to levels of resource consumption. Megacities are places where the manifold interdependencies between economic, political, social and cultural globalisation processes and their effects are felt locally in many ways (*Fig. 1*). As major production sites and markets, megacities are of great economic significance for their respective countries. In this role, megacities have increasingly attracted the interest of economic global players, whose range of action and agency have greatly expanded with globalisation. Transnational corporations are not only active in industrial production but also increasingly in the business service sector which is very dynamic in some megacities. This makes many megacities more vulnerable to global economic and financial crises. And megacities as symbolic culmination points of globalisation are attracting the attention of international terrorism, both in the northern and in the southern hemisphere, as witnessed by the terrorist attacks in New York (September 2001) and Mumbai (November 2008).

Neoliberalism as the dominant ideology of the age of globalisation has been instrumental in the breakthrough of the principles of deregulation, flexibility and privatisation. Against this background, urban policy everywhere, and also in megacities, is moving towards a more market-oriented control of urban development. This means a shift in the constellations of urban policy actors. In many places, the private actors gain in influence at the expense of public authorities when it comes to the control and concrete design of urban development. Here, interdependencies with globalisation also make themselves felt, as the real estate mar-

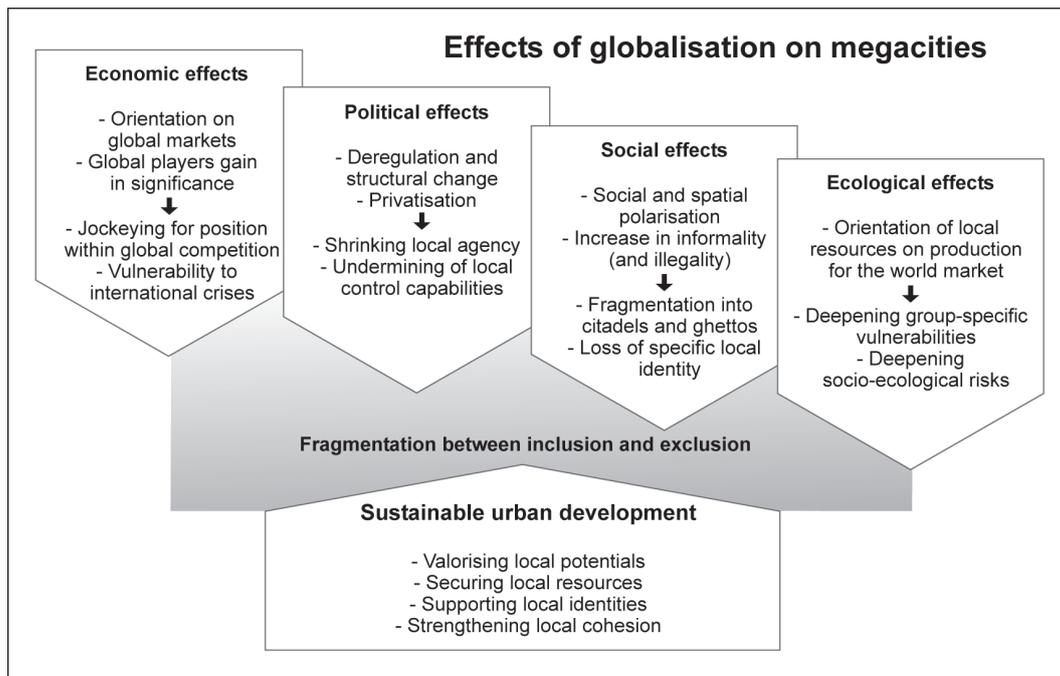


Fig. 1 Effects of globalisation on megacities (design: *Martin Coy*)

*Auswirkungen der Globalisierung auf Megastädte (Entwurf: Martin Coy)*

ket of the fast growing megacities becomes an increasingly interesting business opportunity for globally acting real estate agents, planners and architects as well as builders and developers (for São Paulo see *Fix* 2007 and *Coy* 2007). New verticalised office areas, shopping centres and hypermarkets<sup>1</sup> in inner cities and on the periphery, islands of inner-city revitalisation, large waterfront projects and gated residential areas of the privileged are their high-yield fields of operation and increasingly determined by globally exchangeable concepts and shapes. Global models of urban governance, public-private partnerships or, most recently, the establishment of “business improvement districts” based on North-American models, provide a suitable framework.

