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# CITIES

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Urban innovation for the 21st century  
Guest editors: Janice E. Perlman and Lori R. Blueweiss

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# Introduction

## A dual strategy for deliberate social change in cities

**Janice E. Perlman**

Given the deeply vested interest in the status quo, how can urban transformation occur in a non-revolutionary situation? This article suggests a dual strategy (combining theory and practice) for discovering, supporting and accelerating progressive urban innovation. It lays out the challenges and opportunities of global urbanization; shows how the Megacities Project is responding to these; and presents the early findings on urban innovation and the transfer process among the world's largest cities.

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For millennia, cities have been the centres of culture and the crucibles for the advance of civilization. But until recently the vast majority of the population has lived in tiny settlements, villages and small towns. As the year 2000 approaches, we find ourselves in the midst of four dramatic global transformations which force us to rethink the nature of human settlements:

*Rural → urban.* The world is becoming predominantly urban. In 1800, only 3% of the world's population lived in urban areas; in 1950, it was 29%, and shortly after the year 2000 over 50% of the world's population will be living in cities.

*North → South.* While cities in the industrialized countries face stabilizing or even declining populations, urban population growth in developing countries is dramatic. Estimates predict that from 1950 to 2050 the urban population in Third World countries will have increased almost 16 times, from under 200 million to a total of 3150 million people. Given that urban population growth in developing countries is three times that of industrial countries, by the year 2000 the urban population of developing countries will be almost twice that of developed nations and almost four times larger by the year 2025.

*Formal → informal.* This astonishing growth is not equally distributed throughout the urban fabric. About half is due to immigration from the countryside, and since the vast majority of these migrants do not have the resources to purchase or rent in the 'formal' housing market, they live in squatter settlements, shanty towns, illegal subdivisions, or tenements in deteriorated and peripheral neighbourhoods. Thus, while the 'formal city' may be growing at an average of 3%–4% per year, the 'informal city' is growing at twice that rate.

*Cities → megacities.* Cities are reaching sizes unprecedented in human history. By the turn of the century there will be 23 cities with populations of 10 million or more, as compared with one 50 years ago. Eighteen of these will be in the developing countries (see Figure 1). At

that population scale, each of these cities will hold more people than some 100 UN member nations today.

*The policy response*

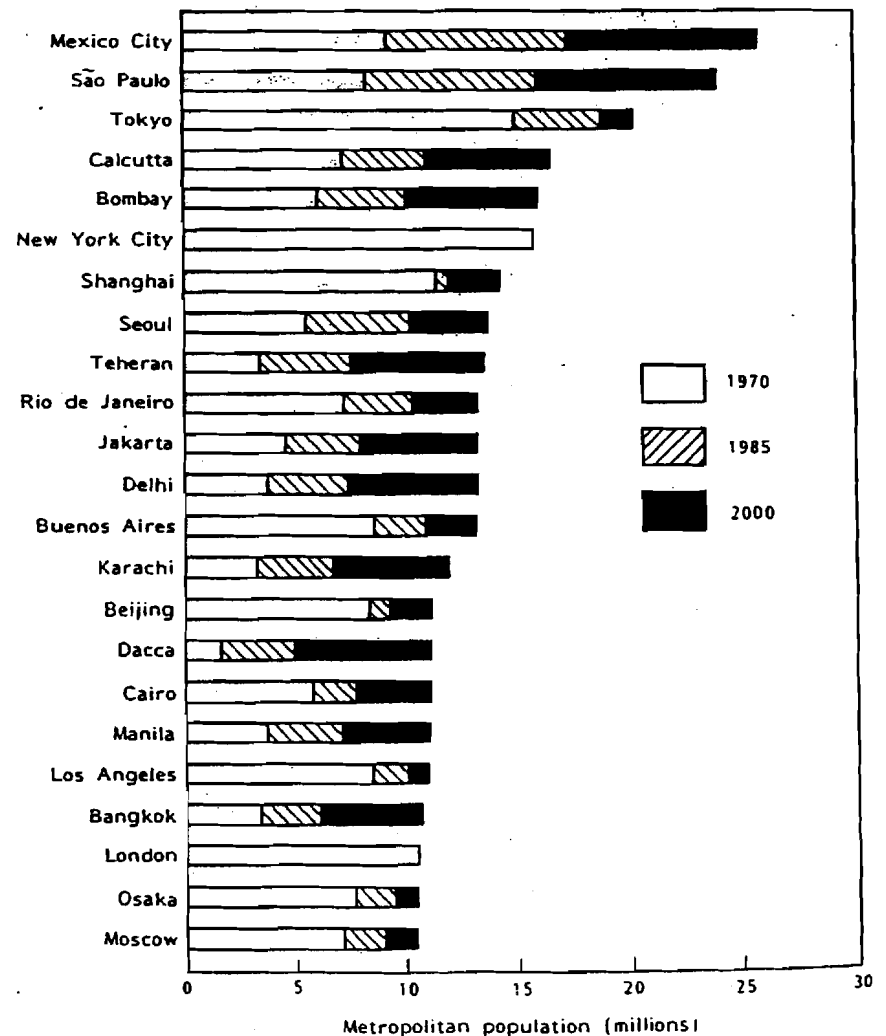
Surprisingly, the international donor community has been quite slow to respond. Current calculations by the International Institute for Environment and Development show that most aid agencies and development banks allocate less than 15% of their funds to basic needs projects in urban areas, and less than 20% to all other urban development projects.<sup>1</sup> The focus of attention continues to be the rural peasant and agricultural policy rather than the city squatter and urban policy. Clearly the two are closely interrelated, but the imbalance of attention is striking in light of the emerging realities.

