

# Pandemics & Urban Planning: How a Co-operative Model is Performing Better than a Capitalist Model

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**Abstract:** *The world is witnessing a catastrophe unfamiliar in recent times. While all the nations are fighting to put breaks on the spread, it is also important to look at different cities healthcare and disaster management models from the perspective of urban planning which is quiet often neglected. Historic references show several examples of city restricting exercises after many mass outbreaks. Different governance models are analyzed based on their recent responses to pandemics and their relationship with urban planning parameters. The paper looks into the importance of urban planning strategies in healthcare especially during critical situations of pandemics and calamities, drawings case studies from different models in the world.*

**Keywords:** urban planning, healthy city, pandemic planning

## 1. Introduction

First time in the recorded history of the world, all the states have come to a standstill amid Covid-19 outbreak. Cities which once bustled with people and activities are now silent as graveyards. The pandemic is definitely within the purview of the healthcare sector and the immediate remedies are also being readied. All the medical systems have been operational tirelessly to put breaks on the fast spreading pandemic. This being the case, it is also important to look at cities from an urban planning perspective which often disregards healthcare and disaster management as its primary parameters.

Most of the international surveys held to rank cities according to their healthcare standards have the following pointers for rating. This includes number of top ranking hospitals & medical institutions, per capita hospital beds & ventilators, medicals professional/capita, patient satisfaction levels, number of adverse events, annual city budget for health, cost & expenses, accessibility to healthcare, air-water quality, work-life balance, obesity in adults, annual gym hours, green space, and annual sunshine hours etc. as per various rating agencies. Except a few, most of the parameters are infrastructural requirements and are not associated directly to the planning of the city. It is also interesting to note that only a few of the cities in the developing nations feature at the top in these surveys. While these are factors which would ideally be short terms goals that can be achieved once fund is allocated appropriately by the respective administrations, it is also important to understand a city and its structure from an urban planning perspective that benefits the steady development of a healthy city.

## 2. History of pandemics and city planning

Modern day City Planning was born out of the mid-19th century industrialization, which demanded cities to accommodate the large workforce under livable conditions. Sanitation, livable households etc. were considered as quick and immediate requirements.

“Historically, epidemics have acted as catalysts in transforming how diseases are handled, especially in urban areas,” said Annie Wilkinson, a research fellow at the Institute of Development Studies, a UK-based think tank. [2020, Thomas Reuters Foundation]

‘Some of the most iconic developments in urban planning and management, such as London’s Metropolitan Board of Works and mid-19th century sanitation systems, developed in response to public health crises such as cholera outbreaks.’ [2020, Citylab]



**Figure 1:** Spanish Flu is considered as the deadliest pandemic in history till date.

Source: Living Science

In some places, decongestion campaigns could be brutal, as when Baron Haussmann razed poor, cholera-plagued neighborhoods in Paris in the 1850s, displacing thousands of poor Parisians as he built wide boulevards, water and sewer systems, and parks. [2020, WHY]Y]

In New York, building rules were amended due to massive outbreaks of tuberculosis. Social reformers like Jacob Riis documentation of the overcrowded conditions in tenements led to this change in building laws.

Due to the bacterial contamination of Schuylkill River in Philadelphia caused by the dual use as both open sewer and water source typhoid and cholera outbreaks occurred. This led to large level public space restructuring including clearing homes and businesses from the riverbank and creating a massive park instead.

### 3. Healthy City & planning Dilemmas

Health as a factor should definitely be included in the mainstream planning ideologies as we have been seeing more and more examples of pandemics recently. While not much thought has gone into this aspect, it is true that these problems need long term solutions or structural changes to the system we have built our cities upon. While engaging deeper into this, some of the dilemmas commonly argued are described below.

#### 3.1 Global cities & suburban cities

Global cities have taken the brunt of the pandemic as they were well connected to the network of the cities. Clearly the most affected cities are those who are in the world business map, world tourist map or those with high floating labor force like the gulf regions. This has raised the argument that it is the inclination towards creating global cities and singular global identity that has caused the mass dissemination of the pandemic. The argument goes in favor of less connected, less populated suburbs which were affected as a trigger effect. But it is also interesting to note that Wuhan was not a Tier-1 global city and first patient of Europe was from a remote village near Milan. Hence the idea of global city vs suburban doesn't stand much in today's digital world. It is all but one entity as a system.

