RESILIENT CITY PLANS AS IMPORTANT ASPECT OF FUTURE DEVELOPMENT PLANS OF INDIAN CITIES

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Abstract: While in developed countries urbanisation has mainly taken place in the second half of the 19th century, developing countries are in the middle of their urban growth now. The other major issue of Climate change is now a current reality. Three major movements are coming together: urbanization, decentralization, and the rise of domestic capital markets. The rapid process of urbanisation and the growing number of the megacities, cause a lot of different ecological, economical and social problems and risks. This impacts cause challenges for urban policies and urban planning strategies to manage the development in a sustainable way, when the population in some cities doubles every 10 to 15 years. As the numerous national and international conferences on urbanisation and megacities show, there is an obvious need for more and better urban development strategies, long term land policy and forceful urban management.

Keywords: Urbanization, Climate Change, Sustainable, Resilience.

1. Megacities of 21st Century: The 21st century is the century of the cities and of urbanisation. According to The State of World Population 2011, an actual report from the United Nations Population Fund, roughly 3.1 billion people live already in cities and by 2017 that number will have risen to 4.1 billion. The total population is increasing by 280.000 people per day.

Climate change has become one of the defining challenges for policymakers, industry, and civil society in this century, and it is a development, investment, economic, and social issue, which affects most sectors. Now is the time, therefore, for policymakers to take an integrated look at reducing vulnerabilities to climate change and other natural disasters in a comprehensive disaster management system.

The World is At A Unique Moment in Time Facing Socio Economic Environmental Challenges Due to Globalization and Climate Challenges. The Mega cities are acting as magnet for rural population. The way cities are managed to deal with their growth and the increase of their vulnerabilities is very important in this context. The Environmental issues and climate change challenges is agenda for planners. Cities worldwide are also experiencing very rapid urbanization and increasing decentralization.

The Most Adverse Impacts of Climate Change Are Likely to be in Urban Areas Where People, Resources, And Infrastructure Are Concentrated: "In absolute numbers, Asian cities are the epicentre of the current urbanization surge.

Global temperatures have recorded unprecedented increases. The length and timing of seasons are changing. The frequency and severity of floods and cyclones accompanied by rising sea levels are

increasing. In short, climate change has become one of the defining challenges for policymakers, industry, and civil society in this century, and it is a development, investment, economic, and social issue, which affects most sectors.

Management of urban areas and their growth and spatial planning requires the consideration of disaster risk management and the climate change agenda as essential components of urban development. Climate change will increase the frequency of disasters in cities. Effective disaster risk management is an important component of climate change adaptation

The need to promote changes in technologies, citizen participation, and urban growth patterns are equally important parts of the behaviour of the urban populations that contribute to global warming and create vulnerabilities to disasters. Mainstreaming these issues into policy and practice leads to a holistic rather than sectorial engagement in climate change. Climate change and disaster risk management require concerted international cooperation and city partnerships.

2. Globalization's Adverse Impact on Urbanization: Three major movements are coming together Urbanization, Decentralization, and the rise of domestic capital markets. The most adverse impacts of climate change are likely to be in urban areas where people, resources, and infrastructure are concentrated. There are important linkage between sustainable development, climate change impacts, and disaster risk management issues each city confronts. Climate change will require concerted actions by local governments and their partners to manage a changing and more invasive environment.

This multiple driving forces is not only a source of development, it itself constantly changes and develops; its structure, intensity, direction, and relations between its components undergo a change with time and geography. Driving forces of globalization can work independently or in the context with other driving forces (in the interaction with other driving forces of globalization their impact may be strengthened or weakened). They can influence the whole process of globalization or particular stages of the process.

Globalization driven by its driving forces may develop in two directions: either to a self-destruction of humankind or to a change of the global social order. A future direction of globalization will depend on a character of driving forces that will stimulate the process, e. g. on whether in its development subjective regressive driving forces prevail over objective and subjective progressive ones or vice versa. The impact of objective driving forces of globalization is independent on human consciousness; however, on the basis of their understanding a man may predict and appropriately stimulate human activities.

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3. Globalization Leading to Climate Change and Urbanisation Issues for Megacities: While in developed countries urbanisation has mainly taken place in the second half of the 19th century, developing countries are in the middle of their urban growth now. In Europe already 76 % of the population live in cities. Urbanisation has come to stand still and we can notice a process of dis-urbanisation and sub-urbanisation caused by a high rate of motorisation combined with prosperity and the development of traffic and communication infrastructure.

Compared to this in the developing countries, the urbanisation is increasing rapidly and will continue during the next decades. For the first time in 2007 more people live in cities than in the rural areas.
A high birth-rate combined with an increasing migration from the rural areas that is reinforced by the so called "push-factors" (unemployment, low standards of housing and infrastructure, lack of educational facilities) and "pull-factors" (economical opportunities, attractive jobs, better education, modern lifestyle) lead to the very dynamic growth process. Most of this growth is taking place in the poor quarters of the cities. One can imagine the challenges to manage cities in a sustainable manner when their population doubles every 13 years.