Formal city expansion is thus increasingly oriented towards private capital investment interests and

the status notions, security needs and lifestyle requirements of cash-rich groups of actors and creates globally exchangeable networked urban fragments. Social aspects like the “right to the city for everyone” fall by the wayside, a process which intensifies the social and socio-spatial polarisation in megacities and makes itself felt in a growth of conflicts of interest, everyday violence and fear. The megacity becomes a “phobopolis” (*de Souza* 2008). In an informal effort of city production, socioeconomically excluded actors appropriate spaces not otherwise usable: marginal areas, abandoned buildings, degraded quarters, but also public space. The informal city, which often holds over 50 % of the total megacity population (*Davis* 2007), thus creates places of social reproduction and economic survival that are also linked in networks and organised according to institutional rules beyond those of the formal city.

Processes of inclusion and exclusion are causing uneven availability of spatial resources and uneven agency for the actors and with it socially differentiated vulnerabilities vis-à-vis the risks of Global Change and similarly differentiated coping strategies. These are the theoretical and conceptual coordinates for positioning megacities within the “world risk society” (Beck 2007).

Places of inclusion and exclusion in megacities often form a small-scale mosaic of fragmentation (Scholz 2006), which we now want to present in the case of a Latin-American city. Faced with such centrifugal tendencies of fragmented urban development, public authorities are challenged with finding new and adapted forms of regulation that consider the city as a whole. The international debate on the future of megacities contains many ecologically and socially compatible visions and even implementation concepts for urban development (cf. for instance Coy and Zirkl 2001). More and more planners and local politicians have begun to include terms such as sustainability and participation in their discourse on a regular basis, which can be read as a sign for cautious optimism. The key questions remains, however, how to achieve substantive improvements in the living conditions of all inhabitants against the background of Global Change with its often adverse framework for urban agency.

Some years ago, Scholz presented a theory of “fragmenting development” (Scholz 2002). It visualises space in the age of globalisation as divided into three fragments. In the “global space” we find the global players among the megacities, which can be defined as the locations of the headquarters of transnational corporations and institutions. These include New York, London and Tokyo. Many megacities belong to the second category, i.e. that of “globalised space”. These include international banking centres, often offshore, such as Singapore and Hong Kong, tourist centres like Bangkok, mass production clusters like the Pearl River Delta, agricultural produc-

tion centres (like Bogotá with its flower production), high-tech centres like Taipei and agglomerations of the informal sector (as in many other megacities). The third spatial category is made up of the marginalised rest, the “sea of poverty” which can be found in nearly all megacities.

The sheer demographic weight of megacities with their enormous population densities means that strategies of sustainable development must start there, and once started, soon become very effective. This is also imperative because risks accumulate in megacities, which may give rise to dangers but also to opportunities. Many such agglomerations are prone to georisks (such as earth- and seaquakes, volcano eruptions, tsunamis, mass movements, erosion and denudation), climate risks (such as floods, droughts, water scarcity) as well as environmental risks (such as air and water pollution, soil contamination). As globalised locations they are also open to numerous economic risks (such as boom-bust cycles, sales problems, labour disputes etc.) as well as social and political risks (such as habitat problems, human rights, unrest, terrorisms, civil war). These risks may be minimised by the introduction of sustainable development strategies to stabilise the environment, strengthen the economy and support social coherence.

There is still much research to be done in this field, but a global theory is unlikely to provide many answers. Sustainable strategies must always be tailored to the regional particularities. The key research questions are:

- What strategies are possible for developing the megacities in a more sustainable manner?
- What are the risks for each individual megacity?
- How can these be minimised in such a way that opportunities emerge from them?
- What options do megacities have for controlling their growth?

Below we present cases of the processes at work in Latin-American megacities.

### 3. The Case of Latin America: From Bipolar to Fragmented City

What are the typical features of the structural change in Latin-American cities under conditions of Global Change? One striking aspect is the shift from the large-scale bipolarity between “rich” and “poor” city towards an intricate pattern of rich and poor cells within the city area. “Islands of the rich” are forming within “seas of poverty” (Janoschka 2002). The contrast between rich and poor is emphasized by high walls, fences and heavily guarded entrances to the individual districts, which, if we continue the metaphor, are meant to protect the safe territories of the rich from the spring floods of the poor. At the same time, functional cells such as supermarkets, malls and retail centres as well as office blocks are abandoning their orientation towards the “rich city” and seem to spring up without any discernible pattern across the entire city area. This makes fragmentation the key feature of recent urban development (Fig. 2).

