

URBAN PLANNING:  
CHALLENGES IN DEVELOPING COUNTRIES

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We're just passing one of the great milestones in human history. It is fundamental, in the sense that the Industrial Revolution in Britain was fundamental. For the first time in history, a majority of the world's six billion people are living in cities. Between 2000 and 2025, the world's urban population will double. (Sir Peter Hall, 2005)

The advent of 2007 marks the year when, for the first time in the history of humanity, half the world's population will be living in cities. Urban populations are expected to increase by 1.5 billion over the next 20 years, while the number of megacities will double. By 2015 the UN predicts that there will be 358 "million cities" with one million or more people and 27 "mega-cities" with ten million or more. Much of this growth will happen in developing countries.

The scale and pace of urbanization is opening up unforeseen possibilities. Large concentrations of people and goods provide increased opportunities for creativity, larger labor markets, and higher levels of productivity, not to speak of the cultural and political opportunities associated with urban life. Urban explosion also poses daunting challenges. It can result in unemployment and insufficient investment in basic services with the resulting environmental and social problems.

This paper discusses some of the challenges associated with urbanization in developing countries. It uses examples from industrialized countries to extract useful insights. We begin by discussing how globalization impacts city management and continue with five specific aspects of urban growth: Metropolitan management, urban growth and environmental impact, urban development in disaster-prone sites, Property rights vs. public appropriation, and urban development added value and institutional strengthening. We conclude by summarizing the future challenges of urban planning/management in developing countries.

## Role of Cities as Economic and Technological Nodes

Cities are gaining a new presence in both academic and public policy circles. The last UK report on Regional and City Growth as well as considerable consultancy work point out the crucial role of cities as hubs of economic and technical innovation. "Cities matter because the productivity benefits they provide to knowledge-intensive business are important for regional and national prosperity" (HM Treasury, Office of the Prime Minister, 2006). The lessons extracted from successful cases of city revival in Europe and city growth in China illustrate the importance of human capital and creativity for cities to compete in a global market and help national economies to maintain their competitive edge. This awareness is closely associated with the ongoing structural changes in most emerging economies which in turn point to the importance of services and creativity-intensive activities in place of traditional manufacturing activities.

*Underlying trends:* It is well accepted that economic growth will increasingly come from the strength of innovative activities instead of factor accumulation as in the past (Yusuf and Nabeshima, 2004). Recent research suggests that such innovative activities are concentrated in high-tech clusters in globally-linked cities. This happens in a context of well defined economic trends: First, as the share of the rural sector in GDP goes down, urban activities take the lead in the growth process. Second, the urban sector is increasingly dominated by service activities that account for more than 75% of GDP in selected countries. Third, the fastest components of the urban service activities include business and creative industries with high value added. Fourth, a steady decline in transport costs and a shift towards light-high value products makes obsolete the notion that spatial economic efficiency is based on dispersed urban systems and location close to natural resources. That is, concentration is considered especially efficient in a time of globalization.

*The forces at work:* Globalization and the emergence of the tertiary economy have raised the profile of cities in development, especially as innovation and foreign investment are attracted by the agglomeration economies offered by well managed large cities. This extraordinary openness and participation in the global economy was one of the results of the end of the Cold War (Victor Sit, 2001). Since the 1990s many countries have created favorable conditions to attract foreign direct investment, notably through bilateral (and multilateral) agreements as well as through simplification of procedures and liberalization of such industries as telecommunication, broadcasting, energy, tourism, and major urban infrastructure services such as water supply, transportation, and education.

The exponential flow of FDI has brought both capital and technology to developing countries. It generally finances infrastructure projects and services concentrated in key cities. These projects will enhance the producer services of these cities, making them more competitive in the global economy, and strengthening their functions as hubs of

technology and information. This has been the particular case in China, Korea and other Asian countries where cities play a key role, in terms of liberalization and links with other cities. Large port cities tend to be the ideal choice for export-oriented activities, import substitution, and even services and tourism.

It is expected that globalization in production and consumption as well as FDI will continue impacting the developing world, pushing its major cities into global mega cities. The East Asia Region has shown that large opportunities do exist in producer services in the core city, notably in finance, insurance, accounting, hotels and tourism facilities, airports, infrastructure such as regional optical fiber, labor, and labor-intensive productive activities. These opportunities have been increased by regional cooperation which tends to soften the constraints of the local economy. Sit (2001) identifies three trends for the near future. First, the most successful cities will serve as the gateways of their nations' drive toward modernization, driving on modern infrastructure and technology. Second, FDI will continue to push for improved services, forcing industries to move as they look for low cost bases for their production processes. Third, the links between liberalization, globalization and FDI will favor continuing growth of metropolitan and connected centers.

In the developing world, cities will compete among themselves, regardless of size and hierarchy, to become regional centers in attracting FDI and high tech industries. This trend is likely to spread from East Asia to cities in South America, South Asia and Africa (rapidly catching up). Cities will be looking for high-quality investments and at FDI as a way to upgrade the skills of their populations. To be successful they need to do three sets of actions: improve business environments and city management, develop adequate infrastructure which may include "super-infrastructure", and market the city's image through "visible" projects and business facilitation<sup>23</sup>.

