Decoding High Population Densities of Mumbai Metropolitan Region

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Abstract

Changing ideas about suitability of 'high or low density of population' have misled city planners in India in the last fifty years. High density and compactness were common to Indian cities until the low density - high sprawl ideals of the Garden City concept influenced planning during and after British colonial rule. In case of the Mumbai Metropolitan Region, high and extremely high population densities are associated with poor living conditions in both, slum and non slum areas inspite of low density - low FSI, high sprawl – policies adopted for the region since the 1960s.

This paper traces the evolution of 'high and extremely high density' areas in various cities of Mumbai Metropolitan Region. It analyses the factors leading to the current unsustainable conditions. It also explores the possibility of providing a solution through innovative forms of urban architecture that can combine high population density with better living conditions.

1. Introduction

This paper aims to explore the issues related to the high population density in Mumbai and other cities in the MMR region. It argues that density as expressed in the ratio of residential population of unit area (i.e. Ha or Acre) is a valuable tool with limitations when applied to understand complex issues related to quality of life of a settlement. Density is often mistaken as a measure of crowding of people in area. Both density and crowding in cities had alarmed reformers at the dawn of the twentieth century and was identified as the most "dangerous factor". Modern Theory of Town planning discussed in the "Garden City" vision of Ebenezer Howard in 1898, and later expanded in the twentieth century explored ways to reduce density, and density reduction ultimately became a cherished goal. It was a factor that led to unsustainable motorized sprawl in the USA and other western countries. It also came to be idolised by developing countries such as India in second half of the twentieth century. Today however, low density sprawl is seen as unsustainable. On this backdrop, this paper attempts to review traditional Indian Urbanism by decoding the densities found in Mumbai and its region.

The current high average density of 273 pph in Mumbai is a cumulative outcome of colonial and post-colonial city development strategies that span more than 350 years. In 1881, Kumbharwada and Bhuleshwar areas of C ward of Mumbai recorded densities of 760 and 503 persons per Ha respectively. They peaked at 1083 and 1468 per Ha in 1961, and then started to decline. Similar density trends are also found in many areas and wards in Mumbai and other cities in MMR.

This paper touches upon few effects on the city and people and explores some underlying factors that could have caused and sustained such high density areas in Mumbai. It presents various factors and strategies adopted by the city. It argues that high density is not a problem if tackled with understanding and sensitivity by planners and policy designers. A different and innovative approach based on information, knowledge, and analysis is needed, which was missing in discourse of planning

in Mumbai. A new and innovative policy framework for planning is essential to address the complex issues of urban regeneration and slum free Mumbai. It can only be achieved with new paradigm of high density and livable city goals. This would also need a sensitive planning approach. A team of planners would need to work with people to understand their concerns and expectations. Such an approach is not impossible.

## 2. High Density Mumbai in the 19th and 20th centuries

Fig 1. Evolution of Mumbai

Images: 1) Original Mumbai islands,2) Port and fort in 1800, 3) Expansion of Mumbai from Island city to suburbs between 1950 – 1965, Source:Various

Over a period of two centuries, the original seven islands of Mumbai were gradually combined to form a single, narrow land mass to acccomodate a trading post and a safe port in the harbour. A fort was constructed in the 18th century to accommodate trading activities. This formed the core of Mumbai from which the city expanded northwards in the subsequent years.

Fig 2 Density of Mumbai Island wards 1881-1951.
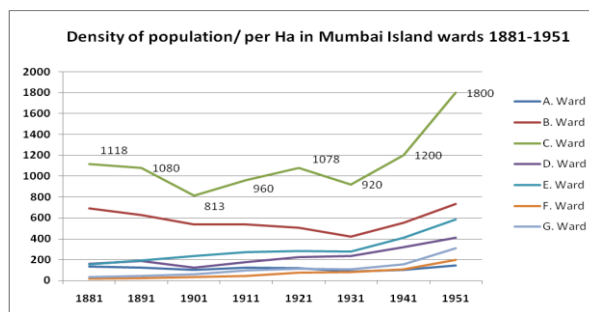
Source: Harris Nigel