Such fragmentation is coupled with a deepening exclusion not only of the higher social strata. The trend of privatising public space, introduced by the fortification of residential areas with security installations, has long reached the districts of the middle classes, the lower classes (including social housing) and even of marginal classes. Previously public roads are closed, existing districts are fenced in, new residential areas are established almost exclusively as *barrios cerrados*.

The terms for such walled residential areas vary from country to country (cf. Borsdorf 2000). Usually we speak of *barrio cerrado* if we mean residential estates of more than two units, separated from the rest of the world by a fence or wall and equipped with additional security installa-

tions. These walled districts can reach the size of a town. Below we call such large units “walled cities” (*ciudades valladas*).

These transformations clearly go hand in hand with the spread of globalised forms of architecture and infrastructure. The architectural design vocabulary has not only taken shape as high-rise buildings, the residential buildings in the *barrios cerrados* too are often designed in Texan, Californian, English or Dutch style. Of course, these styles are not copied one-to-one but as a globalised postmodern and eclectic mix of quite diverse stylistic elements that can be found in many recently built areas across the world. The architecture of the “cathedrals of shopping” is also globalised, whether as malls, shopping or retail centres. The same is true for the design of the business parks that are increasingly taking over the old industrial areas.

### 4. The Transformation Process

The structural urban change sketched here is part of a comprehensive transformation that started in some Latin-American countries in the 1970s and has held the entire continent in its grip for over two decades. This transformation has political, economic and demographic elements. At its core is a decisive turn away from the doctrine of forcing development through industrialisation to substitute imports, i.e. a turn away from an internal orientation. In the intervening years, the Latin-American countries have opened themselves to the world market. While the national economies have coped with this change in different ways more or less well, it has opened the door to the forces of globalisation in economic and social terms.

Despite differing analyses, the profound transformation that globalisation has brought for society as a whole can also be read off demographic indicators. It has not only speeded up the demographic transition (cf. Bähr 1997), as can be seen in fall-