*The Secret of Successful Cities: Lessons from Europe* – What makes cities attractive for business? According to *European Cities Monitor* produced by Cushman & Wakefield Healey & Baker (2004)<sup>4</sup> five cities have commanded the ranking of Best European Cities since 1990: London, Paris, Frankfurt, Brussels and Amsterdam. In 2004, Barcelona and Madrid rose to the 6<sup>th</sup> and 7<sup>th</sup> place, respectively. Which factors explain this consistent preference? The answer seems to be: *access to markets, communications, and availability of qualified staff*. Public transport is the service most valued. Cost factors (mainly labor) come next. London has

maintained first place in the last 15 years due to availability of qualified staff, access to markets and international transport links, telecommunications, availability of office space, internal transport, and languages spoken. In other categories, Warsaw is top for cost of staff and value for money in offices, Dublin ranks first for the climate created by the government, Barcelona for quality of life, and Stockholm for freedom from pollution. Barcelona and London are the most effective cities at self-promotion. Barcelona and Madrid are considered the cities that most improved themselves as business locations.

Looking into the near future, European firms are concerned about and will adapt to trends in Asian countries, as well as the enlargement of the European Union and the performance of the US economy. European firms will not be reluctant to move their operations. In the last 3 years, a quarter of European firms have already moved either within Europe or elsewhere (e.g. India) and another 15% will relocate within the next two years as competition will drive firms to look for lower-cost sites. However, there is a consensus that London and Paris will remain at the top of the location list for big firms; London as the financial capital of Europe; Paris as the best place for expositions and conferences.

*Lessons for developing countries:* As mentioned before, three factors will be key in ensuring city competitiveness: transport, technology, and business climate. The question is, how will developing countries be able to cope with the multitude of demands on their very limited resources? Peter Hall (2005) divides developing cities in two groups – poor cities that grow at the cost of informality and cities that can cope with dynamic growth. The first group includes the cities where the urban economy can not keep pace with the growth of the population. High birth rates and continued migration from the countryside result in large surpluses of unskilled labour. Many of the urban migrants may have been pushed off the land (rather than attracted by the cities), by famine or civil war. They go into the only work they can find, in the informal economy: casual work and petty trading.

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<sup>2</sup> This competition is evident between Hong Kong and Singapore in terms of port facilities and between Chinese cities in building large airports

<sup>3</sup> Sit (2001) summarizes the factors explaining the new competitiveness across cities: nodality, density, efficiency, logistics, access and connectivity.

<sup>4</sup> The report contains the answers of the Senior Executives from 500 European companies

In this group of cities, the formal sector is too weak and often struggling to simply survive, especially in the case of local firms. These cities can't compete for many reasons, including lack of education and skills, poor infrastructure, lack of access to credit and failure to access global markets. These cities lack a formal economic base and the great majority of people lives in informal slums and survive in the informal economy. Their struggle for survival has a dire impact on the urban environment, e.g. cutting trees for firewood or drinking polluted water. Without skills and transport they are condemned to remain out of the mainstream of the society.

The public sector itself is weak. Since physical infrastructure costs no less in developing than in industrialized countries, substantial financial resources must be found to finance major infrastructural investments. But because the bulk of their citizens are poor, and most municipal revenue is generated locally, developing country cities have a very low revenue base. Per capita city annual revenue averages \$13.20 in Nairobi, \$2.60 in Lagos, \$17.10 in Delhi, \$27.70 in Dhaka, \$31 in Abidjan; \$24 in Guatemala City. These sums make it difficult to keep up with population growth much less to invest in attracting new business<sup>5</sup>.

While the situation is close to despair, Hall discusses ways to help. The first would be a decline in the birth rate, which means more resources for basic education and especially education for the girls. The second is to draw from the technology advances that will allow poor cities (and citizens) to get access to mobile-phones, Internet and to the outside world for culture and business purposes. The third would be to progressively formalize the informal economy. Cities can do this by strengthening of relationships with the mainstream

economy. Examples include schemes to provide micro credit, provision of building materials and food and water, as well as better transportation to help people gain access to jobs. They can best achieve this through communal self-help neighborhood projects, backed up by informal levies to pay for materials, which can help overcome bottlenecks in basic infrastructure. Microcredit schemes -- providing tiny loans so people can start their own businesses -- will (as recognized by the recent award of a Nobel Prize) play a particularly crucial role (Hall, 2005).

*The not so poor developing cities* that can actually ride the globalization wave paint a more optimistic picture. Population growth there is expected to fall sharply and dependency ratios are declining. The shift from informal to formal economy is under way, and many cities are attractive for inward investment because they offer a relatively well-educated and well-trained labour force at lower wages than in developed cities. In addition, economic growth is generating big domestic markets for consumer durables like cars, refrigerators and personal computers. China is the outstanding case here, following on a bigger scale the example set previously by "tiger economies" like Singapore, Hong Kong or South Korea. Other successful cities are showing progress in other continents.

