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# Planning for Health Amelioration: Analyzing Mumbai's Urbanization Patterns

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## 1 ABSTRACT

Indian urbanization is characterized by multiple extenuating circumstances which forestall the emergence of ideal communities within cities. Issues such as overpopulation, social fragmentation and environmental degradation which are symptomatic of developing countries impact cities negatively, compromising quality of life. The urgent necessity to address basic needs for a growing population is consistently prioritized over the planning of cohesive, organized and healthful communities. Such unregulated urbanization poses challenges to the creation of viable, sustainable communities, in addition to generating circumstances of significantly compromised public health. This paper offers an empirical evaluation of contemporary developmental patterns in Mumbai (predicted to become the world's second-largest city by 2050 with 26 million residents) as a case study with critical implications for urbanization in other Indian cities. It analyzes demonstrated developmental trends, identifying inherent drawbacks as well as positive parameters evident in recent growth. The study posits that the urban environment can be ameliorated by comprehensive planning to moderate the impact of social, cultural and economic disadvantages, arguing that planning is essential for future communities representing the desired ideals of aesthetic form, social cohesion, equitable social engagement and improved health.

## 2 URBANIZATION IN INDIA

Global urbanization manifests itself at an accelerated rate in the developing world. This phenomenon is especially pronounced in India[1], where high rates of population growth and the urban/rural developmental imbalance (partly a legacy of colonialism) have precipitated a sustained, large-scale migration to larger cities by populations seeking economic opportunity. This unprecedented and unregulated *over-urbanization* (Datta 2006, 1) exceeds the absorption capacity of cities and compromises their identity, character and functionality. It degrades the quality of life and deprives the population of advantages which the city should ideally provide. Although the quality of life in India's cities is perceived as superior to that in towns and villages, this superiority is essentially materialistic – better employment opportunities, greater income potential and improved amenities exist, but social cohesion, aesthetic environments, meaningful community participation and nature-derived benefits are relatively lacking. Characteristic problems of Indian cities include overpopulation, poverty, substandard education, deteriorating environmental quality and impacted urban health[2] (WHO 2007).

This situation is exemplified in Mumbai, India's fastest growing city and the fourth-most populous in the world[3]. Conceived as the British colonial city of Bombay, its sophisticated historic core with elegant

Fig. 1: Streetscape in historic Mumbai

Fig. 2: Public plaza edged with distinctive architecture

architecture, street hierarchy, public spaces, monuments and vibrant landscape creates an urban map that is the most expressive and experientially-rich part of the city (Figs. 1, 2). Recent growth beyond this core, however, has not attained a commensurate level of coherence. The urgent need to provide shelter, transportation and employment to a steady influx of migrants compels development to be largely housing

and road construction rather than the building of coordinated, environmentally-responsible communities inclusive of other requisite components – public spaces, gardens, marketplaces and civic monuments. Consequently, most new neighborhoods are essentially housing districts devoid of social identity or unity. This reactive approach has other consequences as well – it precludes the conservation of environmental, social, cultural and historical resources in the process of constructing infrastructure, and marginalizes nature, creating ecologically-unsustainable environments which compromise resident health.

## 3 URBANIZATION AND CONSEQUENCES FOR PUBLIC HEALTH

While cities offer access to better medical facilities, public health can be negatively impacted by certain urban conditions such as overcrowding, improper sanitation, inadequate drinking water, pollution, etc. which increase incidence of disease (Aicher 1998, 43). Urbanization also compels a reinterpretation of traditional patterns of living, deemphasizing or eliminating conventional healthy practices, with the import of these modifications often unrecognized by the general population. The situation is exacerbated by a widespread lack of awareness and prevalent misinformation about health (for instance, Indian culture has traditionally assigned value to obesity as a sign of prosperity). Three major derivatives of contemporary urbanization which adversely impact health and which pertain to physical planning are enhanced city size, individual-level adaptation, and societal trends, as described below:

1. Magnified Constructed Scale
   The physical scale of Mumbai involves distances which are too large to negotiate on foot for accomplishing daily tasks, a fact that encourages private automobile ownership and eliminates opportunities for physical exercise. Personal transportation is also preferred, both as a status symbol and as a consequence of the overburdened public transit system.

2. Redefined Recreation
   An altered perception of 'recreation' has led to a preference for passive, sedentary activities (watching television) over outdoor activities (walking in the park or to the market). The increasing prevalence of individual-centric lifestyles, limited time for leisure, curtailed social networking and higher levels of isolation and stress as a consequence of "urban disruption" (Fullilove 2006, 187) further reinforce this inclination.

3. Cultural Value Shift
   Western modes of behavior (conflated with progress) are being adopted due to the prestige assigned to westernization in the public perception. The growing preference of the urban middle-class for malls, fast food, processed or pre-packaged meals and synthetic beverages[4] (Cunningham 2006) is rationalized by convenience and efficiency and affects health negatively[5]. At the same time, consumption of healthy foods – fruits, vegetables and pulses – is well below accepted standards nationwide[6] (Mudur 2003).

