

Mainstreaming Disaster Risk Management in Metropolitan Planning

The Case of Metro Manila, Philippines

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An Urban World

Rapid global urbanization and rural-to-urban migration are two of the underlying forces behind the phenomenon of mega-cities. Whether due to international or internal migration, cities continue to burst at the seams and form complex urban regions. In addition to migration, rapid natural increase and the ensuing reclassification and integration of surrounding suburbs into these expanding conurbations propelling urban growth. From 2000 to 2030, the world's urban population is expected to increase by an average annual rate 1.85 percent.

Over the course of 50 years, the world population has changed its complexion from predominantly rural (70 percent) in 1950 to half-way urban (50 percent) in 2005. This trend will appear to continue, according to the UN

(2002). And by the year 2030, the world population will have become predominantly urban with 60 percent of the human inhabitants of this planet preferring to live and work in urban areas (Figure 1).

Another facet of this rapid urbanization process worldwide is that most of this urban growth will take place in the less developed countries (LDCs) of the world. In the LDCs, population in urban areas is projected to grow at 2.35 percent annually from 2000 to 2030 or a doubling time of 29 years. This is particularly rapid when compared to the urban growth rate in more developed countries (MDCs) which is estimated at 0.38 percent, so that, by 2030, 80 percent of the world's urban dwellers will be concentrated in LDCs (Figure 2).

To illustrate, from 1975 to 2015, the number of mega-cities will have grown from five - three of them in the developing world - to 21, all but four are located in the developing world (UN, 2002) (Table 1). Mega-cities, large urban agglomerations with at least 10 million people, are a twentieth century phenomenon, and based on these trends, more and bigger mega-cities are inevitable in the twenty-first century.

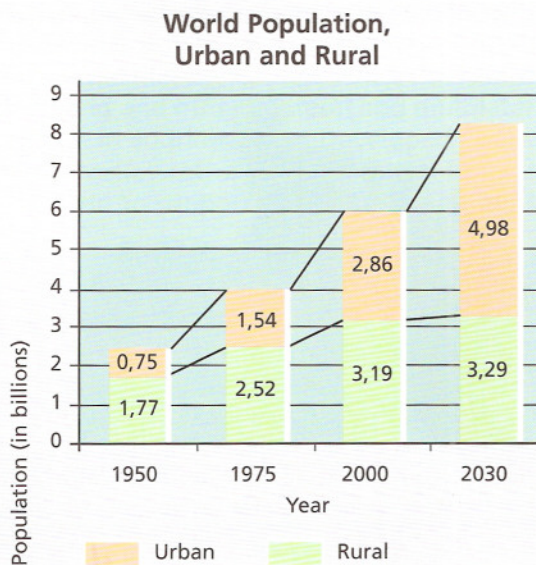


Figure 1

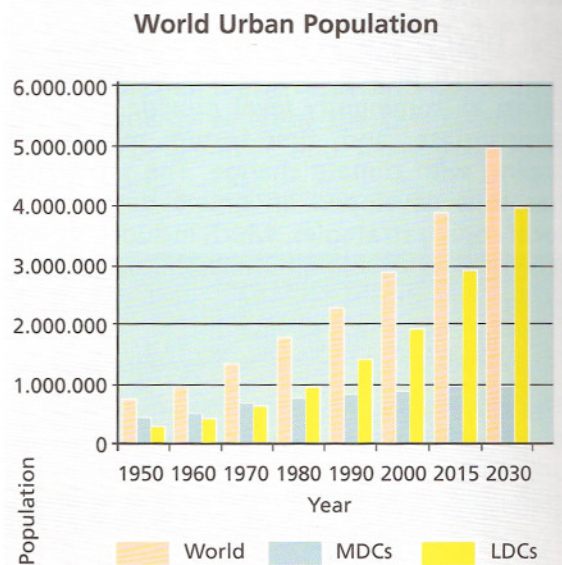


Figure 2

Mega-cities (2000 and 2015)

City	Rank	Population, 2015	Rank	Population, 2001
Tokyo	1	27.2	1	26.5
Dhaka	2	22.8	8	13.2
Mumbai	3	22.6	5	16.5
Sao Paulo	4	21.2	2	18.3
Delhi	5	20.9	9	13.0
Mexico City	6	20.4	3	18.3
New York	7	17.9	4	16.8
Jakarta	8	17.3	12	11.4
Calcutta	9	16.7	7	13.3
Karachi	10	16.2	16	10.4
Lagos	11	16.0	-	
Los Angeles	12	14.5	6	13.3
Shanghai	13	13.6	10	12.8
Buenos Aires	14	13.2	11	12.1
Metro Manila	15	12.6	17	10.1
Beijing	16	11.7	14	10.8
Rio de Janeiro	17	11.5	15	10.8
Cairo	18	11.5	-	
Istanbul	19	11.4	-	
Osaka	20	11.0	13	11.0

Table 1

Source: UN, 2002.