Cities in this group confront the dynamism of rapid transition. In some cases it seems that the several different stages of economic development are happening at the same time. We can see often downtown business districts with modern buildings and factories and informal slum settlements where the people struggle to make a subsistence living. These cities often look as if they're simultaneously first world cities and third world cities (Bombay, Sao Paulo). One result of this fast development is that they have become highly polarised, showing great contrasts of wealth and poverty (e.g. South Africa and Brazil). Crime and violence have become major problems. The wealthy tend to live in gated communities; the poor tend to be confined to marginalized homes built on unstable hillsides or on floodplains or located far from job opportunities, with minimal or non-existent bus services, compounded by traffic congestion, etc. Social inclusion with increasing job opportunities then becomes an overriding objective, as important as (and vital to) improving business climate to attract new businesses.

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<sup>5</sup> According to UN-HABITAT, the average per capita revenue received by municipalities was \$15.2 in Africa; \$248 in Asia; \$252 in Latin America and \$2,760 in OECD countries.

## Managing the Metropolitan Phenomenon

Urban growth (due to agglomeration economies and associated labor and population attraction) inevitably leads to the configuration of large urban structures which need coordination in terms of service delivery, public investment, fiscal policies, political representation and accountability. Metropolitan governance is the natural output of this evolution. It is naturally a complex task. According to Jordi Borja (2001) "metropolitan space is a perfect illustration of complexity... a space of variable geometry; we do not know where it starts and where it ends, and even less, how it will be in 10 to 20 years. The territory is an outcome of action, an outcome of a strategy."

Two concepts of metropolitan governance are often discussed. The first is the *physical arrangement* of the localities around a major urban center, including the planning of infrastructure, especially transport and housing, and the forecast of how and where this region will expand. South America's large metropolises like São Paulo, Rio de Janeiro, Belo Horizonte, Buenos Aires and Lima all face the problem of major decline in their urban centers while the urban peripheries have not grown sufficiently to generate jobs for the overall increasing urban population. China is the exception. By imposing serious constraints into city migration, China has been able to smooth out the growth of its major metropolises, promoting the development of ring centers that eventually will result in a balanced metropolitan structure.

The second idea is the *strategic planning* developed where the region or space is seen as a dynamic entity shaped by the vision and desires of the different units that form the metropolitan space. The Barcelona, New York, and Recife Metropolitan Regions have showcased important metropolitan strategic plans.

As is the case in many other typologies, this dichotomy between strategic and physical metropolitan planning may not be very useful for policy purposes as both are an integral part of managing today's metropolis and planning for future ones. A pragmatic approach is suggested by Webster (2005). Metropolitan governance around the globe varies according to key characteristics. For example, metropolitan governance in the USA gives a major role to civil society and civic organizations as core agents in management of metropolitan space. In East Asia, the focus is put on *fiscal* considerations and arrangements (e.g. Tokyo). In Canada, the metropolitan issues revolve around service delivery and incorporation of the disadvantaged groups into mainstream society. In Europe, the main question is how to integrate urban *physical* structure and transportation systems to achieve energy, environmental and aesthetic objectives and to integrate *metropolitan* systems into European-wide economic and transportation/logistics systems. Economic development is key in many US metropolitan systems (e.g. Chicago and Phoenix) as well as in Britain (London, Glasgow).

There are several metropolitan bodies as well. Tokyo has the model of a single amalgamated city; Bangkok and Toronto are single cities with loose coordination by a senior body (the province). Vancouver and French municipalities use special districts that deliver one or more services to the whole metropolitan region, while retaining autonomous local governments for political and administrative purposes. London, Seoul, and Brazil (prior to 1988) are examples of strong metropolitan governments which co-exist with lower tier governments.

*Regional Planning Authorities* are probably the agencies which are better equipped to help with the physical and strategic plan of the metropolitan space. The US experiences show a strong participation of local governments and civil society. In Silicon Valley, Chicago and New York, civil society organizations totally drive metropolitan governance. The oldest association – the Regional Planning Association formed between New York, New Jersey and Connecticut in 1926 – illustrates the dynamics of metropolitan governance in the US. The first strategic plan prepared in 1928 focused mainly on the long-term spatial vision for the region in the next ten years. It correctly identified transportation and open space as the main structural elements for the whole Region in the near future (Webster 2005). The second plan was produced in 1968. It focused on the need to rehabilitate the transport system, reinvigorate the urban centers, create highly dense urban centers and invest massively in mass transportation. The third plan in 1996 addressed the extremely severe fiscal problems that were affecting the Region in the 1990s. Since November 11, the Regional Planning Authority (RPA) has been involved in the redevelopment of downtown Manhattan and the strengthening of disadvantaged communities such as East Harlem.

The Chicago Metropolis 2020 is a similar case. The plan was prepared with the representation of business, labor, civic and government organizations. The issues at hand included low-density sprawl, spatial mismatch between jobs affordable housing and transportation. In South America, similar experiences are found in the Strategic Metropolitan

Plan prepared for Recife and the ongoing Strategic Metropolitan plan for Belo Horizonte. Both are being conceived with intense contribution from the private sector and business concerns.