In recent years, social scientists and medical professionals have mapped a steady increase in health issues afflicting urban residents. As linkages between urbanization and health concerns are increasingly documented and verified (Agrawal 2002; Datta 2006; IIPS & Macro International 2007) the effectiveness of city planning as an instrument to improve health is actively promoted (Jackson 2003; Sengupta undated; Rice and Rasmussen 1992), creating opportunities for city planners and urban designers to resolve this problem through comprehensive planning.

## 4 PLANNING AS PRESCRIPTION

Can physical planning offer an appropriate paradigm for future development in Mumbai and similar communities? While the value of planning for the creation and sustenance of communities has been long recognized in the western world and in developed countries, practical and logistical conditions have precluded a comparable view of planning in India. It can be argued, however, that the detrimental circumstances in which Indian cities must exist and thrive necessitates a stronger emphasis on the inclusion of planning in the development process. Indeed, there have been historical attempts at planned communities with mixed results, including in Mumbai (Heitzman 2008). The ultimate objective – the creation of human-scaled communities which are aesthetically, functionally and socially rich, environmentally-responsible and rooted in their milieu – is universally relevant and as applicable to the Indian condition as to any other place. These considerations are reflected in historical Indian settlement patterns which incorporated walkable

streets, contextualized architecture, and valued social spaces. These characteristics, although generally rejected by current development in India, must be acknowledged (and retained) as vital components of the city. By reinforcing their intrinsic value, planning can create *real* places that eschew the placeless, soulless and generic appearance which characterizes so many cities in the developing world.
The following narrative locates the core values of planning in the context of Mumbai's existing built environment and physical construction, classified as *Positive Attributive Factors* (substantive assets which actively contribute to the vitality of the city) or *Inadequate Desirable Factors* (vital, non-negotiable components of the city which are currently absent).

### 4.1 Positive Attributive Factors

- Pedestrian Focus
  Emphasis on environments which are primarily navigated on foot finds resonance in Mumbai, which is built on a scale amenable to pedestrian movement. This derives both from traditional spatial arrangement of private, public and civic functions as well as the limited integration of the automobile, as a large majority is unable to afford private transportation. This vital component of viability, although omnipresent in India, unfortunately lacks comfortable, safe and pleasant streetscapes to accommodate it. (Fig. 3) Further, the traffic model of a hierarchical network segregating diverse users has not been implemented. Instead, street width is determined by space availability and not by function, design or planting character. All users – from pedestrians to trucks – are compelled to negotiate the streets simultaneously, leading to constant conflict. (Fig. 4)

Fig. 1: Compromised pedestrian convenience

Fig. 4: Pedestrian safety jeopardized by traffic

- Built Diversity
  Complexity and variety exist on multiple levels in Mumbai. A compact, high-density building pattern (Fig. 5) results from escalating real estate prices, large population and rapid growth. The perpetuation of traditional social organization has created neighborhoods peopled by intermingling ethnic, linguistic, religious and economic groups. This diversity extends also to gender, age and education, etc. Although populations in larger cities often tend to coalesce based on levels of

Fig. 5: Typical high-density, high-rise housing

affluence, this trend still remains a strong determinant of heterogeneity. Housing similarly manifests a spectrum of residential options within each neighborhood, ranging from small, affordable units to larger, expensive accommodations, reflecting diverse economic levels, family sizes and preferences.

### 4.2 Inadequate Desirable Factors

- Contextual Architecture and Landscape Architecture

  Much of Mumbai's architecture reads as an incoherent, repetitive agglomeration of negligible aesthetic value. (Fig. 6, 7) This is true for individual buildings as well as their collective composition. Creative visual expression is largely proscribed by cost, as is continued maintenance, thus accentuating the widespread architectural non-distinction and disrepair. The generic, monotonous uniformity and absence of referential natural features or iconic landmarks fail to create an "identifiable neighborhood" (Alexander et al. 1977, 80).

Fig. 6: Unremarkable, visually unappealing architecture

Fig. 7: Poorly maintained buildings

The landscape, when not absent altogether, is an ineffective design component, included more as a concession to building codes than for any real contribution to the environment or to the lives of the residents. (Figs. 8, 9) This superficial 'landscape' produces nothing other than a minor enhancement of the aesthetics of the built environment.