Virtually every country has responded to the 'urban explosion' by trying to limit the growth of their largest cities. These efforts range from restricting in-migration, to dispersing the would-be migrants (to growth poles, new capitals, smaller cities, or resettlement areas), to stimulating regional and rural development in hopes of equalizing the level of living in the countryside and the city.

These efforts have had limited success.<sup>2</sup> Some, such as rural development, have proven counterproductive, actually hastening out-migration

<sup>1</sup>David Satterthwaite, IIED AID Project database, 1989.

<sup>2</sup>Janice Perlman and Bruce Schearer, *Migration and Population Distribution Trends and Policies and the Urban Future*, International Conference on Population and the Urban Future, Barcelona, Spain, 1986.



**Figure 1. Cities over 10 million: year 2000.**

Source: Prospects of World Urbanization, United Nations, New York, 1987.

from the countryside.<sup>3</sup> The fundamental reason for the failure of these policies is not only the lack of resources, enforcement mechanisms or political will, but also the fact that cityward migration benefits the individuals, families, communities of origin, cities, and the nation as a whole. Going against urbanization is going against the tide of national development, and all of the socioeconomic and political forces that spur that development.

The cityward migrants who are voting with their feet are intuitively correct. Not only is there more economic opportunity in the city, but the larger the city the greater the opportunity.<sup>4</sup> Empirical evidence also shows that large cities are more productive, and the largest cities are likely to be particularly more productive relative to others in a less developed country.<sup>5</sup> These cities typically account for 80–85% of their national GNP.<sup>6</sup> Furthermore, detailed analyses of revenues and national budget expenditures show that funds and resources from central cities are transferred to, and benefit, the rest of the countries.<sup>7</sup>

### *The challenge*

This is not to say that megacities do not have severe problems. In fact, these problems are often so linked with city size and management capacity that in many ways Rio de Janeiro, Bombay, Shanghai, and New York City have more in common with each other than with the smaller cities and towns in their own countries. To begin with, the sheer size of the megacities presents a situation for which we have no collective experience. No precedent exists for feeding, sheltering or transporting so many people in so dense an area, nor for removing their waste products or providing clean drinking water. Urban systems based on human settlements of 50 000 or 250 000 may be able to accommodate urban populations of one million, but begin to break down at four million, and are blatantly unworkable at 10 million. What is needed is a more sophisticated and sensitive management capability than anything we have developed to date.

Exacerbating the problem, the megacities are experiencing critical environmental degradation, pushing to the limit their ability to sustain human life. While all urbanites are affected, the urban poor are the most vulnerable, since squatter settlements are often located in the most undesirable areas of the cities such as floodplains, steep hillsides, or adjacent to dangerous industries. Leonard and Petesch point out in their following article that environmental degradation now represents one of the most formidable constraints on productivity for the urban poor. It threatens the physical security of people and their possessions and increases opportunistic diseases that debilitate adults and kill infants. Innovative solutions that deal with automobile and industrial emissions, garbage and sewerage recycling, water and waste treatment, and detoxification in the megacities will go a long way to healing our environment and preserving 'our global future'.<sup>8</sup>

However, the physical infrastructure of every city is based on the same fundamental systems which were invented a century ago in a brief 12-year span between 1877 and 1889, before ecological problems became an issue. As Eberhard explains, these include indoor plumbing, the incandescent lamp, the electric trolley, steel frame buildings and elevators, the internal combustion engine, the subway, and the telephone.<sup>9</sup> Most of these systems are incredibly costly to install and maintain, and unnecessarily wasteful of water, energy and materials.

<sup>3</sup>Richard Rhoda, 'Development activities and rural-urban migration', extract from USAID monograph, Washington, DC, March 1979; Dennis A. Rondenelli and G. Shabbir Cheema, 'Urban service policies in metropolitan areas: meeting the needs of the urban poor in Asia', *Regional Development Dialogue*, Vol 6, No 2, Autumn 1985.