*Regional Districts* are similar to regional planning authorities. The best example is the Greater Vancouver Regional District (GVRD). GVRD started as special district in charge of sewage management in the greater Vancouver area and gradually expanded to include visioning, infrastructure financing, marketing for the city, and raising new revenues. In 1990, the strategic plan -- Creating our Future: Steps to a more livable City -- was released, leading Vancouver to be classified as the most livable city in the world. GVRD comprises four

major utility districts, including university, water and sanitation, housing and a special transport utility district. Its success is explained by the autonomy enjoyed by local entities and the intermediation function that GVRD performs between municipalities and the provincial government.

*Special districts* are flexible forms of metropolitan governance, focused on service delivery. They have been adopted by many countries given their flexibility and easy co-existence with local governments. Water and transport in metropolitan areas are often managed by these structures. The East Bay Municipal Utility District in San Francisco which started to coordinate delivery of solid waste and sewerage and absorbed other services over time is a good example of special districts. There are 35,000 special districts in the United States (compared with less than 15,000 twenty years ago). In Brazil, after 20 years without Metropolitan authorities, the government has approved the "Law of Consorcia" which establishes the conditions for municipal associations. This will be the basis for the constitution of special districts in Brazil.

*European systems* emphasize the physical aspect of the metropolitan space and stress the role of the national government and national agencies. Civil society has a lesser role (except for advocacy groups). The exception is London, with the Great London Authority (GLA), focused on strategic planning and economic development rather than transport or physical shape. GLA is responsible for all the analytical work. In the USA, civil society takes care of this function.

According to Roura and Guell (2006) the main problem faced by the developing metropolitan regions of the world is the difficulty to remain competitive in a globalized world. To this end, there is a need to: finance infrastructure and equipment; pay attention to the metropolitan economic basis; improve the supply of metropolitan services (land, technology, infrastructure); attract demand for the metropolitan space; develop a marketing plan; improve the management of the whole region; involve civic partners. In terms of particular strategic planning, there are some lessons. First, due to the complex and dynamic nature of metropoli, metropolitan management needs to be both visionary and flexible to respond to new circumstances and preferences. The territorial plans produced by Curitiba and Bogotá correspond to visionary solutions for a rapidly growing area. They provide the backbone for organized growth of the metropolitan tissue while maintaining enough flexibility to accommodate new factors. Second, there is no need to amalgamate local jurisdictions, for this will encounter natural resistances for a small return in efficiency. Toronto's last amalgamation is still being discussed in terms of costs and benefits. The Strategy for the Recife Metropolitan region was the product of a genuine exercise in which the different localities planned their own strategy while bearing in mind the whole metropolitan region. Third, use services that are naturally prone to benefit from economies of scale to promote the concept of special districts. Use the leverage of central government finance to push for improved metropolitan governance -- e.g. in Atlanta metropolitan region, the fastest metropolitan region in the world, benefited from the pressure of the central government to prepare and agree on a transport plan to integrate and serve the whole area. Fourth, ensure direct involvement of civil society in metropolitan government and give more emphasis to partnerships, both between public and private sector and across jurisdictions.

## Growth of the Ecological Footprint In Third World Cities

William Rees and Mathis Wackernagel (1995) defined a city's ecological footprint as "the area of productive land and aquatic ecosystems required to produce the resources used, and to assimilate the wastes produced, by a defined population at a specified material standard of living." This sharp concept is extremely useful to raise awareness about the possible negative impact of growth and urbanization in ecological balance. The numbers presented by Rees (1996) were striking. London's ecological footprint is 125 times its surface area; Vancouver's,

174 times. Netherlands and Japan, used as good examples of environmental consciousness for developing nations run massive ecological deficits with the rest of the planet. If the world population were to live at current North American ecological standards (about 4.5 hectares per person), the total productive land requirement would be 26 billion hectares, or three times the 8.8 billion which are ecologically productive land.

This alarming picture is the result of consumption patterns heavily dependent on energy and renewable resources. Ecological footprints are expected to grow with development -- in Santiago, Chile the ecological footprint of the highest income quintile is 16 times greater than that of the lowest quintile (Wachenagel 1998) and with globalization, cities become dependent on distant sources of food and energy as consumption increases.

What can and should be done? The main methodological question in this argument is the impact of technological progress in the ecological footprint as technology would soften the constraints of a limited land or ecosystem. There is serious debate on the impact of technological innovation in terms of net use of energy and land as well as on the carrying capacity of urban settlements.

Regardless the result of the debate, developing countries can reduce or contain the impact of urbanization in the ecological footprint along three lines: save resources; avoid sprawl and low densification, promote reduced emission of green houses. In fact, while developing cities make an "ecological imprint" less far-reaching than in developed countries, due to their lower level of consumption of energy, they exert a powerful influence in terms of the brown agenda, solid waste and air pollution. Jakarta is an example of a large city that casts an ecological shadow over an extensive area (Pacione, 2005) with serious water pollution, unnecessary degradation of prime agricultural land, loss of natural forest and original vegetation.

*Saving Water:* Water is key to urban life. Many cities have been built around rivers and part of their infrastructure is to channel wastewater and rainwater away from the city. While availability of clean water has had a tremendous impact in human lives, the drive for water has taken a toll on the ecological footprint (O'Meara, 2001), often leading to the destruction of fragile ecosystems, reducing the water available for crops. When water is whisked away from cities, less water infiltrates the soil to recharge underground supplies. Roads also prevent water from seeping into the ground; rain run off onto pavement may accentuate the severity of floods.