The fortified area was a compact, high density area, packed with different kinds of buildings (Fig. 1).   The Fort was planned on a pattern commonly found in European towns - a square in the centre, with the town hall providing a meeting point for the main east-west and north-south streets. Rest of the area was divided by narrow roads forming sub divisions that housed all town functions and security barracks, and other buildings for trade and commerce, state functions and a market. In subsequent decades, land requirements for port activities and associated growth of population increased. The fort wall was demolished by the British authority to allow for expansion of diverse city functions towards the north. This growth was facilitated by two railway lines running parallel to east and west coast. Thus city expansion in the north was made possible and compact settlements started developing around railway stations. These accommodated a large number of migrants. This was achieved through intensive and mixed use of land and high population density. This pattern continued in suburban areas annexed by Mumbai in the decades after India's Independence in 1947. The

compact, high density pattern is also observed in other cities in the Mumbai Metropolitan Region (MMR) today, which is further explored through case studies presented below. The density dynamics of island city wards in between 1881-1951 is presented in Fig. 2.

3. High density areas in Mumbai

Five categories of high density urban areas in MMR are presented below. Following three cases from greater Mumbai and two from developed cities in MMR of high densities are chosen on the following criteria:

- Ward with highest density, with no slums (C ward)
- Wards with medium density with nearly 50% slum population (F, P and M)
- Dharavi (Part of G/N) where the majority of population lives in slums
- Ulhasnagar and
- Navi Mumbai

a. *C ward*

C ward is located on the periphery of the old fort area. It is strategically located between western railway line on the east and central railway line on the west. This strategic location and transport connection allowed this ward to grow and sustain high density of population for more than 100 years. The dense pattern of settlement evolved in the 19th century as seen in Fig.3. The change in population density in C ward from 1881 to 2011 is depicted in Fig. 4.

Figure 3: C Ward in 19th century   Figure 4: variation in population density trend of C Ward
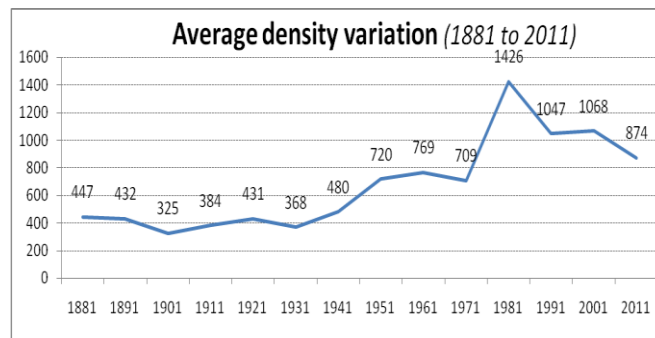
Source: Mumbai - Theatre of Conflict, City of Hope, Census India

C ward has a current density of 874 people per Ha. It has mixed land use. Retail, wholesale markets for textiles, gold, silver, other metals and plastic goods share physical space with residential communities. The population trend between 1881 to 1971 shows that certain parts of the ward have very high residential density compared to others e.g. Kumbharwada (potter community housing), had the highest density providing accommodation to the poor, lower caste people. Bhuleshwar is another high density area with typical Indian Bazaar consisting of a number of small shops on ground floor and owners residing on the upper floors. Both Kumbharwada and Bhuleshwar areas had recorded densities of 760 and 503 per Ha respectively as early as1881. These peaked to 1083 and 1468 in 1961, before a subsequent decline.

b. *Dharavi*

Dharavi was a small Koliwada (fishing hamlet) on the southern bank of Dharavi creek, on the north boundary of the island city of Mumbai. A kumbharwada, a settlement of potter community, and a settlement of leather workers was nearby. It accommodated an informal leather industry, including tanning. For several decades, the creek was used as a dumping ground for municipal waste. Due to its marshy land, geographical location, and poor, lower caste populaton, it remained a neglected area,

until its dramatic growth to become Asia's largest slum was noticed. A part of Dharavi was also used as a transit camp to accommodate evicted encroachers from other parts of Mumbai. Today Dharavi is home for small informal industrial clusters with a thriving economy. Though tanning is forbidden due to environmental concerns, leather products from Dharavi have attained fame. The economy of Dharavi attracts a large number of migrants from all over India. These migrants are typically accommodated in informal housing. A majority of the populated of Dharavi settled in post-1960. The ward had a density 689 per ha in 2011. However, the population is not uniformly distributed as seen from Fig. 5. Growth of population density of Dharavi is not separately enumerated. The growth of average population of G/N ward (which includes Dharavi) between1981-2011 is depicted in Fig.6.