<sup>4</sup>Remy Prud'homme, 'Anti-Urban Biases in LDCs', The Megacities International Development Seminar Series, New York University, 1988.

<sup>5</sup>Alfred Van Huyck, *Urbanization in the Developing Countries: Opportunities for United States Development Cooperation*, Agency for International Development, Washington, DC, 1988.

<sup>6</sup>Koichi Mera, 'On the urban agglomeration and economic efficiency', in *Economic Development and Cultural Changes*, Vol 21, No 2, January 1973.

<sup>7</sup>ILO Information Bulletin, 'What size does to cities', Vol 10, No 5, December 1985.

<sup>8</sup>Brundtland, *Our Global Future*, 1987.

<sup>9</sup>John P. Eberhard, 'Advanced urban systems: a world wide opportunity', *HABITAT Journal*, Vol 2, No 1/2, 1977, pp 5–12.

Over the past 100 years the major advances in science and technology have been applied to the military and to consumer products. The question now is how to find creative ways to apply these advances to the building and maintenance of the urban infrastructure, and the preservation of the environment.

Thus, all megacities, regardless of demographic factors, level of economic development, political structure, or sociocultural background, share certain fundamental problems. These include increasing demands on limited city budgets, extreme polarization between rich and poor, severe environmental strain, fragmented programme initiatives, isolation among sectors and disciplines, and powerful resistance to change in the status quo. As described by Altshuler and Zegans in their following article, these problems are reinforced by incentive systems which discourage public policy risk-taking while encouraging them in private enterprise.

### *The opportunity*

The timing is urgent. Experience has shown that there is often a 20–25 year time lag between new ideas and their incorporation into public policy. In the case of low-income housing policy, for example, it was recognized in the early 1960s that the self-built shanty towns of Third World cities were not the problem but the solution, and that giving land tenure to the squatters and providing urbanized lots in peripheral areas yielded better results than the bulldozer. Yet it took almost a generation for these ideas to be adopted, first by the international agencies (World Bank 1972), then by national governments (early 1980s) and now finally – and still only partially – by local governments.<sup>10</sup>

We cannot afford to wait another generation for the next set of urban policy innovations to address the needs of city dwellers. Even if current birth control programmes and efforts to encourage the growth of small and intermediate-size cities are much more successful than those in the past, there will still be hundreds of millions of people living in the world's largest cities and more migrating there. Thus, it is time to turn our attention to how to make megacities work better for the people who are there and those who are inevitably coming.

So where can we find solutions to these problems? Conventional solutions are not the answer. Jorge Wilhelm, the former Planning Director of São Paulo, has calculated that it would cost the present equivalent of 30 municipal annual budgets to make up the deficits in the physical and social infrastructure using traditional approaches. It is unlikely that such resources will be available in the foreseeable future. As Per Ljung explains, the \$100–150 billion invested by developing countries annually in shelter and infrastructure falls far short of what is needed for adequate shelter and basic services, and foreign aid (which last year amounted to less than \$4 billion) is not likely to fill the gap in the near future. To make matters worse, he argues that 'most institutions responsible for managing urban growth are weak, and with few exceptions, past government policies and programmes have tended to worsen urban problems rather than contribute to their solutions.'<sup>11</sup> Research institutes, consultants and academics are not the most fertile sources for answers. As Dennis Goulet puts it, 'experts simply do not know best what is good for someone else'.<sup>12</sup> Experience over the past 20 years shows that, since intelligence is not distributed along class or geographic lines, the most promising innovative approaches often come

<sup>10</sup>Janice Perlman, 'Misconceptions about the urban poor and the dynamics of housing policy evolution', *Journal of Planning Education and Research*, Vol 6, No 3, Spring 1987, p 192.

<sup>11</sup>Per Ljung, *How Can Donor Agencies Respond?*, World Bank, Washington, DC 1989.

<sup>12</sup>Denis Goulet, 'Incentives in development', paper prepared for the International Studies Association, 29 March – 2 April 1988, St Louis, Missouri, USA.

from local experience – from the people, community groups, street-level bureaucrats, and small scale enterprises closest to coping with problems on a daily basis.

There is enough energy and creativity in the cities today to address the challenges, but there are too few mechanisms to channel these forces into the policy making process or to multiply the effects of approaches to that work. As Michael Cohen explains in his following article, 'if decisions concerning service provision continue to be dominated by the public sector there is little possibility for local communities to spur innovations and experiments in non-public service delivery'. There is thus a compelling need to discover alternative approaches that make better use of the abundant human and natural resources in the city and create multiplier effects with the scarce financial resources. We need to rethink or re-envision a city of the 21st century – one which is socially just, ecologically sustainable, politically participatory, and economically viable – not merely a projection of the 19th century city with all its negative connotations.