FIGURE 1.1 / Integrating climate change and disaster risk management into development policies

The number of megacities, which have 10 million or more residents, is increasing worldwide: 1950: 4, 1980: 28, 2002: 39, and 2015: 59. Two third of them are situated in developing countries, especially in South-East-Asia. In 2002 already 294 million people live in megacities, 146 million of them in developing countries, more than 215 million in Asia. In the year 2020 the total population of megacities worldwide will be about 450 million and the further rate of growth will be high, as the development of Mexico City, São Paulo, Seoul, Bombay, Jakarta and Teheran shows which population has tripled between 1970-2000. According to the estimation of the UN concerning the number of megacities in 2015, Bombay (22.6 mill. inhabitants), Dhaka (22.8), Sao Paulo (21.2), Delhi (20.9) and Mexico City (20.4) will be five of the worldwide six biggest megacities each with much more than 20 million inhabitants. 100 years ago London (6.5) has been the greatest city (one million more inhabitants than New York), today it is a shrinking town.
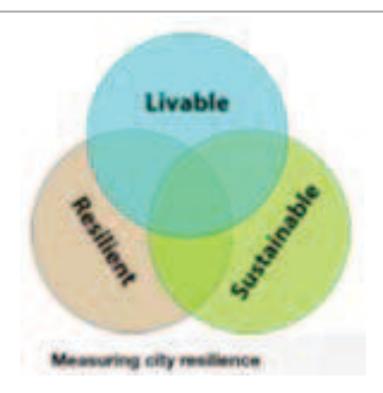
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The reason that the agglomeration and metropolitan areas as well as and megacities come into the international focus of policy and science are their serious impacts on the global environment like the enormous land consumption, air pollution, water scarcity, poverty, social segregation and vulnerability. As the numerous national and international conferences on urbanisation and megacities show, there is an obvious need for more and better urban development strategies, long term land policy and forceful urban management.

5. **Resilience City and Challenges Ahead For Future:** The development of megacities and sustainability seems to be contrasts that cannot go together at the same time. The high rates of land and energy consumption, the severe pollution of air, water and soil at present and the ongoing social fragmentation are not in compliance with the aims of a sustainable development. To cope this risks and challenges, considering the undammed growth, a spatial concept with a decentralized structure should be underlined that includes the urban and the surrounding rural areas.

There are three defining characteristics of resilience in human-ecological systems: (a) the amount of disturbance a society can absorb and still remain within the state of the domain of attraction; (b) the degree to which the society is capable of self-organization or adjustment; and (c) the degree to which the society can build and increase the capacity for learning and adaptation.

Resilience varies greatly from household to household even in one locality. It is determined by two measures of peoples' livelihoods: (a) the assets they possess and (b) the services provided by external infrastructure and institutions. Resilience is greatly influenced by the quality of urban governance and the level of infrastructure and services provided by the government.

5. Resilience Strategies of Urban Development: To achieve a proper development of agglomerations and megacities a comprehensive plan is indispensable, that provides guidelines and principle goals for the urban development as well as for the development of the and that also provides the basis for construction immediate plans for economic and social development, area plans, district plans, detailed plans etc. In accordance with the sustainability, the integration and coordination of urban and rural areas with the central city should be a main principle.

Enhancement of Resilience: Natural systems and societies are inherently resilient; but just as their capacity to cope with disturbance can be degraded, so can it be enhanced. The key to resilience in social-ecological systems is diversity. When the management of a resource or facility is shared by a diverse group of stakeholders (e.g., communities with varying economic conditions, government, or business community), decision making is better informed and more options exist for testing policies. The resilience of cities also increases by enhancing their autonomy and their governance system that rely on active collaboration between the different stakeholders. The resilience of urban areas is also greatly enhanced by disaster-resistant infrastructure. Ex-ante planning and infrastructure design to account for expected climatic and natural disaster occurrences can increase resilience, as can retrofitting existing infrastructure to increase its capacity to withstand such events.

Sound Practices of Resilience: There are many sound practices for enhancing resilience. Any effort toward sustainable development of urban areas inherently enhances society's resilience. City

development plans, which are based on social equity and which provide growth opportunities to the disadvantaged, improve coping capacity and thereby enhance their resilience.