Dharavi occupies an important location in the heart of Mumbai, with easy access from central and western railway lines. The unrealized real estate value and development potential have made Dharavi a very attractive location for real estate developers. However, it is proving to be a difficult and complex area for urban regeneration for the Dharavi Re-development Authority (DRA) specially created by the Government of Maharashtra. Earlier few slum dwellers, which formed co-operative housing societies, and contributed towards cost of construction were housed in 4 storied RCC buildings. Now such efforts have been rendered obsolete due to DRA and promise of free houses to slum dwellers. Little progress has been made on ambitious redevelopment schemes planned with the help of international organizations. Twenty years have passed since the initial attempts of Dharavi redevelopment. The area suffers from a lack of urban infrastructure and offers poor quality of life, while attracting high visibility in world media.

Figure 5: Dharavi with different densities.   Figure 6: Growth of Density trend of G/N Ward.

Source: Census 2011, KRVIA and UDRI.
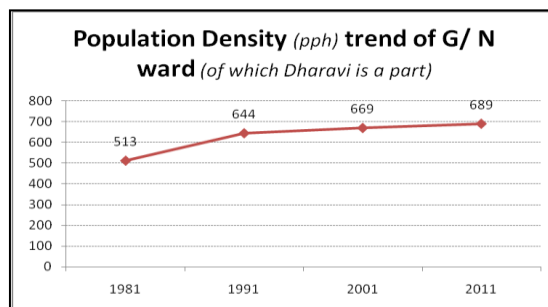
c. *Suburban wards with high density and nearly 50% slum population*

Suburban areas were attached to the island city between 1951 and 1965 as shown in the map (Fig. 1, image 3). Area for administration increased from approximately 75 sq. km. to 437 sq. km. Mumbai was an attractive location for private industries to diversify from textiles to other large and medium industries. It attracted public sector industries such as petrochemical, telecom and heavy engineering. All these activities were based in the suburbs where large tracks of land available or could be acquired by utilizing Land Acquisition Act implemented during the colonial rule. The growth of industries and population went hand in hand in the suburban areas of Mumbai. This can be seen from the population data from the western and eastern suburbs of P and M wards (Fig 7).

It is clear from available data (Slum census report in 2001) that construction of affordable housing in suburban areas, especially for migrant workers could not keep pace with the demand. The gap between the demand for affordable housing and supply was exploited by unscrupulous elements and slum developers. Today, some suburban wards have nearly 50% population living in slums while a few wards have more than 60 % people living in slums. Percentage of slum population in 24 wards of Great Mumbai 2001 is presented in Fig. 8. It can be seen from the graph that proportion of slum population of some of the suburban wards is more than 70% and in case of L ward it is 85%.
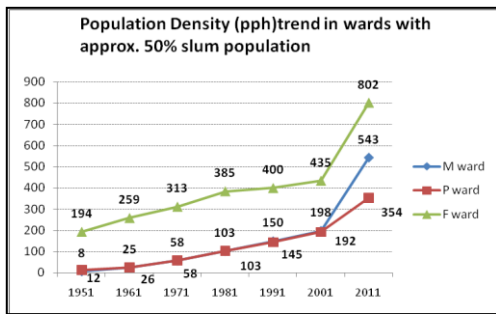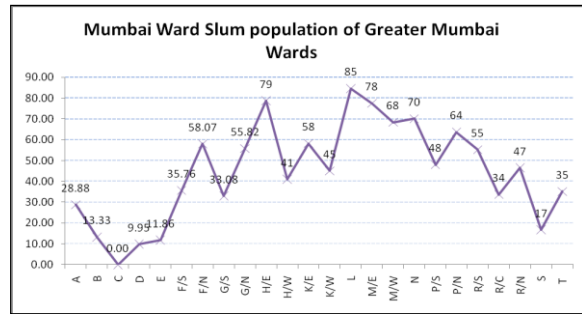
Figure 7: Population densities in M. P and F ward.   Figure 8: Percentage of Slum Population in Mumbai