### **The Megacities Project: a catalyst for change**

The Megacities Project was initiated to meet this challenge. It combines theory and practice in the search for successful approaches to improving urban management and the conditions of daily life in the world's largest cities. The approach is based on a collaborative effort among government, business and community leaders in these cities to shorten the time lag between innovative ideas and their implementation and diffusion. The Project is designed not simply to identify, distill, and disseminate positive approaches, but to strengthen the leaders and groups who are evolving them and find sources of support to multiply their efforts.

The Project follows a dual strategy, functioning simultaneously at the practical and theoretical levels. On the one hand, it shares 'best practice' among the cities and puts the lessons of experience in the hands of decision makers and the public; and, on the other hand, it seeks to gain a deeper understanding of the process of innovation and the consequences for deliberate social changes in cities.

#### *The strategy*

The Project is designed as a self-reflective learning process. It involves a series of interventions geared towards accelerating the innovation life cycle. By carefully observing the results of this process in each city, it is possible to refine the theory of how innovative ideas are generated, implemented and diffused.

The Project is organized in three stages:

- identify and document successful innovations;
- launch a global search for promising ideas;
- local and global dissemination of findings to different audiences.

This approach improves upon present practice in several ways. First, by insisting that all the innovations documented are socially just, ecologically sustainable, politically participatory and economically viable, it uses initiatives which address long-range issues for all social groups and neighbourhoods. Second, by leading from strength and focusing on 'success stories', the approach changes attitudes from despair to hope. Third, by spotlighting local initiatives, it encourages transformation

from the bottom-up as well as the top-down. Fourth, by setting up implicit competition among policy makers world-wide, it rewards the process of risk and innovation and helps to overcome the built-in resistance to change. Finally, by showing the inextricable connections between issues such as income generation, housing, transportation and health, it breaks down the sectoral isolation which often precludes the most creative solutions.

What distinguishes this Project from the traditional information exchange such as clearing houses and newsletters is that it acts as a catalyst for social change and policy transformation. It deals with motivation and incentive systems, and offers a useful strategy for placing the innovations found into the policy arena. Its structure incorporates the four conditions which, according to John Kingdon, are necessary for pressing issues to reach the public policy agenda.<sup>13</sup> First, a 'window of opportunity' in the political process, eg a new person elected, a new commission established, a new mandate. Second, favourable public opinion, eg a readiness of the general public for action on that issue. Third, the existence of a tried and tested solution which is 'packaged' and ready for adaptation. And finally, a broker who can link the packaged solution with the decision maker in the window of opportunity.

The Megacities Project is designed to address all four of these conditions. First, project coordinators in each city are positioned to spot any new window of opportunity in the political process. Second, outreach to the public is ensured through media representatives on steering committees in each city to publicize local 'success stories' and a global TV series at the end of the project. Third, there are an array of policy-ready solutions drawn from world-wide urban experience and packaged in a variety of usable forms, including a database, videotapes, policy guidelines, state-of-the-art papers, etc. And finally there are new partnerships of public, private, and voluntary sector leaders on the local steering committees who, along with the coordinators, serve as the brokers between the packaged solutions and the policy makers in the window of opportunity (see Figure 2).

#### *The conceptual framework*

Project coordinators have worked together over the past two years to develop a common set of definitions and working assumptions.

*Megacities.* Megacities are those greater metropolitan regions which, according to UN projections, are expected to have over 10 million inhabitants by the year 2000. For the purpose of the Project population size is used as the primary criteria for the inclusion of cities, rather than a city's importance as a major communication node in the world hierarchy of cities.<sup>14</sup> Four basic assumptions accompany this definition: there are a set of physical and managerial problems which are common to these enormous urban agglomerations; the urban problems we deal with are not necessarily exclusive to megacities, but simply appear in more exaggerated form in those cities; if an innovation works in a megacity (given the problems of scale, complexity, diversity, bureaucracy, and conflict) it is likely to work in smaller cities; and, as Susana Finkelievich points out in her following article, 'megacities may concentrate the problems but they also provide the loci for research and innovation as well as creating, receiving, testing and disseminating new technologies'.

<sup>13</sup>John W. Kingdon, *Agendas, Alternatives, and Public Policies*, Little Brown & Company, Boston, 1984.

<sup>14</sup>John Friedman, 'The world city hypothesis', *Development and Change*, Vol 17, No 1, January 1986.