#### 3.2 Ideal Density

The planning and health experts have always attributed the wide spread of pandemics to the high densities of the current cities. High densities leads to more contacts leading to mass outbreaks in lesser time. Social distancing is difficult to practice in such cities. COVID-19 puts a fundamental challenge to how we manage urbanization. Hong Kong for example has 6709 people/sq.km. Rethinking density management is a key for long-term survival in a pandemic world. But then what should be the ideal density and is density the only factor for survival is still arguable as many of the high density cities like Hong-Kong & Korea have successfully resisted mass outbreaks.

#### 3.3 Order & Chaos

The argument between ordered cities and organic cities are always visible in different planning strategies. This argument stands true in the case of health of a city as well. The western ideology places a well-planned, well ordered city as healthy as it has better infrastructural and sanitation facilities and the notion of quarantine is inbuilt in the planning itself. But it is interesting to note that many of the well-ordered, planned cities have failed to restrict the spread of covid-19 whereas many unplanned organic cities have resisted outbreaks better. The argument in favor is that 'possibility of looking at

Chaos as not a disaster but as an opportunity to understand Urban Culture and foster it to make better urban planning solutions.' [2016, Elsevier]

#### 3.4 Digital Vs Physical



**Figure 2:** Drones are being used for surveillance during lockdown

Source: GCN.com

A fraction argues that new cities are to be controlled by digital means and these 'smart cities' can control the epidemics to a great extent. Also these digital means can be used to monitor, control, track and quarantine people during pandemics. Many countries like China and Korea and Singapore have used these systems efficiently. While forced control is effectively brought forth by digital means, it falls short in considering the humanly factors involved in this process. For instance a person in quarantine might be at home as per digital documents, but he might be experiencing extreme mental depression which is not recorded in any of these platforms.

#### 4. Long term solutions for a healthy city

It is also to be noted that along with different planning strategies, the governance model also plays an important role in mitigating such calamities. This is because solutions to all planning problems are not always in itself, but in administrative mandates as well. To be accurate the solutions are not really a planning problem alone, but it also is an organizational problem. It also depends on how structurally the cities are envisaged and administrated. To understand this we need to see different administrative models of cities and how these models have fared during the pandemic.

The capitalist model of defense is strictly supported by the planned cities they have established. Whether it be China, Korea, UK or USA all have planned cities in place and an authoritarian government system to enforce required restrictions within this planned network. This is efficiently supported by the medical system to bring forth a defense against the pandemic. Digital Systems like online monitoring, data analysis, drones and face recognition systems etc. are used extensively to impose required order among the public. It is strictly a top-down approach with decision making vested with a few people. These systems are giving equal weightage to economy also, as against the life of the people. Hence the decisions can be seen as biased towards this aspects. The capitalist model is not always inclusive. It may not show the same empathy to all classes of



people or towards all age groups. Treatment is considered as a privilege rather than a human right. While there are many pros and cons to the system itself we have seen that this model haven't worked very efficiently at least during the outbreak of the pandemic. Especially when other countries look up to them as an example while fighting for a common cause.



**Figure 3:** Army Parade in Wuhan during lockdown to maintain order.

Source: Al-Jazeera

The socialist model of defense is more organic in its approach. It might take decisions based on intuitions and social commitments than relying completely on a data base. The system definitely places the life of people (all classes of people) above the economy of the state. Most of the cities with a socialist background have organically developed cities. Hence more ambiguities are expected in such a system compared to a conventionally planned system. The testing capacity, infrastructure, amenities, bed to person ratio and all other expected global standards are way below in most of these places. [2011, Springer] But it is amusing to note that some of the states operational in these models have shown exceptional brilliance in fighting against Covid-19. Now this cannot be proven by the sheer number of cases reported and deaths occurred as they are skewed in many ways by different nations for various reasons. But the model of defense exhibited is definitely noteworthy. Kerala, a state in south India is one such example to look up to. These models are not developed in a short time, but are resultants of longstanding governance mechanisms.