Source: Census India, MCGM.

d. *Ulhasnagar*

Ulhasnagar is an important city in the MMR. Reachable by the Central Railway line, and at a distance of 50 km from Mumbai, the site was selected for a camp to settle about 100,000 refugees from West Pakistan after partition of India in 1947. The settlement thrived and attained fame as an industrial town within four decades. Enterprising migrants transformed the camp and set up small and medium scale industries for textile, furniture and electronic items. In the 1970s, business practices of duplicate products, combined with illegal construction and unauthorized industrial units attracted labor to Ulhasnagar. It is a city with 80 % illegal RCC, multi storied buildings, all constructed in a haphazard manner. This high density city enjoys good connectivity and has become an education hub that attracts large floating population from surrounding cities in MMR. Ulhasnagar was planned with 4 sectors out of which Sector 2 and 3 are high density areas. Density growth in Ulhasnagar is depicted in Fig 9 & 10.
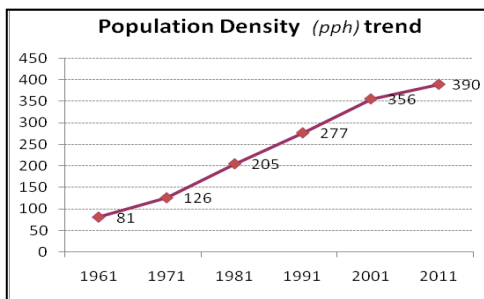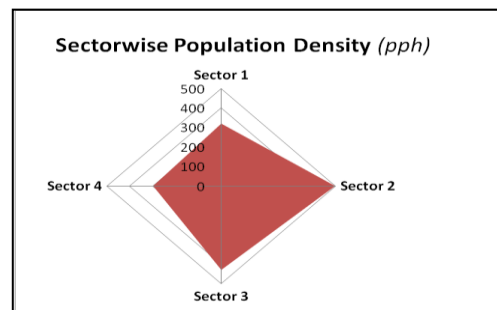
Fig. 9   Population density growth of Ulhasnagar   Fig. 10: Ulhasnagar density 1961-2011


Source: Census 2011, UMC.

e. *Navi Mumbai (NM)*

Planned in the 1970s with an aim to decongest Mumbai city, Navi Mumbai (NM) was envisioned to attract new economic activities and migrants. The twin city was planned to accommodate large and small industries that employed people in the congested city, provide other economic opportunities, and affordable housing for all classes of society. Planning was based on different densities in different sections depending on types of tenements and low to high density households in single family homes, row houses and multi-story buildings. However, caste distinctions were expressly omitted during the planning. Therefore, Navi Mumbai does not have localities divided along the lines of caste or traditional occupations. Navi Mumbai also proved to be attractive to ICT industries that grew rapidly after 1991. The population of Navi Mumbai overall is young, educated, multicultural, and multi lingual. It has also emerged as a higher education hub. However, the preexisting village communities did not merge with the new, modern city. Hence Navi Mumbai is dotted with many villages with unplanned, high density islands with slum like character in the otherwise planned landscape.