The major solution to the above problem is to save water. Unlike energy, water has yet to become a major target for efficiency gains. Many developing cities under-price water resources, fail to maintain the distribution systems (leakages represent 45% of water production in Manila), and neglect the potential of preserving drinking-water sources and of using low cost methods of wastewater treatment. Metropolitan Boston has avoided the expense of diverting two larger rivers to increase supply of water by repairing leaky pipes, installing water saving fixtures and educating everyone from schoolchildren to plant managers. Tokyo has been successful in using rainwater. Conservation and protection of land and watersheds save in filtration systems.

In terms of waste, cities have the potential to shift from being repositories of waste to great sources of raw materials. Local governments can provide incentives for recycling composting and waste-based industries. Organic waste is a valuable resource; composting is being encouraged by industrialized countries. Composting can also boost urban food security by enriching city gardens.

*Structural changes in Urban Form:* Planners and economists agree that one of the most needed paradigm shifts in the developing world is the need to halt urban sprawl and to increase urban density. This will have a dramatic impact in reducing ecological footprint – Ligman (2001) estimates that densification would

reduce the ecological footprint by as much as 40 percent. Angel (2005) shows that urbanization in the last 20 years has occurred with low densification which has translated into greater demand for land and corresponding infrastructure. He suggests that at the present patterns of urban growth, land demand will increase 150% faster than the population. That is, while the urban population is expected to double in the next 30 years, the demand for land will triple. This represents not only a fantastic burden on already limited city budgets but a scary picture for an already overwhelmed environment.

Do we have instruments to increase densification? Do they work in developing countries? Creative densification methods have now been adopted in most European countries, and in many North American ones. Vancouver is probably the most advanced in establishing the goal of eliminating car traffic in the city within two decades. In developing countries, the choices are more difficult. With limited planning tools and resources, informality tends to be the answer for the urbanization. Informality is by definition low density leading to continual spread of poor cities and increased financial burdens in cities trying to provide trunk infrastructure. At the city level, the instrument includes regulations and incentives that push developers to build on vacant land within the city rather than outlying green. Innovative experiences are occurring in Ecuador and Honduras where governments try to anticipate urban growth and position the private sector to work with the newcomers in establishing more adequate solutions.

*Cities and Climate Change:* While not included in the definition of ecological footprint, climate change is a major preoccupation for national and city governments alike. Average temperatures in this century are expected to rise between 1.4° C and 5.8° C . Global warming impacts the biosphere in two ways: the progressive rise in sea level and the increased intensity and frequency of climatic episodes, leading to natural disasters. A recent analysis of great natural catastrophes since 1960 shows an increase in the 1990s by a factor of three and this seems to be directly correlated with global warming. Economic losses adjusted for inflation rose by a factor of nine<sup>6</sup> (Bigio, A. 2005). Cities need to adjust to this situation and improve the defenses against disaster; they can also contribute to the fight against greenhouse gas emissions.

Cities can contribute to the mitigation of global greenhouse gas (GHG) emissions by reducing the volume of CO<sub>2</sub>, methane and other gases that they release. The direct sources of global emissions include energy generation, vehicle use, industrial and point-source use of fossil fuels, and burning of biomass. Indirect sources include electrical energy. Interventions that impact emissions abatement while generating revenues for developing cities include (a) improved building materials and energy efficiency that reduce energy requirements for heating and lighting (b) transport demand management to reduce the total volume of CO<sub>2</sub> emissions of vehicles; (c) methane recuperation from landfills and cleaner energy generation -- switching power plants from coal to natural gas, thereby promoting the use of gas and clean energy sources.

*Carbon emissions trade:* The commitment of some industrialized countries to reduce their national global emissions in the future and the relatively lower costs of GHG emissions reductions in developing countries provides the rationale for international carbon emissions trading. This represents an opportunity for "win-win" investments in cities in developing countries provided that the projects financed have sound local *and* global objectives. The Global Environment Facility (GEF) was set up as the financial mechanism to assist developing and transitional countries dealing with these challenges. The potential for trade of Carbon Emission Reduction (CER) certificates is an additional step to encourage the trading of emissions between developing economies on one side, and industrialized countries on the other, providing a true market mechanism to prevent further expansion of the ecological footprint of cities.

## Urban Development in Areas Subject To Natural Hazards

Rainstorms, hurricanes, earthquakes, and other weather phenomena can exact a devastating toll on property, human welfare, natural resources, and the economies of developing countries. More than 95% of all deaths caused by disasters occur in developing countries. Among the factors that most contribute to the damage inflicted during a hazard event is the location of infrastructure and housing developments as well as how they are constructed, and how land use affects the natural environment. Low-income populations are disproportionately affected by natural hazards, as natural resource use associated with poverty can exacerbate existing vulnerabilities, and poorly planned development can turn recurring natural phenomena into human and economic disasters. Allowing dense populations on a floodplain or permitting poor or un-enforced building codes in earthquake zones is as likely as a natural event to cause casualties and losses.

