

Urban Risk Management

An Urgent Need in India

Arman Oza

Urban system is a complex system where external events that are not always seen in the closed system model are evidenced, and the impact of the internal changes can be seen in the urban area. Usually, when planning for the future, we need to collect information and analyze it rationally in order to control unexpected events. How proper strategies can be developed to deal with external uncertainty and shocks that transcend the imagination of policy makers is an important question in the field of urban planning.

The vulnerability of Indian cities to the vagaries of nature has become quite intense in the recent past. While calamities—natural as well as man-made—have ravaged mankind since time immemorial, it is the concentration of population and property in modern cities which has made things worse for urban citizens. This has entailed the need to look at urban risks in their entirety. Starting from the Gujarat earthquake in 2001 to the Tsunami in Chennai and the recent floods in Mumbai and Baroda, all have resulted in large-scale loss of life and property.

On the other hand, there are man-made risks of law and order like riots, strikes and the larger political risk of terrorism looming large over our cities. If the 9/11 tragedy and recent London bomb blasts are any indication, metros worldwide, with India as no exception, are fast emerging as targets of terrorism.

It is now well-established that apart from their propensity to inflict colossal losses, these natural and man-made perils also result in consequential loss of profits for private enterprises and of fiscal revenue for the state. This is done by throwing urban life out of gear for several days. With the severity of nature and the criminal obsession of the human psyche on the rise, urban life is destined to become more and more challenging in the times to come.

While all this may warrant some thinking on the part of urban planners, it also makes a fit case for looking at urban India from a risk management perspective.

Urban Risks

According to the 2001 census, more than 10% of the country's population lives in 35 major cities. Population density in metros like Mumbai is well over 60 times the national average. The impelling urbanization is bound to aggravate this variance in the coming years. These population clusters in our urban agglomerations become centers of critical risk during a calamity like a flood or an earthquake. Factors like faulty planning and haphazard development augment these inherent risks. Most Indian cities have grown historically, and as such, structural faults in town planning are serious impediments in times of peril. This way, even the lifelines of urban life, like water and sewerage, sanitation, electricity, transportation, etc., act as potential risk carriers. Lastly, the industrial and trading hubs that have developed around our cities also pose certain reckonable environmental, strategic and political risks to the urban community.

Urban Risk Management

Traditionally, urban administrations have tackled catastrophes even with the limited resources available to them. Hence, to them, Urban Risk Management as a concept could only mean old wine in a new bottle. However, what could be novel in the Indian context is an attempt to view an Indian city as a distinct risk exposure unit. The application of the principles and practices of risk management to all the risks to which the unit is exposed evolves a tangible framework for effective handling of risks affecting urban India.

There has been a tendency to equate risk management with emergency management. The very essence of risk management however, lies in its integrated approach towards risk. Thus, to consider Urban Risk Management in a parochial sense of disaster management or to keep man-made perils outside its purview would jeopardize its very purpose and work to the detriment of overall risk management objectives.

In view of the foregoing, risk identification should aim at detailed listing of all primary, secondary and tertiary risks under the broad categories of natural and man-made perils. This may not be city specific since most of the risks are common to most of the cities, except perils of the sea.

Once the risks are identified, it is essential to collect the empirical and scientific data on each peril in order to arrive at the frequency factor applicable to each city. This is the stage which would require risk specific expertise—both for collection as well as dissemination of data. For example, collection of accurate and broad-based seismic data for various cities may require inputs from various national and international organizations. Comprehensive risk information is a prerequisite for accurate risk analysis. Not only this, it also reduces the probability of hazard and vulnerability in some cases. Hence, considerable effort is required to be invested on this aspect of risk analysis.

For a correct estimation of the Probable Maximum Loss (PML) arising out of every possible incidence, the severity factor of each peril needs to be ascertained, in addition to frequency. This would require cluster analysis of concentration of life and property within an urban agglomeration. Risk mapping of the city based on its cluster analysis will yield peril-wise severity factors. PML assessment, which is a product of frequency and severity factors, helps in prioritizing risk control measures as well as risk financing.

Moreover, most of the Act of God (AOG) perils—depending on their severity—have the capacity to initiate a chain of events, each capable of inflicting losses separately. Heavy rains cause floods resulting in inundation, leading to shortage of essential commodities, finally ending up in an epidemic. Each event would require a separate set of response tools, and hence, independent evaluation from the risk management angle.

Due to the uncontrollable nature of AOG perils, risk control on its part would focus mainly on disaster preparedness and response planning, particularly for the seasonal perils. Pre-loss Risk Control measures would primarily consist of installing latest warning systems, putting in place information exchange mechanisms, communication networks and formulating evacuation plans.

Pre-loss risk control would assume greater significance in relation to man-made perils due to their risk avoidance feasibility. Better intelligence networks, faster information exchange, proper coordination among agencies and vesting of adequate decision-making authority are keys to the risk avoidance of these perils. The real enemy in such cases is time. This is perhaps the biggest lesson 9/11 has taught us.