Figure 11: Population Density trend in NM.   Figure 12: Sector-wise density in NM.
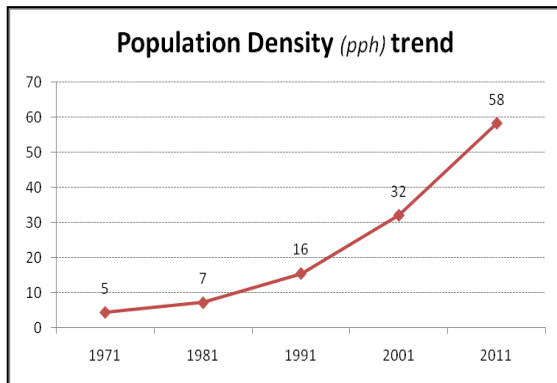
Source: Statistics Department CIDCO.
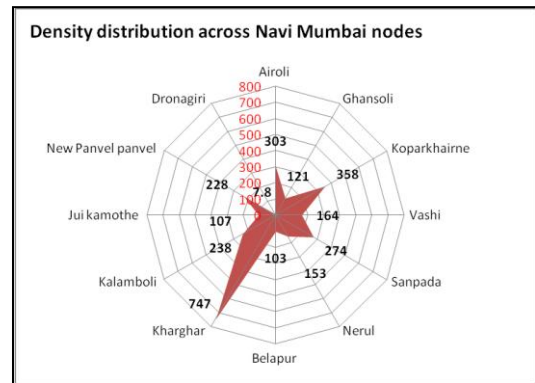
4. Effects of High density on settlements

Few of the effects of high population density on the city and people are mentioned here that are important from the urban design perspective. Visual impact of high density of population is the most dramatic of all the other effects. When associated with slum like conditions, or associated with dilapidated buildings and occupied by poor people the effects are extremely disturbing. Some of the effects are tangible while some are not. Some of the effects are seen after a time lag while some are immediate.

One of the major effects of high density is seen on the limited availability of per capita living or working space in Mumbai. This is seen in case of all the chawl structures in Mumbai, which were originally constructed for single male workers and later came to be occupied a large number of family members due to unavailability of alternatives. Conditions in slums are worse than the chawls. 10 sq. m of living space per person is generally considered as minimum, which is rarely found in slums or in old chawls. Due to this, quality of life in both the chawls and slums is extremely poor. Lack of basic amenities are at least available in chawls but water and sanitary conditions are extremely poor in slums. There are also a number of problems associated with provisioning of infrastructure in slums due to extreme density of buildings and lack of space.

Lack of any lung space, recreation space or play areas for children is extreme in Mumbai. Availability of less than 1 sq. m. per capita is mentioned in Development Plan report 2014. Crowding of streets, public spaces and public transport is another problem associated with high density. Growth of motorised and parked vehicles has added to the congestion in high density areas. It is therefore necessary to identify factors that have created such a situation in Mumbai and most of the cities in MMR.

5. Some explanations for rise and fall of densities in Mumbai

A number of factors are responsible for very high population densities found in different areas in Mumbai. These factors are discussed in relation to five cases of high density areas in Mumbai and MMR. The impact of these factors has varied in different areas in different decades.

a. *Limited land*

Availability of land for urban growth has been a perpetual problem in Mumbai ever since the islands were converted in the 18th century. The twin strategy, adopted to overcome the land scarcity were to reclaim land from the sea by flattening hills and using quarry material for as much construction of buildings as possible, with the means available at the point in time. As a result, the density of buildings on land and population occupying those buildings was never low. The earliest known estimated density of population is 314 persons per acre or 785 per hectare in 1862-63.

b. *Land regulation and urban planning*

Legal framework and land management systems (technical system of survey, measurements, and recording tenure as well as acquiring land for public utilities and roads) played a crucial role. Reclamation from the sea increased land supply in Mumbai Island. Effective land management by the colonial administration created environment for increased supply of built up area and infrastructure on the available land. Both helped the city to grow and diversify economically, and provided roof to the large population of migrants. Reclamation and intensive use of land with regulatory framework also helped generate necessary finances for provisioning of public and social infrastructure such as water supply, sanitary and drainage system, roads and schools, hospitals, gardens, among others. The Land Reform Act of 1839 brought major changes in the land management system in Mumbai, whereby the existing feudal system was converted to a capitalist system with private ownership. Simple building construction regulations were introduced, which along with technology and financing helped in the construction of multi storey structures up to 3 to 5 floors, many of which replaced traditional single storey houses. Construction of large industrial, commercial, and residential buildings for all classes of society was undertaken. Due to this, C ward of Mumbai could achieve a density of almost 450 persons/ acre in 1881. There was no restriction on FSI and whole C ward achieved a floor area ratio of more than two.