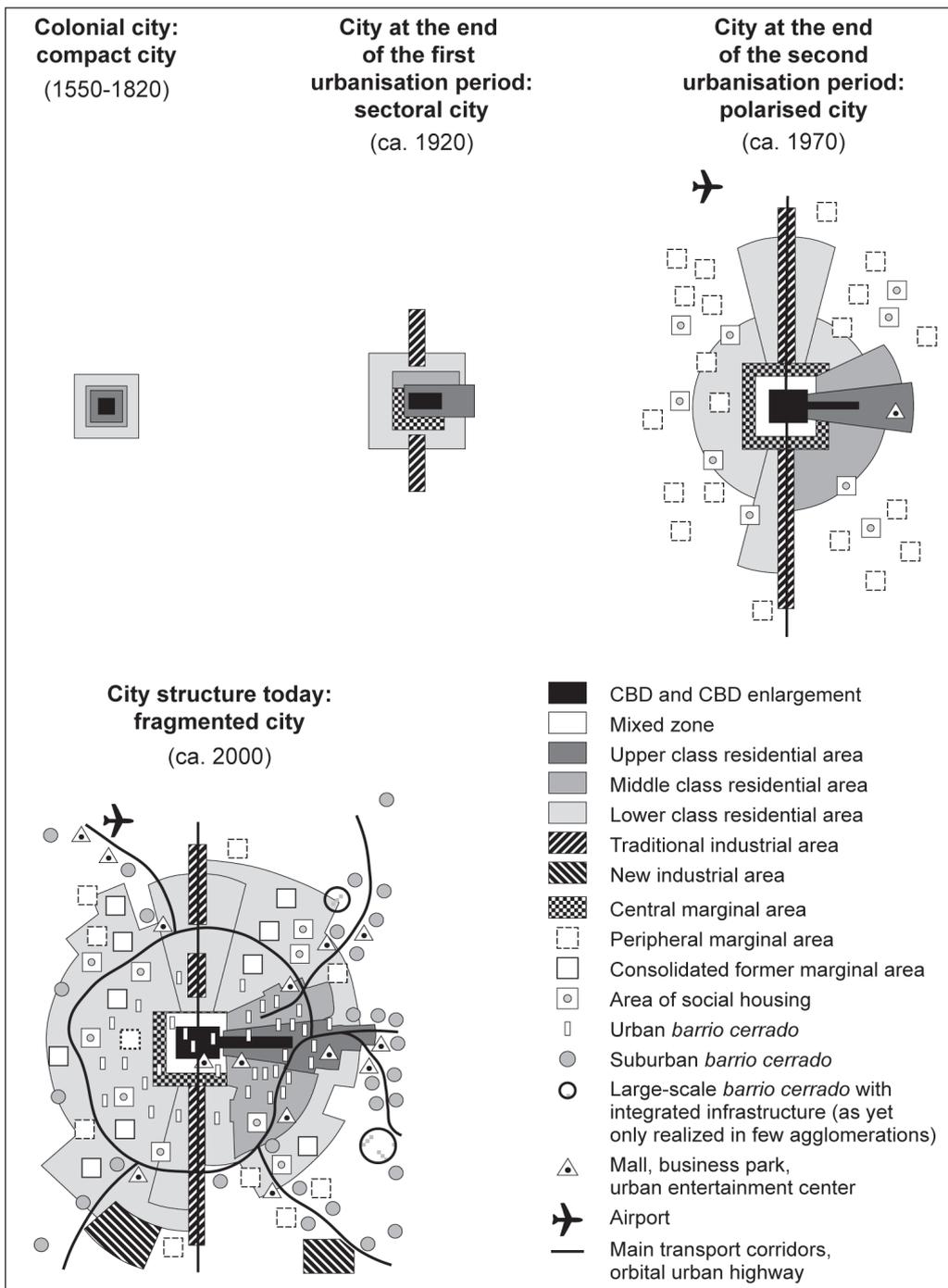


Fig. 2 Model of Latin-American urban development (after Borsdorf et al. 2002)  
 Modell der lateinamerikanischen Stadtentwicklung (nach Borsdorf et al. 2002)

ing population growth rates across the board, mobility patterns too have changed significantly. The rural exodus, a key feature of population development in the highly urbanised cultural sphere of Latin America, has begun to decline sharply. Instead, some countries are already experiencing instances of exodus from the cities and amenity migration. Often the large cities are growing more slowly than the population as a whole (Borsdorf 2004 and Parnreiter 2004).

### **5. The Urban Archipelago: Islands of the Rich in a Sea of Poverty**

All of this leaves its mark on the urban structure. The cities do not grow so much in terms of population as in terms of area. In some countries the demographic and economic significance and dominance of the “primate cities” is declining<sup>2</sup>. The skyline changes. A typical sign is the almost random distribution of high-rise buildings across the city, marking the severe fragmentation of the urban organism. In recent decades, some slums have experienced a consolidation process. The former shacks have made room for buildings made of firmer materials (often a concrete skeleton structure with brick walls). The streets are paved, provision and disposal infrastructure, education establishments, retail and diverse service units have been added. Often the former marginal areas look quite “spruced up” today. The marginal districts in central locations, dating from the first half of the 20<sup>th</sup> century, are being “revitalised” or razed now, sometimes against vociferous but ultimately unsuccessful opposition from their inhabitants.

The most striking feature of cities in Latin America today are the walled residential areas. Walls, fences, watchtowers and central access gates now dominate urban development. Their legal status, location factors, their distribution across the city and their sizes have been variously documented and categorised (Coy and Pöhler 2002, Borsdorf 2000). We distinguish two basic types: *barrios cerrados hori-*

*zontales* (with single family homes) and *barrios cerrados verticales* with apartment blocks.

It is striking that only a small part of the *barrios cerrados* corresponds to the image prototype for such estates as the lifestyle community of the super-rich. In Mexico City, for instance, only 16 % of these districts can be classified as upper-class. If you add the 15 % of upper-middle-class estates, you still have less than a third of all walled estates occupied by the upper social classes. 61 % of such estates are inhabited by the middle classes and 8 % were created as part of social housing<sup>3</sup>. Often, new gated residential areas are oriented towards modern retail centres and spring up near malls, shopping centres and non-integrated agglomerations of specialist stores. The fragmentation that comes with these developments is further emphasised by the emergence of office and business parks as well as new industrial areas.