Fig. 8 & 9: Installed landscapes are perfunctory and irrelevant

- Civic Institutions and Public Spaces

Mumbai's neighborhoods exhibit no cohesive organizational pattern, epicenter or focus for their spatial arrangement. Historical centers of organization – palaces, temples or public squares – have not been replaced by corresponding democratic emblems for structuring neighborhood form and identity. Civic architecture, shared communal spaces and monuments are not employed in the formation of the community. That role has been tragically assumed by malls which, by virtue of their locations, sizes and distinctive architecture, have become the new locational markers. (Fig. 10)


Fig. 10: The mall is the new civic landmark

- Sustainability and Ecological Responsibility

  The collective environmental impact of Mumbai's population is severe, and recent climate change necessitates the integration of ecological stewardship as an essential component of future planning. As natural conservation is presently not a component of urban planning, natural systems and resources are afforded little protection in the course of development. The implications of construction which ignores topography and natural processes can be catastrophic, as witnessed in the devastating floods of 2005 which paralyzed the city and caused almost 900 deaths.[7] (Government of Maharashtra undated).

Fig. 11: Unprotected, abused creek used as drain

Fig. 12: Garbage covered island in the creek

## 5 CONCLUSION

While the value of planning, urban design and the influence of a positive built environment on communal behavior are well documented in the western world (Lynch 1960; Alexander et. al. 1977; Whyte 1980), India's developmental history does not reflect a similarly extensive theoretical or implementational

foundation for its cities. Although historical instances of planned communities exist, contemporary development is forced to marginalize the time, resources and effort necessary for planning in order to deal with other exigent issues of human necessity, such as housing and employment. Consequently, the form, function and ideological identity of its cities fail to provide citizens with the idealized environments they deserve. The consequences of such environments reflect broader aesthetic, social and functional inadequacies, as well as secondary concerns such as impaired public health.

Many health issues and their deleterious effects which characterize Indian urbanization today can be remedied in communities that integrate aspects of physical wellness in their design. Aesthetically pleasing, socially enriched and environmentally responsible neighborhoods can foster greater participation of the individual with the larger society in ways that nurture physical and psychological health. The current approach which produces mere housing clusters must be replaced with a holistic philosophy that prioritizes both tangible opportunities for recreation (gardens, streets, plazas) and intangible attributes (beauty, comfort, convenience). The provision of destinations for communal interaction and social reinforcement can elevate the standard of fitness within the community with minimal effort on the part of the residents.

As the above narrative demonstrates, the relevance of universal objectives of planning is strengthened by its dual emphasis on pedestrian-oriented design and the neighborhood as the operational unit of urbanization. Walkability is a fundamental characteristic of the Indian city, and its formalization as the essential determinant of city form will incorporate a healthy dimension in the routine experience of daily living. Furthermore, well-designed neighborhoods will allow inhabitants to construct intimate relationships with their surrounding environment, social spaces and neighbors. Individuals are more likely to interact with the exterior, public realm (thus engaging in healthful behavior) if they believe themselves to be stakeholders in their surrounding environment. Indeed, planning at this local scale may be the only pragmatic approach for megacities such as Mumbai, which physically and psychologically transcend conventional conceptions of cities.

The achievement of the goals of planning in India will be facilitated by the human component vital for sustaining a city and manifested in density, diversity, mixed-uses and social complexity. Built for, and peopled by, large pedestrian populations, cities in India are replete with the primary component that makes urbanism successful. It is this fact that has eventually transformed Le Corbusier's Modernist plan for Chandigarh into a thriving city, in spite of its complete disregard for cultural, geographical and environmental context (Verma 1994). The emergence of optimal communities has been prevented by the absence of a comprehensive organizational structure for this human resource, but the implementation of an appropriate framework and planning philosophy can result in cities which accomplish the goals of being functional, socially and aesthetically pleasing, contextually relevant and environmentally sustainable.

Ultimately, planning's most significant contribution (and one which also directly influences health) would be to heighten awareness of the ecological crisis, worsening continuously, which recent history has precipitated. The necessity to protect, conserve and treasure natural resources must inform any planning philosophy that seeks to create durable cities, and be incorporated in administrative policy. This awareness is critical in view of the global future – as natural resources diminish and populations grow, sustainability and ecological responsibility become the only options available. At this stage, we do not have the luxury of pretending we are not in trouble.

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[1] World population is estimated to be 70% urban by 2050, with growth mostly concentrated in Asia, Africa and Latin America. India and China together will account for 35% of this increase. (UNPD 2007)
[2] Major environmental health risks (caused partly by development without environmental safeguards) account for nearly 20% of India's total disease burden.
[3] Predicted to become the second-most populous by 2050 with 26 million people. (UNPD 2007)
[4] Cunningham correctly identifies obesity in India as largely a disease of the urban middle-class.
[5] According to The National Family Health Survey, obesity is most common "in urban areas, among the well-educated and those in the highest wealth quintile."
[6] Average daily consumption of fruits and vegetables is 150 g/person, instead of the recommended 400g.
[7] The flooding was partly blamed on the interruption of natural drainage channels, and on garbage (including plastic bags) which is thought to have clogged drainage systems.