However this did not happen in areas developed in north of C ward (e.g. G ward) in the later period due to restrictions on maximum coverage of 33% after the Town Planning Act of 1915. As a result more people were forced to occupy available spaces and led to reduction in per capita BUA in available houses.

The development of suburbs as well constructed, multi storey, mixed use areas like C ward could not happen after 1960s due to restrictive land and construction policies that were not responsive to the high demand for housing during a period of expansion for the city. Similarly restrictions on FSI led to construction of numerous illegal multi storey high-rise RCC buildings in Ulhasnagar, which was a settlement for high caste, educated and enterprising refugees from Sindh area of Pakistan.

c. *Traditional urban form of Indian cities.*

Dense city form with high population density was not new to Indian cities. Cities in India had different regions had different forms and characters in different periods. The economies of cities also differed and so also their size of population. A common character in all these cities was social segregation and high densities. The cities and towns were segregated on the basis of religion, caste, occupation and language, with their own specific social and cultural character. Population density in each section varied depending on the importance of the caste, religion or occupation. Typically the lower caste quarters were located on the periphery of cities, or even outside the fortifications wherever they were present, and were more densely populated than upper caste areas. These quarters had poorly constructed structures and lacked any formal infrastructure. These were also places for working and residing for certain social groups engaged in "dirty and unhygienic" occupations. "C" ward as well as Dharavi are examples of such traditional settlement pattern even is a small urban area. Khara Talao and Kumbharwada in C ward and Dharavi was occupied by poor, lower caste people. As the name suggests, the area must have been primarily occupied by the potter community on the outskirts of the main city.

d. *Mixed land use*

C ward of Mumbai is a classic case of mixed land use. If we look at it in more details, we find that the area was neatly divided into clearly identifiable sectors with some exclusive and some common factors. High density of building with 4 to 5 floors accommodated all types of commercial activities. The settlements within C ward had distinct but mixed land uses, e.g. Bhuleshwar and Market areas (with Mulji Jetha and Mangaldas markets for textile trades and Jhaveri bazaar for gold-silver) and Kalbadevi road for copper and steel goods were among the most important trading areas of Mumbai and also home to rich merchants. Dhobi Talao, as the name suggests was primarily occupied by washer men community near the lake and Fanaswadi, as the name suggests was originally a Jack fruit

garden later converted to residential chawls for upper caste Hindu community. The area also had a sizable Parsi community. The Sheikh Memon Street, was one of the richest streets in Mumbai, and housed Jama Masjid. In addition to this the small, less than 2 sq. km. area of C ward has a very high density of religious buildings, numerous temples for Hindu gods and goddesses, (including that of Mumbadevi, the goddess from whose name the name of the city – Mumbai - is derived), a Jain Temple for traders and a number of small and large Masjids. These were the most important places of social gatherings and festivals, while the main roads were the most important public spaces, where people from all communities could meet, communicate, do business and other important transactions. Single use, exclusive areas are completely absent even today in Mumbai and other cities, except for some localities that were designed based on the modern city planning principles of segregation of commercial, industrial and residential zoning law, after the formal Town Planning Act of 1915.

e. *Physical infrastructure connections*

Traditional urban infrastructure was mainly related to road connectivity, water supply and sanitary system. Formal pattern of roads within cities served to divide the spaces and assign them to each community. Water supply was mainly from rivers, artificial tanks and wells, separate for each community. Lower castes typically suffered from insufficient access to these sources. Night soil and solid waste disposal was the responsibility of lower castes. Majority of the upper caste settlements and houses had separate access through narrow lanes for movement of material and people handling it. In absence of such lanes, the work was carried out in the early hours of the day, rendering the work force doing the menial work invisible from the rest of the society. This social system was also responsible for the lack of innovation in the sewage system. The grey water was typically used for gardens and trees around building. Modern community sanitary blocks started appearing on the ground floor and later became an integral part of the multi storey chawl structures, in Mumbai. At the same time, a water supply system was also installed in Mumbai, which was based on gravity and did not require electricity to pump it on upper levels.