The absence of long-term strategic planning coupled with lack of resources (fiscal and physical) has led to "wild" sprawl and urban growth, despite the existence of central and local laws attempting to prevent urban settlement in conditions that increase the risk of landslides and other natural disasters. In developed countries, most of these issues are avoided with such mechanisms as urban planning, zoning, building codes and insurance. In the developing world,

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<sup>6</sup> Munich Re., Press Release of March 15, 1999, p. 1.



few of these processes are in place or are respected, and the lack of adequate response from the local governments to urbanization causes slum growth in precarious areas.

At the country level, the emphasis has been on shifting from particular events to a holistic approach to disaster management. Disaster prevention (including the treatment of families in sensitive areas or prevention measures against occupation) has been mainstreamed into national policies that include: (a) *Institutional strengthening* of local and national disaster management groups, training of disaster management officials, support for institutionalizing building codes and land use planning, and the development of internal competencies to identify and mitigate risks; (b) *Risk identification* or an understanding of existing vulnerabilities, including their location and severity. This is based on hazard data collection and mapping, vulnerability assessments, risk assessments and post-disaster assessments. (c) *Risk reduction* activities are designed to mitigate damage from hazard events. They can take the form of retrofitting, strengthening and relocation. Activities to reduce future vulnerabilities typically include the development and enforcement of building standards, environmental protection measures, land use planning that recognizes hazard zones, resource management practices, etc.

*Risk transfer* is a clever alternative when it is not possible to completely eliminate the vulnerability of key assets. In many cases, critical components of a nation's infrastructure can remain at risk. Insurance mechanisms are used to transfer risks that cannot be mitigated through structural or ex-ante damage reduction measures, and against events that have the potential to cause large economic losses. These include standard insurance and reinsurance contracts as well as the creation of contingency funds to build economic and fiscal resilience in the face of natural hazards.

The aim of these measures is to identify and reduce vulnerability before disasters occur. Risks are identified via mapping, technical studies and participatory workshops. Risk reduction entails financing vulnerability reduction investments and mainstreaming non-structural interventions such as enforceable building codes and land use planning techniques into municipal norms, standards and planning processes. Countries helped by International Financial Institutions (e.g. World Bank) are beginning to use risk transfer mechanisms including a catastrophic insurance and risk pooling mechanism to shield governments and their populations from events that have the potential to cause large economic losses.

New approaches have been tried in Dominican Republic, Guyana and Honduras which emphasize the training and equipping of disaster emergency response committees at local level, the design and installation of hydro-meteorological information systems to provide a national early warning system for floods, risk reduction programs in the country's 60 most vulnerable municipalities, assessment of vulnerable buildings and settlements, and retrofitting of public buildings (e.g. schools and community centers). The results of these efforts have been evident in the past year's hurricane season which had a minimum impact. However, total prevention of deaths due to land slides will not occur until cities can provide affordable housing or progressive solutions for low-income groups arriving to the city.

## Property Rights Vs. Public Appropriation and Urban Development Added Value

Public appropriation of private ground (or land procurement) for public uses is an essential step in many urban projects and is often difficult and costly in terms of time, money, and political capital. In addition, land procurement frequently involves the resettlement of existing tenants and owners of businesses and residences. Public appropriation and land procurement for public use is often the center of heated debates, surrounding (a) attempts to value land at market prices to compensate owners for public takings (there are important schools of thought regarding the appropriation of land with extra value accruing from urbanization, and the fact that this extra value is public by nature as it is the consequence of a public investment); (b) compensation of owners with shares in the re-adjusted and revalued land or with building rights in other parts of the city; (c) complications arising for the public to procure land, in particular with regard to legitimate changes in land use. The complications are greater in the case of public/social lands like *ejidos* in Mexico and communal land in Africa. Underlying these debates is the important question of the impact of urbanization on land prices and the adequate compensation for the initial owner, who may have obtained important capital gains from pure appreciation of the surrounding areas.

The notion that value accruing to land from public improvements should be credited to the government is a traditional economic concept. The underlying philosophy is that when government intervenes in a certain location and

promotes public investment in the name of the community, the resulting increase in land value should go back to the community (directly or indirectly through public improvements) rather than accruing solely to the private owner of the piece of land. In several countries (including Brazil and Colombia) not only the philosophic concept is well understood but instruments have been included in local and central government laws. The proceeding of such appropriations would be of great value to finance new urbanized land, help regulate land use, constrain land speculation, and promote redistribution of income and wealth.

In many developing countries the application of land value capture is incipient and could be expanded with considerable benefits in terms of land policy and municipal finance. The process includes the estimation of the impact of a project on the value of benefited land, the identification and design of the tools that will be used to capture that additional value, and the decision of how to allocate those extra revenues –e.g., to specific urban works, urban upgrading, urban amenities, etc. The usual tools include urban property tax, betterment levy (widely used in Latin America to finance local improvements), sale of building rights (to allow development above and beyond the limits imposed by zoning laws, and public sale of improved lots, ideal for large projects that include expropriation). The latter is often applied in the case of large infrastructure projects, such as underground mass transport (metros) and business sectors – which lead to important increases in land values. It includes land expropriation at pre-project prices and sale of new plots at market prices. For large operations, including the acquisition of properties for conservation purposes or green areas, redesign of roads and streets, installation of new public amenities and other infrastructure, local governments can capture the value of these

amenities through direct sale of construction rights or through the sale of titles -- Transfer of Development Rights (TDR). In Brazil, TDRs are traded and valued by the national stock exchange.