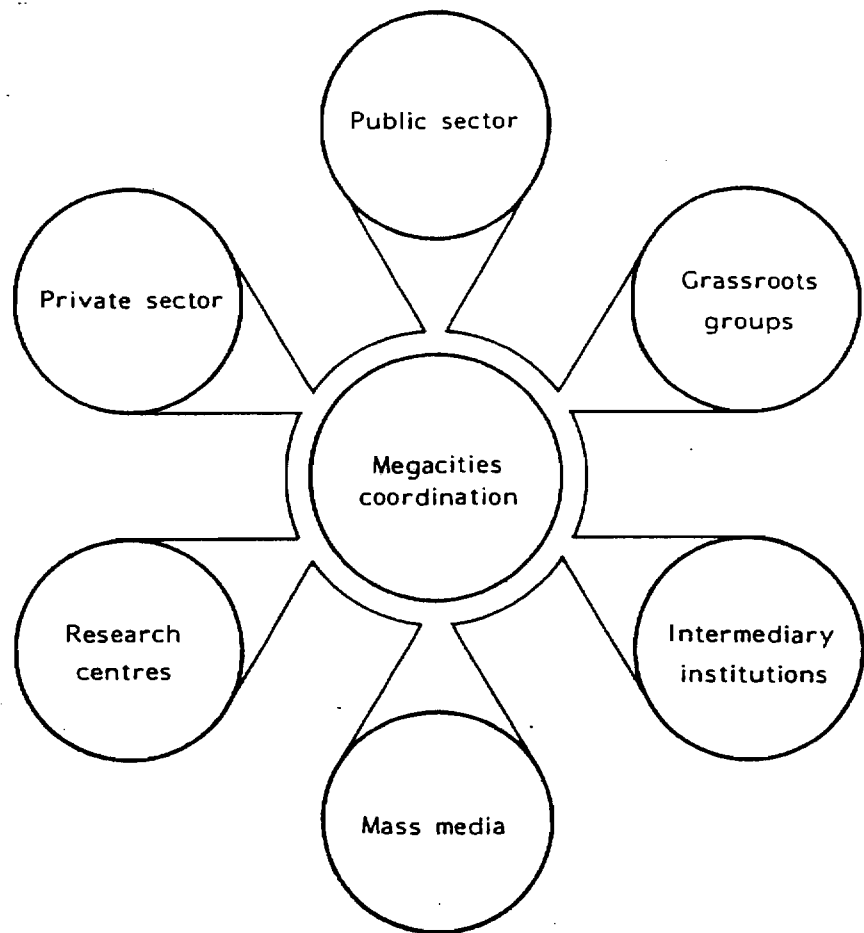


Figure 2. The new partnerships.

**Innovation.** As Altshuler and Zegans explain in their following article, innovation is 'novelty in action'. It involves a fresh idea and its expression in a practical course of action plus the implementation process, plus the successful outcome. For the purposes of the Megacities Project innovations are categorized by five types (social and cultural; political and administrative; economic and financial; technological; and spatial and physical), and range along seven urban policy arenas (income generation and employment; housing and land use; food and energy; water and sanitation; transportation and communication; education and training; and public health and safety). Each innovation has a 'profile' on this matrix which may span several types of innovation and several policy arenas.

Innovations may range in scale from neighbourhood to city-wide to the entire metropolitan area, and they may be initiated by the public, private or voluntary sectors. Small-scale grassroots innovations have a potential multiplier effect that can equal the impact of government initiated innovations at the metropolitan level. Innovations are not static. They progress along a 'life-cycle' from conception to adoption and early trial and error, to mature implementation and routinization, before becoming dominant and eventually giving way to the next generation of innovations.<sup>15</sup>

**Success.** In defining 'success', there are several issues which need to be considered: success for whom? – a success for some group or sector may

<sup>15</sup>Robert Yin, 'Life histories of innovations: how new practices become routinized', *Public Administration Review*, January/February 1981; Lloyd A. Rowe and William B. Boise, 'Organizational innovation: current research and evolving concepts', *Public Administration Review*, May/June 1974; George W. Downs and Lawrence B. Mohr, 'Toward a theory of innovation', *Administration & Society*, Vol 10, No 4, February 1979.



be a failure or loss for another; in what dimension is it successful? – for example, a successful participation component may exist within a project with an inadequate cost recovery system; at what stage of the innovation life cycle are we measuring success? – outcomes may be quite different within the ‘fair trial period’ or after routinization.

For the purpose of the Project, five criteria have been identified for successful innovations. They must be: *socially equitable* – does the innovation benefit only the elite, or does it reach a broader base in the population?; *economically viable* – are the costs low enough for the innovation to be replicated on a mass scale?; *politically participatory* – does the decision process involve the people whose lives are most affected?; *ecologically sustainable* – does the innovation work to preserve or regenerate the environment?; and *culturally transferable* – is the innovation too situationally specific, or are there lessons applicable in other contexts? Clearly, an innovation may not meet all of these criteria simultaneously, but the more dimensions it fulfills, the more powerful it is likely to be. To assess the power and impact of innovations, *novelty*, *quality*, *significance*, and *replicability* are used, as described in Altshuler and Zegan’s following article.