However, the most important connectivity which allowed the population of Mumbai to swell in the colonial period was the railways. The main Central and Western railway lines were established in 1860s in Mumbai, which completely changed the character of the port city of Mumbai. Railways first supported the cotton trade to England, and then supported a domestic textile industry. The growth and expansion of population on the northern periphery of A ward, namely in the B, C, D, E, F and G wards can be directly linked to the railways. Highest density found in C ward in 1882 can be linked to the central and western railway and the transformed economy of Mumbai.

f. *Urban and Architectural forms*

"Density" and "Chawls of Mumbai" are very much interrelated. Chawls is a well-researched subject from the architectural perspective. This distinctive building form evolved during the period of expansion after the introduction of railways in the mid 19th century and first three decades of the 20th century to accommodate the migrant population. Chawls provided rudimentary accommodation for a large number of people at affordable rents. Chawls were built by textile mill owners within walking distance from the mills to attract workers from rural areas. The rooms were small with common passage and toilet facilities, suitable for single male workers, and later accommodated families and extended families. Occupants were grouped based on their native regional connections. Chawls constructed for middle and upper class occupants had larger rooms, separate kitchens, a common wide multipurpose passage, staircases, open courtyards and toilet blocks. Groups and caste people with strict vegetarian diets would never co-habit with other communities. Caste, class, religion and region were the main organizing principle of the chawls in specific localities. The chawl architecture was the most suitable form to accommodate large density of population in small areas. Exclusive ties could be maintained and sustained in chawls and acted as anchor for migrants to get absorbed into an alien urban environment very different from the rural environment the migrants came from. The chawls also provided space for a liberal social and political movement.

The chawl culture declined dramatically after independence and especially after 1960s, once the Rent Control Act and Maharashtra Regional and Town Planning Act came to dominate urban development. MRTP Act was designed to control growth, density, migration, and expansion of Mumbai and other cities, but proved counter-productive. Illegal slums resulted as unintended consequences of the well meaning strategy. Significant distortions of the land and housing market resulted. This is a prime reason for subsequent growth of slums in concentric rings starting from the island city of Mumbai. The island city has a relatively small proportion of slums but a large number of dilapidated structures.

g. *Economic, social and cultural connections*

Economic, social and cultural history of the dense wards of Mumbai allowed their sustenance for many decades. However, the weave and patterns that evolved in the nineteenth and twentieth century have weakened today. Most of the chawls and the areas that house them have changed dramatically. Residential use has been replaced by commercial use as families have grown in size and as economic conditions have improved. Some of the chawls and old structures have been replaced by concrete and glass towers, adding to building density. Many poor and middle class families have moved out of these areas. The number of school going children has so dramatically dwindled, that many private and Municipal schools have had to assign their class rooms to rented offices. Language, culture, and character of society has changed dramatically. While new connections in the form of telecommunication, mobile phones and the Internet have been established, old social ties and economic interdependencies have changed. Nuclear families have replaced large families. Many of the chawl tenants have shifted into new self contained houses, made available to them without any cost by the builders, based on incentive scheme of higher FSI for re-construction of old buildings. Common long and wide corridors have vanished along with common toilet blocks. Each new tenement is connected to tap water, sewer line, electric and telephone cables but human bonds have weakened.

Urban regeneration of physical infrastructure has assumed a prominent position in the housing policy. However, little actions is seen. Even traffic is moving slowly as private cars have encroached upon all available space in the nook and corners of temples, schools, dilapidated buildings and empty plots created by demolished buildings, in adition to the public roads. The economy is moving but the traffic is dense and safety on the roads has become a grave challenge. Aging of the area is evident. The lost social and cultural bonds may be beyond repair.