Living Dangerously

The ongoing urban explosion has exposed millions of people living in cities to disasters. As millions of people continue to prefer to live in large complex urban areas, the physical densification of settlements, high concentration of business investments and economic assets, and the convergence of vital networks together with critical and transport infrastructures all in a very confined area intensify the vulnerability of urban regions to disasters. These factors lead to agglomeration benefits and scale economies that make metropolitan regions nodal centers of commerce, trade, information, transportation, knowledge, culture, and governance. These benefits however come at a cost.

Together with massive over urbanization are critical urban ills besetting the inhabitants of mega-cities and adding pressure on the already strained resources of metropolitan and local governments. Environmental degradation, pollution, traffic congestion, blight, overcrowding, crime, and public health problems have been time and again pointed out

as the common urbanization curse in the mega-cities of the developing world. All these conspire to considerably lower the quality of life of millions of people even as they strive to adapt a modern way of life.

Mega-cities raise the spectre of debilitating disasters. The existence of overcrowded slums on riverbanks, floodplains, and steeply sloping areas, and other hazardous locations expose people, their meager assets and livelihood to flash flooding, river flooding, and landslides. Unplanned and uncontrolled use of land has resulted to urban sprawl and a haphazard land use and development pattern, making it more difficult to manage the mega-city even during normal times. Hazardous industrial plants exist side by side with congested informal settlements that lack basic utilities such as water supply and access roads. Informal construction gives rise to settlements made up of substandard self-built housing that is defenceless in the face of typhoons, floods, and earthquakes. Unregulated building practices result to shoddy structures built below code standards and a built environment susceptible to natural hazards.

The mega-city itself thus represents a new kind of disaster risk. Considering its sheer size alone, the physical, social and economic vulnerabilities of mega-cities are unparalleled. Coupled with global climate change, widespread environmental degradation, and unrelenting natural hazards, potential disaster losses in megacities have never been greater.

Institutionalizing Disaster Risk Reduction in Metropolitan Planning

Within this context, the Earthquakes and Megacities Initiative, an international non-stock, non-profit scientific organization, has embarked on a mission to help megacities and complex urban areas rise to the challenge of institutionalizing disaster risk reduction (DRR) in the regular planning and operations of metropolitan governments.

Further, the local land use planning process of cities and municipalities that compose megacities are seen as an untapped opportunity where disaster risk reduction can be mainstreamed and included as one of the planning objectives. Mainstreaming disaster risk reduction as a management process can likewise be achievable if risk reduction objectives and action plans are integrated into the regular processes of urban development and infrastructure planning, poverty reduction programming, and social services provision that are part and parcel of metropolitan administration.

Mainstreaming Prospects in Metropolitan Manila, Philippines

In the EMI's model of mainstreaming (Figure 3), certain mechanisms are necessary in order to integrate DRR within an institution's core functions, activities, and processes (Bendimerad and Fernandez, 2005). This mainstreaming model is applied in the implementation of the Disaster Risk Management Master Plan (DRMMP) of Metro Manila in the Philippines as part of EMI's Cross Cutting Capacity Development (3cd) Program. The DRMMP has provided a fertile ground for many lessons learned for a more effective mainstreaming of disaster risk reduction in metropolitan planning. The DRMMP is not only a plan but also a process designed to generate support and commitment to implement concrete risk reduction actions as part of the regular operations and functions of concerned institutions.

Based on the mainstreaming model used by DRMMP, one mainstreaming mechanism applied in Metro Manila is to fully engage both the central and local governments that have jurisdiction over the mega-city or are involved in disaster reduction. The thrust is to have a multi-level governmental collaboration, commitment, and partnership. And through this partnership, institutional capacity building efforts can take place.