### The Use of Transfer of Development Rights

Transfer Development Rights can be effective in cases where expropriations precede the construction of public services at local scale (schools, parts) and the municipality can sell the building potential of that area. Local urban planning rules need to accommodate the definition of areas earmarked for construction originating from land subject to expropriation for public purposes. In the case of the approval of *Operações Urbanas Consorciadas* in Brazil, the Law authorizes the issue of Certificates of Additional Construction Potential (CEPACs) by a given municipality which will define the number of CEPACs to be auctioned or used directly for payment of the works. The CEPACs, regulated in 2003 by the CVM (Stock Exchange), are bonds negotiated freely on the market with the resources deposited in a Caixa Econômica Federal (Brazilian state-owned bank) account. The scheme can be divided into different sectors, for which a table of equivalence of additional construction square meters or change of use and urbanistic parameters is drafted.

São Paulo municipality has made an excellent use of these tools as documented by Rebelo (2006). The municipality has been able to capture the value of land benefited from public works associated with the Metro to invest in the urban equipment of socially degraded areas in the neighborhood. In the case of Colombia, "*Operación Nuevo USME*" combines the production of urbanized sites at a large scale, using expropriation, additional floor space, and management by the public sector. The final sites are sold at half the price of what families would pay in the informal market for a plot without services.

### Institutional Strengthening In Third World Cities

Institutional strengthening is occurring in the developing world. Massive amounts of assistance and energy have been deployed to help local governments, and over the last 20 years great improvements have occurred. Local governments are obtaining more responsibility, are better equipped to deal with investment planning and budgeting, and can often engage in long-term planning with the collaboration of their constituencies. Particularly interesting developments have taken place at different levels. First, the availability of Internet has improved connectivity of local governments to one another, to the outside world and to their own constituencies. Increased connectivity has improved the capacity of civil society to monitor the governance of their elected officials while reaching out and discovering best practices. Second, there is been remarkable improvement in terms of fiscal management, decentralization and

accountability. The Fiscal Responsibility Law in Brazil (followed by Argentina), which strictly regulates inter-governmental borrowing, generated international interest and proved that subnational fiscal responsibility can be a reality. Third, the number of well-run cities has increased. Curitiba is no longer the only example. In Mexico alone there are 15 Municipal Planning Institutes that were created following the case of Curitiba. Several municipal and urban institutes have been created in South Asia and Africa to promote the accreditation of municipal officers and to avoid the disruption caused by changes in the elected officials. Bogotá has followed the success of Curitiba metropolitan planning and created the Transmillenium – an upgraded version of the Curitiba plan. Indian and African institutions are being formed to systematically address the institutional needs of local governments.

Fourth, local governments have raised their voices. In most countries social funds (independent from local governments) are falling from grace. Community driven development strategies continue to be strong in the rural environment. Fifth, a major victory was achieved with the unification of all local government representatives

(United Cities and Local Governments, UCLG) to push the urban and local government agenda and defend their interests in a unified way. Finally, important innovations occurred in terms of participatory budgeting, e-governance (democratizing information and facilitating transactions for citizens), credit ratings (after a poor start in the mid 90's they are being used from India to Brazil and Mexico and could flourish in the future), and certification of competencies for municipal officers in charge of key positions such as treasury, finance and planning.

Within developing countries the methods to strengthen capacity have also changed and become more professional. Urban audits and contract programs are routinely used in West Africa to understand the major problems of municipal administration. The diagnoses range from simple accounting mechanisms to provision of services and collection of taxes. It provides a blue print for local governments to monitor progress in different areas. In India, some states have adopted a universal policy of accreditation for municipal officers. A program developed by local universities, World Bank Institute (WBI) and customers has been adopted to provide local officials with the basic instruction to understand the challenges of municipal governance.

Local governments have also become more demanding. They are concerned with such issues as (a) security and safety; (b) governance (how to break the low level equilibrium trap of low revenue, lack of trust due to corruption, lack of payment for services); (c) modernization of local public administration systems (financial, land cadastre, human resources, etc.); (d) capacity building (urban local governments recognize the need to have capable staff who can deliver local services and carry out effective local administration); (e) How to build effective civic participation which does not undermine already weak local representative democracies; and (f) Addressing urban poverty (mayors are keenly aware that if they do not address extreme urban poverty they will not be able to deliver on other issues).

While we believe that improvements have occurred, the situation is still far from ideal. Four sets of factors need attention: (a) the role of the central government in committing to appropriate fiscal framework to give local governments incentives for fiscal responsibility, in terms of spending and planning tax and transfer revenue; (b) insistence by mature municipal management that local investment be on-budget and part of an expenditure plan rather than made through ad-hoc assistance arrangements or special extra budgetary funds; (c) integration of accountability to the local population and a voice for citizens into mainstream practice and policy; (d) encouragement to improve collaboration around neighboring municipal jurisdictions to address large spatial externalities such as solid waste disposal and public transport management.