Once the risks are identified, it is essential to collect the empirical and scientific data on each peril

Po
planni
This b
natur

Th
proces
most c
Mana
need
Gover
fundin

In
specif
indust
a risk

Stre

Despi
fact re
respon
appro
Mana
an ad
the lo
of em
state
gaps i
the lo

U
admin
affair
Anti-
India

T
ineffe
them
and
streng

Part

No e
active
throu
socie
exerc

INSUR

Post-loss risk control objectives—both for natural as well as AOG perils—comprise of emergency planning (rescue), intermediate resource planning (relief) and recovery planning (rehabilitation). This has to be a detailed but open-ended plan. Since it would never be possible to exactly simulate the nature and sequence of events, a scope for maneuver, driven by ground realities, has to be given.

The problem of risk financing has to be tackled at all stages of the Urban Risk Management process, more so during the post-loss risk control phase. Since cash-crunch is a perennial problem with most civic bodies, ensuring a steady flow of finances during the implementation of the Urban Risk Management process is a critical feature of the risk financing function. A majority of the urban risks need to be retained, and hence, instead of relying solely on ad hoc aid from the State or Central Governments, it will be in order to establish financial pools via fiscal and non-fiscal instruments for funding risks. Without this, the entire risk planning will go haywire.

Insurance, as a risk transfer tool can also be effectively used to cover the loss of life on account of specific perils. Some states already have personal accident covers for masses like marginal farmers, industrial workers and students. The need is to re-work these welfare schemes for urban citizens from a risk management viewpoint.

Strengthening Local Authorities

Despite having gained valuable insights into disaster management, the fact remains that the present role of our local bodies is more of a disaster response and clean up rather than adopting a concerted risk management approach. Whatever little activity is visible on this front through Disaster Management Authorities or the Crisis Management Group is merely of an advisory nature with a conspicuous absence of local authorities in the loop. Keeping law and order-related risks under the exclusive domain of enforcement agencies and multiple authorities at the central and state level dealing with specific risks are only a few instances of crucial gaps in our urban risk administration. These have to be filled by bringing the local authorities in the loop.

Urban Risk Management is a highly specialized function of urban administration. All this envisages a strong local authority at the helm of affairs. For instance, in case of an eventuality like 9/11, although the initial implementation of the Anti-Hijack Policy (recently approved by the government) may be carried out by authorities like the Indian Air Force, the onus of handling the ultimate disaster will be on the local administration.

Thus, any Urban Risk Management exercise without the involvement of local authorities is ineffectual. To equip them with proper tools, techniques and trainings in risk management, to empower them with sound administrative set-ups, to saddle them with adequate authority and responsibility and to make them financially sound for combating the impending risks is what we mean by strengthening local authorities.

Participation of Communities

No exercise dealing with risks that affect the public at large can attain its desired objectives unless actively responded to by the communities. In order to augment the results of Urban Risk Management through cohesion and to avoid wastage of scarce resources, it is essential that all spectrums of the society (the exposed units) are uniformly educated on the vital tenets of the Urban Risk Management exercise. In the event of a tragedy, masses should be thinking and moving in the desired direction. For

Any Urban Risk Management exercise without the involvement of local authorities is ineffectual

this, the dos and don'ts for communities have to be widely publicized through all possible means like school curriculum, workplace training modules, print and electronic media campaigns, street performances, road shows and so on.

In a country where people tend to depend on the government for the smallest thing, ensuring community participation may appear to be formidable. But the fact that so many cities have undergone similar ordeals posed by one or the other calamity, coupled with examples of the Western world responding to calamities and the relatively high literacy levels in our cities should provide some comfort on this issue.

It is essential that all spectrums of the society are uniformly educated on the vital tenets of the Urban Risk Management exercise

Conclusion

Urban Risk Management is a time-consuming as well as a costly affair. However, with disasters becoming credible threats rather than remote probabilities, such exercises are worth taking up sooner rather than later. The right tools and the right approach will definitely be beneficial in terms of the life and property saved. Globally, the scientific community is working overtime to attain convergence in various earth sciences and invent advanced warning and surveillance systems. This technology, whenever available, will be of little use in the absence of well-practiced Urban Risk Management systems.

Urban Risk Management is a process, not a product, and hence, may take time to fructify. Nevertheless, a beginning has to be made. The urban taxpayer has suffered enough and badly deserves a risk management system now. ■

References

1. Census of India, 2001.
2. Local Administration and Risk Management by Murat Balamir, <http://yym.marmara.edu.tr>
3. Strengthening Local Authorities in Risk Management – A Research Project of Institute for Geo-Information Sciences and Earth Observation, Netherlands.

Arman Oza is an Associate of the Insurance Institute of India (AIII) as well as a qualified Company Secretary (ACS) functioning as an independent consultant in Ahmedabad. He can be reached at armanoza@hotmail.com

Reference # 11M-2005-10-14-01