### **6. Privatising Public Space**

Another element of fragmentation in Latin-American cities is the allocation trends of functional spatial units. This can be clearly shown in the case of retailing. In some cities, the city centre has regained terrain lost through renovation, traffic calming and other upgrading measures (such as retail galleries, arcades, refurbishment of underground stations)<sup>4</sup>. Taking urban retail locations as a whole, however, even the best case scenarios are of little significance. While the early shopping centres and malls clearly situated themselves with a view to the new residential areas of the upper classes, today the choice of location is much less oriented on social space. Even so, the poorer sections of the population remain largely excluded, even without authoritarian-style coercive measures, because you normally need a car to reach the shopping centres. Good access by private car has become a decisive location factor that has made previous location factors obsolete. This is not only true for the choice of residential area and the visits to shopping and

leisure establishments, but also for the allocation of work places for the upper classes. For some time now, high-class services have no longer been concentrated solely in the central districts of a city. Even the trend of locating them in the traditional upper-class districts is much less dominant than it was 20 or 30 years ago.

### 7. Walls all Round – or the End of the Latin-American City?

The closed urban estates that have sprung up in recent years in some Latin-American cities greatly exceed the usual size of a *barrio cerrado* and are called “walled cities” or *ciudades valladas*. Such estates often have 50,000 or more inhabitants. *Alphaville* in São Paulo was the first of these settlements, followed by *Nordelta* in Buenos Aires (Coy and Pöhler 2002, Janoschka 2002). By now such megaprojects have even been started in Santiago, *Piedra Roja* and *Valle Norte* for the upper classes and *Larapinta* and *Valle Grande* for the lower middle class (Borsdorf and Hidalgo 2005).

If we apply Bobek’s criteria of a city to the new *ciudades valladas*, they only fulfil those of density and size (Bobek 1927). As purely residential ghettos they are monofunctional, any services offered in there are only directed at the inhabitants themselves because people from outside do not have access. Under such conditions, no surplus of significance can develop. Activities of the secondary sector are not permitted and “urban life” does not develop or only in a rudimentary fashion, it is often even considered disruptive. Communal installations are hardly used, particularly in the upper-class *barrios cerrados*. People there prefer to remain exclusive and “amongst themselves”. All this is more equivalent to a rural aristocratic lifestyle than an urban one and advertisements for these estates describe and depict them as rural idylls. This message remains central even in the leaflets for the very densely built-up estates of the lower middle class.

What the large estates of more than 50,000 inhabitants significantly lack is the normal social mix of a city. Not only is the income structure rather narrowly tailored to the targeted group of house buyers, but the range of professions found there is also quite limited. The high entry-level prices of the houses or flats prevent any kind of social mix and it may be assumed that in future, similar to developments in the US, mobility will be horizontal rather than vertical, i.e. if you rise socially you move into a new and fitting residential area.

Borsdorf and Hidalgo (2005) have therefore called the *ciudades valladas* the “antithesis of a city”, because in them individuality has priority over citizenship, rural idyll over city life and exclusion over inclusion. By abrogating important city functions such as access and public use of streets, shops, schools and other services, the new developments turn out to be a counter model to the traditional city. It remains to be seen whether they can be viable in the longer term. In Latin America there is a saying that the rich cannot live without the poor on whose (lower) services they depend.

### Notes

<sup>1</sup> By “hypermarket” we understand large supermarkets, mostly on greenfield sites, with a comprehensive choice of mainly food products. We distinguish supermarkets (300 m<sup>2</sup> retail space and more), hypermarkets (5000 m<sup>2</sup> retail space and more), shopping centres (without or with only one anchor store, without a plaza), malls (with plaza and several anchor stores) and non-integrated retail centres (with several anchor stores, but not under one roof).

<sup>2</sup> Primate cities are agglomerations with several times the number of inhabitants of the next city in size. In Latin America, nearly all states (with the exception of Brazil, Columbia and Ecuador) have a clear primate-city urban system.

<sup>3</sup> Percentages taken from Kanitscheider 2004 and our own studies.

<sup>4</sup> As happens for instance in São Paulo (see Coy 2007).