However, social and cultural ties in slum areas are valuable to the dwellers to survive in adverse conditions. These are dominant in new slums in suburbs and also in the old slums of Dharavi. These social and cultural ties are also the main bonding force for the dwellers of the illegal buildings of Ulhasnagar. But similar connections are rarely found in the newly developed sectors in Navi Mumbai that have less density and adequate infrastructure provisions.

h. *Anti Urban Political economy and policies*

All the above factors can explain the high density of formal housing as well as high density slum areas. However, they do not provide sufficient explanation for the different proportions of slum population in wards. Island city, which was largely developed before independence, has 36% slum population, and out of this 30 % is in Dharavi alone. Suburbs had 64 % population living in slums in 2011. A majority of the slums have come up after the MRTP Act in 1966.

Clearly, slums are unintended consequences of policies adopted by the Government of Maharashtra. These policies were based on the flawed understanding about urbanization, and influenced by the urban policies adopted by developed countries during the first half of the 20th century. They were also influenced by the anti-urban views both from within India and from outside, based on a low density ideal and a romantic vision about rural development in India. The policies were also influenced by total control of land and monopoly construction by the public sector, as was commonly found in socialist countries. A larger role of for the government in the economy was

considered important, amidst opposition to and fear of market forces. The policies were an ill-fated attempt at arresting the tide of migration to cities. To summarize, one can say that the twin tragedy of rising population and attempts to prevent migration to urban areas is responsible for the extremely high density of population in Indian cities in general and specifically, in Mumbai.

6. Conclusion

Mumbai has been a city with high population density ever since it started development as a port during colonial rule. A number of factors are responsible for the overall high density of settlements in Mumbai, which are discussed in the paper with specific examples of C ward and other areas such as Dharavi, Ulhasnagar and Navi Mumbai.

The influence of the western ideal of low density as propagated in England, Europe and USA in the early 20th century is seen in the policy of urban development in Mumbai over the last hundred years. The Maharashtra Regional and Town Planning Act adopted for the state of Maharashtra was based on the Town Planning Act adopted for Mumbai in 1915. This Act suited the then popular anti-urban stance of political movements. As a result, priority was given to rural development, which was expected to turn the tide of migration to cities such as Mumbai. However, migration continued and restrictive policies meant insufficient allowances for housing as well as commercial units. This also led to densification of better quality existing housing stock.

Another major contributor to the high density and high slum population are the constraints put on the market system, which prior to the constraints, had delivered reasonably good and affordable high density housing stock e.g. through the evolution of unique Chawl architecture. Construction of cheap, affordable, rental housing for migrants in the form of chawls came to a halt largely due to the Rent Control Act, first adopted as a temporary measure during the years of the Second World War and later made permanent through legislation in the 1960s. The restrictive policies resulted in the perverse incentives that gave impetus to the construction of informal slum and settlements on public and private land, mostly in the suburban areas.

Sadly, most of the above factors are still a dominant part of political thinking and social attitudes. Reversing policies such as Rent control Act has become an anathema to the political class. Attempts to involve the private sector in delivery of housing without reversal of earlier legal frameworks and urban planning systems have proved inadequate. The private sector has been unable to address the mammoth task of urban regeneration or slum improvements/ elimination. Feudal instincts, crony capitalism and corruption are proving hurdles for reforms in urban sector policies.

On the other hand, across the world, cities with high population density are proving useful for sustainable development goals. The New Urbanism Movement in the USA is based on such ideals. High density urbanism is considered as a necessary condition for sustainable development. New urbanism attempts to accommodate high density of population by utilizing urban planning tools and through sensitive urban design. From the Indian perspective, the high density of population as considered by the New Urbanism movement is but a fraction of the population densities found in Mumbai and other Indian cities. Traditional urbanism in India can provide pointers to invent new, innovative forms of urban architecture that can combine high population density with better living conditions. In such a scenario, unconventional urban planning and design paradigm for 21st century urban living is the most likely solution for Mumbai. Other than residential density, the solution needs to address complexity of mixed uses associated with formal and informal employment, floating population in social and cultural activities leading to an uneven crowding across the region.

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Ulhas Nagar Municipal Corporation

CIDCO Statistical Reports of various years.