Mainstreaming Model

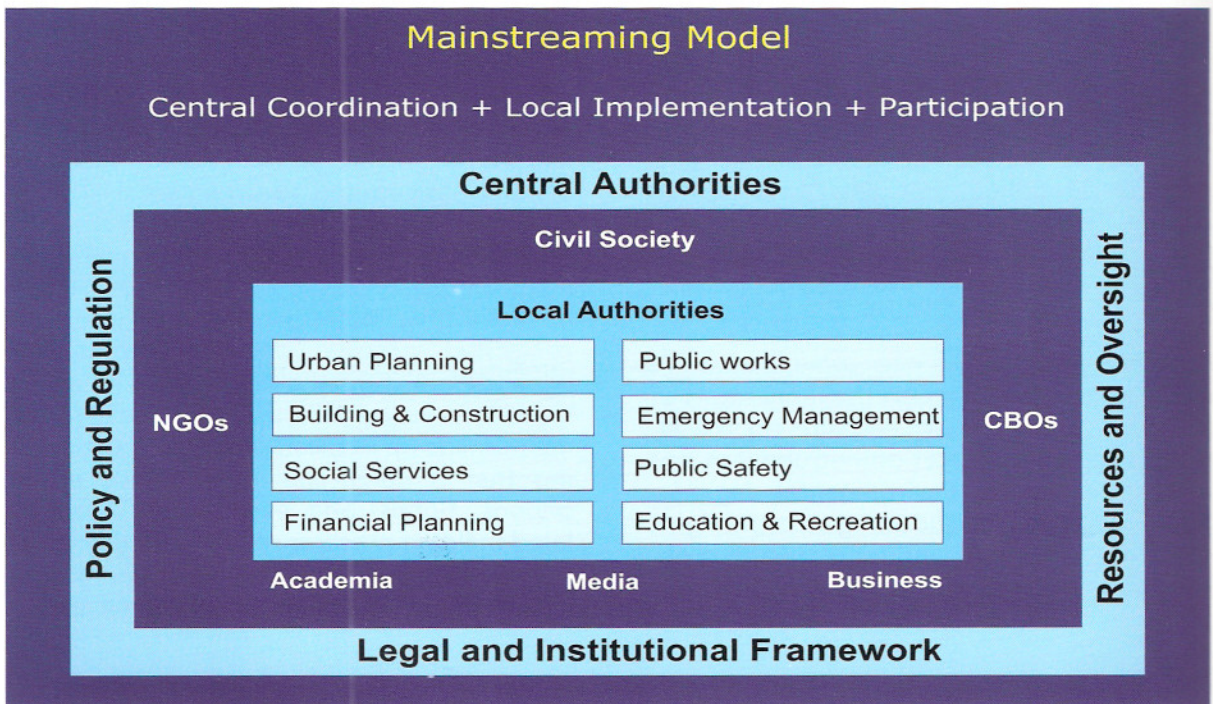


Figure 3. Source: Bendimerad and Fernandez, 2005.



The central government includes the metropolitan authority and the national government agencies, which may include sectoral agencies and research institutions, while the local government units are the autonomous cities and municipalities that make up the metropolis. In Metro Manila, these are the Metropolitan Manila Development Authority, the Housing and Land Use Regulatory Board, and the Philippine Institute of Volcanology and Seismology. Central coordination is necessary for oversight, to facilitate the sharing of resources among autonomous local government units in the metropolis, and coordinate the individual plans of cities and municipalities in order to have a holistic approach to disaster risk management.

Political commitment of local governments is crucial as implementation of disaster risk reduction measures occurs at the local level. At the local level where autonomous city governments formulate and implement different types of plans such as comprehensive land use plans and local development investment plans, the thrust is to integrate DRR in the long-term development process.

Another mainstreaming mechanism is to engage the different stakeholders from other sectors such as the non-government organizations (NGOs) professional societies, business sector, media, and the academe. Disaster reduction as a shared responsibility requires broad and active participation of the whole society. As the public sector is only one cog in the disaster reduction wheel, the engagement of the business sector is another opportunity that can be tapped. Disasters usually strike a big blow to the business sector, and it sustains severe direct and indirect losses. Hence, investing in disaster reduction makes good business sense. The business sector's resources and capabilities can hugely complement the limited resources of the government sector.

The academe and research institutions are instrumental in generating knowledge useful in public policy making. Hence, in order to mainstream and sustain the integration of disaster risk reduction in public planning, one mechanism used by the DRMMP is to bridge the gap between researchers and decision makers to enable the latter to formulate sound public policies that are based on science and research.

Mainstreaming DRR therefore requires the building of alliances and partnerships among the different stakeholders living in the megacity, since disaster reduction is a shared responsibility. Such coalitions then provide an institutional basis on which capacity building in disaster risk management can take place. Through mainstreaming, DRR is integrated into the basic planning and operations of the government and does not remain as an isolated public policy objective. Lastly, mainstreaming recognizes that in spite of ever growing disaster risks in mega-cities, mega-cities offer substantial potentials for sustainable development and opportunities for safer, disaster-resilient societies.

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