*Diffusion of innovation.* Everett Rogers describes the diffusion process as a ‘snowball effect’, in which individuals who have adopted an innovation influence those who have not yet adopted.<sup>16</sup> For the Project’s purpose diffusion of innovation is defined as the communication and transfer of ideas and experiences from one context to another, and their successful adaptation in the new setting. It is not expected that innovations will be transferable in their entirety, but that certain elements of the innovation may prove to be adaptable and useful to other contexts. Rather than attempting to ‘export’ the innovations or promote solutions for replication, the approach is to make available to the government, citizenry and private sector in each city the richest possible array of successful experiences in any given problem area. They can then select for ‘import’ those innovations which best serve their needs.

Ian Masser describes in his following article that we can regard the transfer process as a form of brainstorming, which stimulates lateral thinking and promotes the development of new and creative policies for dealing with known problems. In the Megacities Project, diffusion is not seen as only a North/South transfer but equally, if not more important, South/South, South/North, East/West, and so on. As Bish Sanyal points out in his following article, the very process of rich countries adapting and altering urban policies from poor countries helps them ‘to be more sensitive to the conditions of poor countries and, more importantly, will make them understand their own conditions better’.

When discussing the need for a new vision of a ‘socially just and economically sustainable city of the future’, this does not mean the diffusion of one ‘model solution’ to urban problems. Each successful innovation is seen as an incremental advance over the previous configuration, which is bound to generate its own contradictions and new problems. In this dialectical process, what is diffused is the *essence* of the new idea.

<sup>16</sup>Everett Rogers, *Diffusion of Innovations*, Free Press of Glencoe, New York City, 1962.

#### *The research questions*

The issues of concern are how to reach people’s lives by directly

affecting urban interventions, and how to better understand the process by which urban transformation can occur. In this regard, the Project has developed the following three-part research agenda concerning the innovation process:

*1. Generation: where do innovative ideas come from? What motivates the search for innovative policies and programmes? What sector or combination of sectors (public, private, voluntary) generate which types of innovations and with what frequency? What conditions within the group, agency or urban context stimulate or impede innovation? What types of cities generate which types of innovations?*

*2. Implementation and impact: what are the conditions for successful implementation? How do innovations overcome the political, financial, cultural, and technological obstacles to implementation? What factors affect successful evolution from pilot project to full scale programme? How does the process of implementation differ among policy areas, sectors, types of innovation, and urban settings? What is the significance, scope and nature of the innovation's impact on affected citizens and institutions?*

*3. Diffusion: how does innovation transfer occur? How do economic, political, demographic and sociocultural differences among cities affect the transfer process? What is the relationship of the source of innovation to the successful transfer of innovation? What modes of communication and institutional forms would be ideal for ongoing urban interchange?*

#### *The global network*

Initiated in August 1987 at the Urban Research Center, New York University, the Megacities Project is now functioning in 14 cities around the world (see Figure 3).<sup>17</sup> As each city is phased into the Project, the team follows a common methodology. By now, each of the 14 participating cities has: selected one or two coordinators to run the Project locally; formed a six-sector steering committee of top-level leaders from the government, private sector, non-profit organizations, grassroots

<sup>17</sup>Mexico City, São Paulo, Buenos Aires, Rio de Janeiro, New York City, Los Angeles, London, Tokyo, Beijing, Bangkok, Bombay, New Delhi, Nairobi and Lagos. As some of the cities recruited themselves into the Project, and as the Project sought regional diversity, these 14 do not coincide precisely with the 14 largest cities shown in Figure 1.

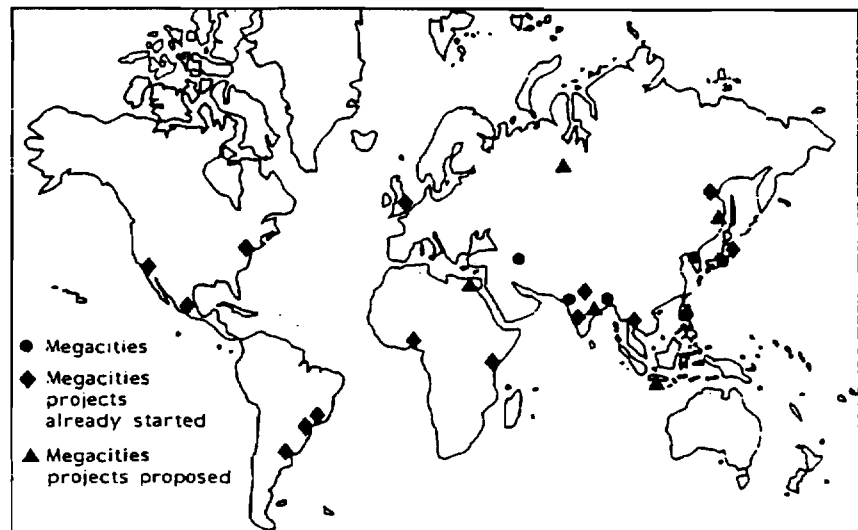


Figure 3. Global megacities.