Progress in decentralization and governance structures is visible. Decentralization of fiscal responsibilities and service delivery is spreading around the world. This is not always good news, however. Many countries tend to decentralize provision of service delivery ahead of tax power, leading to predictable fiscal disasters at the local level. Many local governments in Africa face this problem. On the one hand, most of their tax revenues are passed to the central government with limited redistribution. On the other hand, central governments tend to leave local governments facing the bulk of the expenditures without much help.

## Future Challenges of Urban Planning and Urban Management in Third World Cities

The secret for successful, competitive cities will be that key cities position themselves as hubs of technological excellence that can serve the domestic or regional market. The recent report on East Asia produced by the World Bank<sup>7</sup> is quite clear in outlining the need to address the two principal forces affecting urbanization, i.e. development of secondary cities and connectivity. It seems that the “secret of successful cities” is a good fiscal base, vision, and good management. In developed countries, the more cities invest in amenities and basic infrastructure the more they attract investment and private activities, which in turn feed accelerated city growth. In the Third World the situation is more complex as rapid urbanization faces lack of resources, insufficient infrastructure, and often brutal changes in social and political structures. Cities and their mayors have to “juggle” the desperate needs for basic infrastructure to attract private investment, and the basic services needed for the growing numbers of urban poor.

In the developing world, cities are growing much more rapidly than in developed countries. Basic challenges of urban growth involve the expansion and management of services, the collection and allocation of sufficient revenues to create infrastructure and to operate services in an adequate fashion, and the creation of a coherent planning framework for the city so that increasingly diverse populations can live together civilly and productively. In addition, especially needed is the establishment of an institutional structure that both represents the constitutive parts of the growing city while at the same time generating adequate authority to govern effectively. These are not easy tasks even for developed countries; but they are much more challenging for cities in developing countries where the majority of the population is very poor, and public resources are, as a result, extremely limited.

The Third World will continue to see increasing rates of urbanization, and cities will continue to experience the stress of facing increased demands to provide infrastructure and create jobs without much of the needed resources and/or capacity. The main challenges include (a) the need to keep urban planning and management flexible and ready to adapt to new developments in the economic or social front; (b) getting the best possible technical analysis; (c) pushing the agenda of excellence; (d) thinking big and long-term; (e) looking at the big picture – overall competitiveness, labor market, environmental quality, and standing as regards capital and human capital; (f) engaging the private sector; (g) understanding and discussion with community leaders of how much limited-resource local governments can offer; (h) establishing contracts vertically with the central government and horizontally with other municipalities.

The near future of globalization and urbanization will bring enormous challenges as well as opportunities to both developed and developing countries. According to Douglass (2005) development is likely to be polarized in a limited number of urban regions. That is, while convergence of production and income may happen across countries, divergence is likely to occur within each country as globalization will bring a concentration of activity to a few sites. Furthermore, we will see the emergence of mega-urban regions with the development of world cities and links among them. Additionally, we will see the formation of transborder regions, the development of international corridors, and significance of international networking.

To prepare for these challenges, local governments need to follow some basic principles:

- Promote arrangements to improve delivery of services, e.g. incentives for multi-jurisdictional agreements with low-cost solutions and adequately priced services;
- Decentralize legal authority to the local level;
  
- Devise policies to deal with rural land conversion and losses of farmland – urban expansion and densification is probably the most important and urgent issue facing the urban planner. At the height of urbanization, green belts and usual concepts of urban limits will not work. Pro-active allocation of sites for “densified” occupation would be the best solution to avoid those disastrous urbanization patterns which would never be able to achieve adequate infrastructure, access to jobs, or environmental sustainability;

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<sup>7</sup> An East Asia Renaissance – Ideas for Growth, World Bank, 2006

- Take advantage of the private sector. Developing countries tend to have a very active and mobile private sector. Developers and slum occupants belong to the same class of private dealers. The notion that the public sector is best equipped to deal with increased urbanization is not altogether accurate;
- Minimize the accompanying environmental deterioration;
- Increase the income of the local governments -- many developing countries neglect the capacity of local governments to raise revenues and administer fiscal resources. Striking the right balance is difficult but necessary;
- Introduce flexible spatial plans – spatial design should take an important role in local development and management. Developing cities should be concerned about their spatial structure. Congestion imposes high economic costs while sprawl leads to energy inefficiency. Attractive environments and amenities are conducive to inward migration of talent, investment, and so forth. Affordable, accessible land is essential to absorbing migrants. Slums and squatter areas should be assessed as integral components of a city's spatial structure, and all land uses should be dynamically linked. All forms of land use should be assessed in a dynamic fashion. In this regard, service delivery monitoring systems such as those adopted by Johannesburg (based on GIS) could be used to monitor the existence and development of slums and to map out the improvements needed in service delivery;
- Address the absolute need to improve mobility and connectivity! Failures in urban transport policy seriously compromise the movements of individuals and goods. In many developing countries, the poor are often simply priced out of public transport which might cost up to a third of their income for regular use.

Amidst the various disciplines that help our cities develop, urban planning is especially needed. Through contemporary urban planning using the rigor of spatial analysis together with a wealth of remote imagery sensing, policy makers and civil society can be provided with the tools that will enable a correct diagnosis and a solid evaluation of alternatives for urban expansion.

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