The Participatory Process:
- The city should empower a Working Group, an existing office or designated group, with responsibility to prepare the City Information Base as a joint process facilitated by the local government team which should include key city departments, the private sector, and civil society.
- The city officials should convene a workshop where the Working Group presents the structure of the Workbook.
- There should be an adequate period of time to address relevant issues. These discussions should be recorded or summarized for inclusion in the Workbook. Discussions might cover the identification of vulnerable populations; description of the built and natural environment of the community; identification of the economic base; future growth of the city/ community; the institutional base of the city as well as information regarding the determination of evacuation routes, spatial development, available land, and land use; the development of tourist attractions and other economic activities; and the protection of natural resources, harbours, historic urban areas, and archaeological sites.
- There should be a designated group to work on each map. Working with the city base map, the groups should make annotations for their specialized map
- The development of the Workbook is a process to keep a current information base. The stakeholders include public entities and offices of local and national government, private sector groups, industry and commerce, civil society, nongovernmental organizations (NGOs) and associations, and specialized interest groups. The local government facilitates the Workbook development process with stakeholders

Institutional Mechanism: In the context of climate change, mainstreaming implies that awareness of climate impacts and associated measures to address these impacts are integrated into the existing and future policies and plans of cities. At the city level, mainstreaming shifts the responsibility for climate change and disaster management from individual councils, ministries, or agencies to all sectors of government, civil society, and private sector. However, to ensure mainstreaming does not lead to adaptation/mitigation efforts becoming fragmented, a coordinating mechanism such as a multi stakeholder committee is generally required. Another important step is to map the stakeholders, then promote dialogue by the national government (focal points for climate change and disaster risk management) with donors, NGOs, and private sectors. It is fundamentally important to get a broad range of stakeholders, including civil society, sectorial departments, and senior policymakers, engaged in the dialogue to ensure a more coherent approach to mainstreaming, and therefore more effective implementation and sustainability.

The climate change impact and disaster risk management plans should consider the city's priorities and the feasibility of initiating measures in the short, medium, or long term.

All information is pulled together from various sources (environment, crisis management, accounting, and others) through various means (interviews, meetings, archives, experts), and from various regions (broad-scale studies). The planning is participatory and requires team effort.

6. Conclusion: The issues of Global warming, climate change is result of **adverse policies of Globalization** and **Socio economic miscalculation of development policies** of world leadership. On the other hand the **Centralised pull factor of globalization created magnets of Megacities**. The migration towards the megacities in very short period of time leads to haphazard development of Megacities. The greedy capitalism without riders on environmental policy leads to the potential consequences of climate change that can affect cities, and the critical relationship between current urban development and local government financial trends with climate change, disaster risk management, and sustainable development. The Socio Economic disorder as well as climatic hazard challenges for megacities are two sides of coin .A thorough city self-assessment and a comprehensive

information base as starting points is recommended which will provide sound practices, case studies, and resources that a city can use as follow-up to building its programs for resilience to answer the future **Socio- Economic-environmental** challenges.

Building a resilient city is need of time. Sound practices needed to address the major vulnerabilities and risks. It covers many aspects of successful planning, from defining organizational structures and institutional mechanisms, to generating public awareness and engaging stakeholders. Following measure of success for a resilient city into six salient points:

- Understand the Socio Economic Plan
- Understand the threats that impact your city;
- Assess the unique characteristics and vulnerabilities of your city;
- Learn from the experience of other cities;
- Devise a plan "your own way."
- Create Mitigation Plan for Disaster

The bottom line is to have a strategy that best prepares your city to act and react effectively to climate change impacts and disaster risks.

Action Plan for Resilient City: The resilient community to deal with climate change impacts and disaster risk management issues utilizes a dual track:

- Engage the local officials with the need to lower GHG emissions and present sound practices of cities that are doing so through mitigation programs of energy efficiency, greater use of non -fossil fuels, control urban sprawl, public transport, recycling of wastes and improvement of water reclamation; and
- Address the consequences of climate change and the increased frequency and intensity of extreme and episodic events, including storm surges and typhoons. Adaptive measures will prepare for and control the conditions and disasters that will be made worse due to climate change.

With the tools the paper is proposing and the resources it is providing, the city should be better prepared to accomplish the following:

- Create a Climate Change Impacts and Hazards Workbook to establish a City Information Base that records and consolidates information describing the city context and particulars of the city's vulnerabilities and future growth.
- Set priorities to reduce climate change impacts and address disaster risk. With the background gathered from the City Typology and Risk Characterization Matrix and the City Information Base, the city should be able to recognize and find ways to address its priorities.
- Establish a city mandate through executive orders and city council legislation that articulates commitment and establishes a transparent record to guide, monitor, and evaluate a city's progress.
- Identify ways and means of dealing with hazard management to mitigate and adapt to changing conditions and events.
- Seek external partners to assist in the process, either with financial assistance or technical assistance, for defining vulnerabilities and risks and for selecting the most appropriate measures to enhance city resilience and sustainable urban planning.
- Develop, finance, and implement plans and programs to accomplish goals. The city needs to set up an action plan that not only defines priorities, but also introduces specific programs, budget, targets, and timelines.
- Engage citizens and other cities, partnering to develop a broader and more effective resilient community.
- Monitor, evaluate, and modify the initiatives as needed and as the city accomplishments allow.

Each city must define its own strategy to become a more resilient community. The study advocates planning now. The strategy must address climate change impacts according to each city's own vulnerability, risks, and needs. The Primer is a tool to engage the city in training, capacity building, and self-assessment. How to move forward, on the basis of awareness, wisdom, resources, and expectations, comes from the leadership that aspires to see its city and its citizens living in a more resilient environment.

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