groups, universities and the mass media; formed an academic advisory board of notable urban scholars; prepared their own proposal, workplan and budget, adapting the definitions and questionnaire for local use; implemented a full-scale 'call for innovations' in order to discover the promising experiences in their own city; documented between 50 and 200 innovations, using a questionnaire developed collectively; site visited from 12 to 60 of the most promising innovations, ranging in scope from the neighbourhood to the metropolitan area; interviewed the key innovators; and prepared illustrative mini-cases of several innovations. Every 6-8 months the coordinators meet in one of their cities to refine the concept and approach, report on their innovations, and transfer their best experiences through exchange agreements. During the course of the meeting in Nairobi in March 1989, 15 specific bilateral agreements were made to share innovations through on-site training and demonstration projects.

This special issue of *Cities* grew out of the Coordinators' Meeting in Rio de Janeiro, April 1988, and represents a joint effort among participating cities. The minicases cited are written by the Project Coordinators around the world, and give brief vignettes of some of the most promising innovations they have identified.

## **Preliminary findings and hypotheses**

### *Reflections on the Megacities approach*

Over the past two years the Project has utilized a self-reflective learning process in order to constantly refine its approach. The findings may be summarized as follows:

- *Selection and role of coordinators.* The selection of the right coordinator in each city is perhaps the single most critical decision in determining the Project's success. Each of the coordinators must be English-speaking; well-trained in social science research methodology; sympathetic to grassroots efforts; comfortable interacting with top-level government, business, and media leaders; and willing to undertake joint fundraising efforts.
- *Creating cross-sectoral partnerships.* The concept of the six-sector steering committee grew from the recognition that no one sector can cope with the urban dilemmas alone. Since they all have a stake in the future of the city, and each holds a *de facto* veto on new initiatives, it is in their self-interest to find points of collaboration.
- *Call for innovations.* The initial reaction in each city was that they had so many problems, failures and needs and so few success stories, that their main interest would be in learning about the successful experiences of other cities. After discovering that they could easily identify the half dozen most famous innovations in their city, the next obstacle became how to discover the unrecognized contributions which could be expanded and replicated. To address this problem a five-pronged research strategy was devised ('the deep search'<sup>18</sup>). Using these methods, the cities are finding up to 200 or more successful experiences.
- *Coordinator's meetings.* The coordinator's meetings are used to

<sup>18</sup>This involves using networking by sector, creating task forces by policy area, using community leaders in each geographic neighbourhood, conducting a literature search, and sending a call for innovations through the television, radio and newspapers.

develop a common conceptual framework and to transfer the Project's evolving design and method to new members in a 'trickle-up' process. In terms of innovation transfer itself, two methods were found to be effective; first, the use of case studies told as 'stories' in the meetings gave some sense of the context and process; and second, collective site visits to innovations in the host city played an essential role, since so much of what people comprehend is embedded in action. Seeing it together helps to define it.

#### *Characteristics of urban innovations*

Although the Project is still in the early stages of research, some of its preliminary findings are suggestive of hypotheses to be tested as it progresses. For example:

- The two interrelated themes which have emerged as critical in every city are poverty and the environment.
- Grassroots groups and NGOs appear to be the richest source of innovations, followed by local government. B U T
- As Silvo Caccia Bava points out in his following article, if bottom-up innovations are to have a significant impact, they ultimately need the institutional acceptance of the local government.
- The closer the source of innovation to the client population, and the more participation involved, the greater the likelihood of successful implementation.
- The most powerful innovations are those which span several policy areas and types of innovations.
- \* ● Structural innovations, which change the rules of the game or the power relationships, are the most profound and the most generative of second order innovations.
- In the early stages of the innovation life cycle the initiating group is extremely vulnerable. There is generally little support for risk-takers within the larger bureaucracy, agency or city context, and they are in great need of external support.

Overall one of the most surprising realizations is that the Project is itself an innovation, and can therefore be threatening to established academic and policy institutions.

#### *Innovation transfer*

Although great value is placed on information exchange, the 'acid test' for the Megacities Project is whether or not the innovations will be transferred, take root, and thrive in their new locations. Some general observations on this transfer process thus far are: once people have been rewarded for their own achievement they are much more receptive to learning from others and adapting their initiatives; innovation transfer is occurring successfully among cities with diverse political systems, cultures, and levels of economic development; social, managerial, and financial innovations have proven as transferable as technological innovations.