## 7. References

- Bähr, J.* 1997: Bevölkerungsgeographie. – Stuttgart
- Beck, U.* 2007: Weltrisikogesellschaft. Auf der Suche nach der verlorenen Sicherheit. – Frankfurt a.M.
- Bobek, H.* 1927: Grundfragen der Stadtgeographie. – Geographischer Anzeiger **28** (7): 213-224
- Borsdorf, A.* 2000: Condomínios von Santiago de Chile als Beispiele sozialräumlicher Segregationstendenzen von Ober- und Mittelschicht in lateinamerikanischen Städten. – Peripherie. Zeitschrift für Politik und Ökonomie in der Dritten Welt **20** (80): 25-40
- Borsdorf, A.* 2004: Landflucht als Teil der Mobilitätstransformation. Das Beispiel Lateinamerika. – Praxis Geographie **34** (7-8): 9-14
- Borsdorf, A.* und *R. Hidalgo* 2005: Städtebauliche Megaprojekte im Umland lateinamerikanischer Metropolen – eine Antithese zur Stadt? – Geographische Rundschau **57** (10): 30-39
- Borsdorf, A., J. Bähr* und *M. Janoschka* 2002: Die Dynamik stadtstrukturellen Wandels in Lateinamerika im Modell der lateinamerikanischen Stadt. – Geographica Helvetica **57** (4): 300-310
- Bronger, D.* 2004: Metropolen – Megastädte – Global Cities. Die Metropolisierung der Erde. – Darmstadt
- Coy, M.* 2007: Innenstadtentwicklung und Innenstadterneuerung in São Paulo – Akteure, Wahrnehmungen, Interessenkonflikte. – In: *Rothfuß, E.* und *W. Gamerith* (Hrsg.): Stadtwelten in den Americas. – Passauer Schriften zur Geographie **23**: 57-69
- Coy, M.* und *F. Kraas* 2003: Probleme der Urbanisierung in den Entwicklungsländern. – Petermanns Geographische Mitteilungen **147** (1): 32-41
- Coy, M.* und *M. Pöhler* 2002: Condomínios fechados und die Fragmentierung der brasilianischen Stadt. Typen, Akteure, Folgewirkungen. – Geographica Helvetica **57** (4): 264-277
- Coy, M.* und *F. Zirkl* 2001: Handlungsfelder und Lösungsansätze nachhaltiger Stadtentwicklung in der Dritten Welt. Beispiele aus Brasilien. – Petermanns Geographische Mitteilungen **145** (5): 74-83
- Davis, M.* 2007: Planet der Slums. – Berlin
- de Souza, M.J.L.* 2008: Fobópole. O medo generalizado e a militarização da questão urbana. – Rio de Janeiro
- Fix, M.* 2007: São Paulo cidade global. Fundamentos financeiros de uma miragem. – São Paulo
- Janoschka, M.* 2002: Wohlstand hinter Mauern. Private Urbanisierungen in Buenos Aires. – ISR-Forschungsberichte **28**. – Wien
- Johnston, R.J., P.J. Tylor* and *M.J. Watts* (eds.) 2002: Geographies of Global Change. Remapping the World. – Oxford
- Kanitscheider, S.* 2002: Condomínios und fraccionamientos cerrados in Mexiko-Stadt. Sozialräumliche Segregation am Beispiel abgesperrter Wohnviertel. – Geographica Helvetica **57** (4): 253-263
- Kraas, F.* 2003: Megacities as Global Risk Areas. – Petermanns Geographische Mitteilungen **147** (4): 6-15
- Kraas, F.* und *U. Nitschke* 2006: Megastädte als Motoren globalen Wandels. Neue Herausforderungen weltweiter Urbanisierung. – In: Internationale Politik **61** (11): 18-29
- Mertins, G.* und *F. Kraas* 2008: Megastädte in Entwicklungsländern. – Vulnerabilität, Informalität, Regier- und Steuerbarkeit. – Geographische Rundschau **60** (11): 4-10
- Münchener Rück (Hrsg.) 2005: Megastädte – Megarisiken. – Trends und Herausforderungen für Versicherung und Risikomanagement. – München
- Parnreiter, C.* 2004: Entwicklungstendenzen lateinamerikanischer Metropolen im Zeitalter der Globalisierung. – Mitteilungen der Österreichischen Geographischen Gesellschaft **146**: 1-28
- Sassen, S.* 1996: Metropolen des Weltmarktes. Die neue Rolle der Global Cities. – Frankfurt a. M., New York
- Scholz, F.* 2002: Die Theorie der „fragmentierenden Entwicklung“. – Geographische Rundschau **54** (10): 6-11
- Scholz, F.* 2006: Entwicklungsländer. Entwicklungspolitische Grundlagen und regionale Beispiele. – Braunschweig
- Summary: Megacities and Global Change. Case Studies from Latin America*
- Megacities are a global phenomenon, but, due to the different urbanisation dynamics between the