A central question for global learning is how innovations, once identified, may be meaningfully transferred to others and what enabling conditions are necessary to maximize the chances of effective replication. Since much of the research in this area is based on agricultural innovations in the 1950s which are not entirely relevant to urban

innovations today, the Project has begun developing its own guidelines based on its experience to date.

*Demand-driven transfer.* Transfer often fails when it is imposed from outside rather than demanded from within. The key is to allow the adopter to see an array of possibilities and chose which approach to 'import' rather than promote solutions for 'export'. For a group to adapt an innovation, they need to think through the vision of what they want, the contradictions they are trying to solve, and the needs they are trying to meet. 3. Flexibility to invent, choose and combine different elements of one or more innovations is critical to adapt an innovation to a new context.

*Enabling conditions for successful transfer.* These include: working with indigenous organizations; empowering 'product champions' to advocate for the change; developing peer support through meetings of innovators within and among cities; providing an accessible knowledge base to draw upon; changing the incentive system to reward innovation through recognition, support and publicity; careful monitoring, evaluation and feedback during the entire process; and ensuring adequate external and internal resources to reach the point of sustainability.

*The transfer process.* 1. An underlying theory of pedagogy is as important to successful innovation transfer as the specific skills, behaviours, or technologies being taught. 2. Given the *de facto* veto each sector can exercise to delay or block new initiatives, the creation of multisectoral partnerships (public, private, grassroots, academic, and media) is essential. 3. Effective transfer is often overdetermined – simultaneously supported from several directions: top-down, bottom-up and sideways. 4. It is generally easier to learn from peers. 5. Media coverage can make a critical difference in the speed and scope of the transfer process through its affect on the receptivity of the public. 6. Different forms of dissemination are needed for different audiences.

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*Symbolic dimension.* For new initiatives to be successfully introduced, there must be initial clarity about which basic images are being shifted or changed. 2. Sharing crucial symbolic activities is a vital and often neglected part of the transfer process. Every action conveys meaning, so 'celebrating successes' does more than teach about their content. 3. The physical environment conveys non-verbal messages and has a powerful influence on the receptivity of those adopting the innovation.

*Contextual positioning: relating the micro to the macro.* Long-term sustainability is easier to attain when the specific elements transferred have meaning within the global as well as local context. Incorporating the innovation into a vision of future trends helps ensure that it is not truncated by short-sighted goals and objectives.

## Political will and transitional reform

The bottom line is a concern for the wellbeing of the 322.56 million citizens of megacities in the year 2000, and with the way cities will work for all of their residents in the 21st century. If we are to turn around the sense of hopelessness and despair about these large urban agglomera-

tions, what is required is not simply a set of interesting ideas that happen to work in one context, but the cumulative effect of these ideas in enabling us to rethink the cities of the future. Given the deeply vested interests in the status quo, how can we find the political will for urban transformation in a non-revolutionary situation? Norman Myers states: 'The management of city problems cannot be separated from wider issues – of income distribution (both between social groups and between nations), the international economy, sustainable development, and human values. There may well be many innovative schemes to improve life in cities, but they nearly all hinge on . . . cities having the resources, and the wills.'<sup>19</sup>

It is in this light that Andre Gorz' concept of 'non-reformist reforms', or 'transitional reforms' is particularly helpful. Gorz discusses the struggles between workers and owners, and distinguishes between palliative reforms which are often simple material possessions, and transitional reforms which change the rules of the game.<sup>20</sup> For example, a one-time pay increase might be a gain easily eaten up by inflation, but the right to a closed shop with collective bargaining permanently alters the logic of the worker/owner relationship. Manuel Castells<sup>21</sup> has pointed out that the equivalent in urban struggles would be the difference between a tenant getting a landlord to agree to pay for a long-needed boiler repair or having the tenants' union enforce the principle that any time a major repair was needed, rents could be paid into a tenant-controlled escrow account for that purpose.

In urban policy issues, the analogy is clear. Some innovations may be intriguing in and of themselves and could help to improve the quality of life if more widely diffused. Others, like the decentralization of budgetary, zoning, land-use, and service delivery decisions to the neighbourhood level, or the granting of equity shares to local community residents in large-scale private sector development projects, may have profound consequences. They would be transitional reforms.

Throughout history cities have been the crucibles of culture and the source of major advances of civilization. The boldness of our quest for deliberate social change and the transformation of urban practices (from the neighbourhood level all the way to city, national, and international levels) is at the heart of whether we continue to project 19th century solutions onto tomorrow's world, or finally make the leap to the 21st century city.

<sup>19</sup>Norman Myers, ed, *GAIA: An Atlas of Planet Management*, Anchor, New York, 1984.

<sup>20</sup>Andre Gorz, *A Strategy for Labor: A Radical Proposal*, Beacon Press, Boston, 1967.

<sup>21</sup>Manuel Castells, *The City and the Grassroots*, University of California Press, Berkeley, 1983.

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