North and the South, megacity growth is predominantly a phenomenon of the “poorer” world. What unites the megacities of the South and makes them a priority field of research and action in global terms is their unresolved problem of control and governance. It boils down to uncontrolled city growth as a global phenomenon on the one hand and the demand for controlled city development in the sense of “good urban governance” on the other hand. As a result of their dynamics and internal structure, the megacities of the South share a particularly high potential for ecological as well as socio-economic risk. This risk potential is closely linked to the various facets and dimensions of Global Change. Megacities certainly deserve the label of major future “risk hotspots”. The drivers of global change are climate and environmental change on the one hand and globalisation in the economic, cultural and political dimension on the other hand. The article refers to how megacities of the South (as victims and motors of global change) are affected in their development by global changes in natural and social systems. To a certain degree megacities are vulnerable to climate change, which may limit their provision with drinking water and energy and may increase problems of air and water pollution, but also may affect them by morphodynamics, heavy precipitations and inundations. However, because of the demographic agglomeration they are also vulnerable with regard to health, social coherence, economic problems, overload of infrastructure and inadequate or even lacking provision of urban hygiene. In this contribution the authors not only analyse the effects of change on a global level on megacities but also describe the effects of one change element, namely globalisation, in more detail, exemplified by Latin American megacities. It is obvious that globalisation has enormous consequences on urban fabric and structure. The polarised structure, formed in former periods, is more and more superposed by processes of social and spatial fragmentation which also opens a new dimension of socio-spatial segregation. Megacities in Latin America nowadays may be regarded as an urban archipelago in which islands of the rich and of global actors are located in a sea of poverty. Public space is more and more privatised: Closed streets, walled communities and fenced cities are only accessible to their inhabitants and

heavily protected by safeguards, security and monitoring systems. Malls, service centres and business parks are fragments in the urban fabric which are safeguarded in a similar manner. The development of large gated areas or even gated cities raises the question whether these new elements of megacities may indicate the end of the urban lifestyle which used to characterise Latin American cities for centuries and perhaps more than in other parts of the world.

*Zusammenfassung: Megastädte und Globaler Wandel. Fallbeispiele aus Lateinamerika*

Die Entwicklung von Megastädten ist ein globales Phänomen, aber aufgrund der unterschiedlichen Verstädterungsdynamik zwischen dem Norden und dem Süden unserer Welt ist das überdimensionale Städtewachstum vor allem ein Problem in den Entwicklungsländern. Gemeinsam sind den Megastädten des Südens ihre Probleme von Kontrolle, Steuerung und Governance, die daher zunehmend zu einem prioritären Forschungsfeld werden. Auf der einen Seite steht das Problem unkontrollierten Städtewachstums, auf der anderen Seite das Bedürfnis nach Steuerungsinstrumenten und „guter städtischer Governance“. Als Ergebnis von städtischer Struktur und Dynamik haben die Megastädte des Südens ein hohes ökologisches und sozio-ökonomisches Risikopotential. Dieses ist eng mit den verschiedenen Facetten und Dimensionen des Globalen Wandels verbunden. Megastädte verdienen in diesem Sinn das Prädikat von “Risiko-Hotspots“. Die treibenden Kräfte des globalen Wandels sind auf der einen Seite die Klimaveränderungen und ihre Folgen für die Ökosysteme, auf der anderen Seite die Globalisierung in ihren ökonomischen, kulturellen und politischen Spielarten. Der vorliegende Artikel zeigt auf, wie die Megastädte des Südens (sowohl als „Opfer“ als auch als Motoren des Wandels) in ihrer Entwicklung durch den globalen Wandel in ihren natürlichen und sozialen Systemen beeinflusst werden. Sie sind zu einem erheblichen Grad verwundbar, und dies sowohl in Reaktion auf den Klimawandel, der ihre Versorgung mit Trinkwasser und Energie einschränken kann, als auch in Bezug auf die Beschleunigung morphodynamischer Prozesse, Starkniederschlagsereignisse und Über-

schwemmungen. Darüber hinaus sind sie allein schon wegen ihre Bevölkerungszahl und -dichte verwundbar, und dies in Bezug auf Gesundheit, das Sozialsystem oder ökonomische Rückschläge, auf die überlastete Infrastruktur oder die mangelnde Hygiene. In ihrem Beitrag analysieren die Autoren nicht nur die Wirkungen des globalen Wandels auf Megastädte weltweit, sondern beschreiben die Effekte – mit Fokus auf der Globalisierung – am Beispiel lateinamerikanischer Megastädte. Die Globalisierung hat enorme Folgen für das Stadtbild und die Stadtstruktur. Heute wird die frühere Polarisierung zwischen einer „reichen“ und einer „armen Stadt“ immer mehr von neuen sozial und räumlich fragmentierten Strukturen überlagert und überformt. Lateinamerikanische Megastädte gleichen heute immer mehr einem urbanen Archipel, in denen sich Inseln der Reichen und Inseln der globalisierten Welt in einem Meer der Armen befinden. In diesen Städten werden mehr und mehr früher öffentliche Räume jetzt privatisiert: Abgezäunte Straßen, Stadtviertel und ganze neue Satellitenstädte am Rand der Agglomerationen sind nur noch für ihre Bewohner zugänglich, werden rund um die Uhr von Sicherheitskräften bewacht und sind mit raffinierten Sicherheits- und Kontrollsystemen ausgestattet. Malls, Dienstleistungs-Cluster und Business Parks sind neue Fragmente in diesem Stadtsystem und in ähnlicher Weise bewacht. Die Entstehung solcher großer ummauerter Areale führt zur Frage, ob sie nicht Anzeichen des Verlustes von Urbanität sind, einem Lebensstil, der gerade die lateinamerikanischen Städte früher in besonderer Weise auszeichnete.

*Résumé: Les mégalo-poles et le changement global. Études de cas en Amérique latine*

Le développement des mégalo-poles est un phénomène global. Pourtant, la croissance accélérée des grandes métropoles est surtout un problème des pays en voie de développement à cause des dynamiques d'urbanisation différenciées entre l'hémisphère Nord et l'hémisphère Sud. Des problèmes de contrôle, de commande et de gouvernance sont en commun dans les mégalo-poles du Sud et se transforment, par conséquence, en objets prioritaires de recherche. D'un côté s'observe le problème de la

croissance urbaine incontrôlée, de l'autre côté la nécessité d'instruments de commande et d'une « bonne gouvernance urbaine ». Un haut potentiel de risques écologiques et socio-économiques résulte de la structure et de la dynamique dans les mégalo-poles du Sud. Ce potentiel de risques s'articule avec les différentes facettes et dimensions de la transformation globale. Dans ce sens, les mégalo-poles méritent le prédict d'être « hotspots » de risques. Les forces motrices de la transformation globale sont d'un côté les changements climatiques et leurs conséquences pour les écosystèmes, et de l'autre côté la globalisation dans ses variantes économiques, culturelles et politiques. Le présent article démontre l'influence de la transformation globale sur le développement des mégalo-poles – entendues non seulement comme victimes mais encore comme moteurs de la transformation globale – dans leurs systèmes naturels et sociaux. Elles sont extrêmement vulnérables: d'abord, en ce qui concerne la réaction aux changements climatiques qui peuvent affecter son approvisionnement avec de l'eau potable et de l'énergie, et, ensuite, en ce qui concerne l'accélération des procès morpho-dynamiques, des précipitations fortes et des inondations. En plus, les mégalo-poles sont vulnérables à cause du nombre et de la densité de la population, concernant la santé, les systèmes sociaux, les infrastructures surchargées ou encore l'hygiène insuffisante. Dans cette contribution, les auteurs analysent non seulement les effets de la transformation globale sur les mégalo-poles à l'échelle mondiale, mais ils détaillent les conséquences – en focalisant sur la globalisation – à l'exemple des mégalo-poles latino-américaines. Évidemment, la globalisation a des énormes implications pour la physionomie et la structure urbaines. Aujourd'hui, l'ancienne polarisation entre une ville « riche » et une ville « pauvre » est de plus en plus superposée et bouleversée par des structures fragmentées en sens social et spatial. Les mégalo-poles latino-américaines ressemblent de plus en plus un « archipel urbain », ou on trouve des îles des riches et les îles d'un monde globalisé, encastré dans une mer de pauvreté. L'espace public est, de plus en plus, transformé en espace privé: Des rues fermées, des quartiers et villes nouvelles entières au bord des agglomérations sont seulement accessibles pour ses habitants, surveillés 24 heures sur 24

par des services de sécurité, et sont munis avec des systèmes de contrôle sophistiqués. Des centres commerciaux, des nouveaux clusters de services et des *business parks* forment d'autres nouveaux fragments dans ce système urbain, surveillés de la même manière. La formation de tels grands espaces entourés de murs mène à la question si ces nouveaux espaces n'indiquent pas la perte d'urbanité, un style de vie qui a été, pendant beaucoup de temps, caractéristique pour les villes latino-américaines.

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