**Figure 4:** Government officials feeding street monkeys during lockdown.

Source: Times of India

## 5. Case example of Kerala Model

Amid all the speculations and studies that developing nations and under-developed nations will be the next hotspot, it is some of the under-rated states in these nations that has displayed exceptional resistance mechanisms. Kerala had large number of positive cases owing to a huge non-resident keratitis population working abroad. Despite this being the case, Kerala Model has set the example in leading India's fight against Covid-19. To showcase it as a governance brilliance alone is not right, but it is a slow but steady model of structural development that has helped Kerala in achieving this success.



**Figure 5:** Kerala Chief Minister awarded by Institute of Human Virology, Baltimore for successfully controlling Nipah outbreak of 2019.

Source: Times of India

Kerala is a state with 14 districts, and around 87 cities spread across the state. None of these cities are planned ones and hence doesn't adhere to any planning standards as such. These cities have mostly grown organically based on a blanket building rule issued by the state. Also the cities of Kerala are studied for its linear growth pattern, something which is unique in the country as most of the other cities have concentric growth patterns. The peculiar geography of the state might be the reason for this development. This pattern has over time delineated the clear cut boundaries between a city and a village in Kerala. This aspect has to be read along with the density factor also. The population density of Kerala state 859/Sq.km which is very high compared to the national average of 382/Sq.km. The state has the 3<sup>rd</sup> highest density among the states in India. But while in other states the densities are very high in cities compared to rural densities, Kerala has more a more equal spread of density across the state. This automatically means that social distancing is better achieved in this model though the state has very high density of population. This also paved way for equitable distribution of infrastructural setup, public transport systems compared a city centered system, where people have to travel long distances to get access to primary facilities.

The state from its existence itself, had a strong left front, basing its values and principles on communist ideologies along with the right wing with ideologies based on Gandhian Principles. This paved way for laying a strong and efficient public infrastructure system in the state including in healthcare. The government hospital standards in the state are at par with any private super-specialty hospitals and are always providing free treatment to the public. Owing to the linear growth pattern, in most parts of the state you will find a primary clinic in a 3 km radius. A well-established

hierarchy of health-care facility is in place in the state. Above this you have Primary health center, Taluk Hospital and district hospital. Apart from this there is a medical college Hospital in every district.

While the world moved to a capitalist economy long back, India chose to do so in 1991 by liberalization brought forward by then Finance Minister Man Mohan Singh. This made the economy more market- and service-oriented, and expanding the role of private and foreign investment. After 20 years of liberalization, most of the services including medical sector has yielded to the capitalist economy in the country. But thanks to the leftist government, Kerala stood its fort, and didn't fall for the rapid liberalization. Every major capitalist investments were challenged and questioned, through media & numerous strikes. Sure, this has slowed down the pace at which Kerala developed compared to western standards and the state was tagged as a non-investment friendly place. But what this entire process succeeded in, is to keep a check on the capitalist economy in the state. [1996, CSES]

India is a democratic nation with three levels of governance. Central, state and local self-government. In 1992, the 73<sup>rd</sup> and 74<sup>th</sup> amendment came into place which empowered all local self-governments with more authority and legislative powers. While in all other states, this amendment remained absolute, Kerala witnessed a huge success in transferring this power to local self-governments and there by empowering the people locally. Kudumbhasree is one such successful model of women self-help group which was formed under government which funds women groups to develop small scale industries and businesses in local body levels. Currently they have a membership of 50 lakhs which in itself is a task force ready to serve the state.

Housing unit standards in the state are much above the national average. While the national average household unit size according to Times of India is 10sq.m, in Kerala it is around 50sq.m. This also means that despite the high density of population, people are comfortable in their houses, which helps in social distancing during epidemic outbreaks.

The high education standards in the state also helped in keeping a check on the health sector as most of the people are aware about the effects of ill treatment. Also this helps the government to implement measures like social distancing and lock down much more easily without using authority.

The most important factor that plays in favor of the small state is the organizational network itself. It is true that there is no visible order in the planning of the cities/towns. But there is a definite order within the mindset of the people of the state, as to what is the hierarchy they have to follow in each of these testing times. This is attributed to the strong social and local self-government networks.

Each local body is divided into wards of around 500 people and each ward has an elected member. It is this ward member who look after the 500 during any disaster by talking in person to these people. With Medical staff & Kudumbashree workers in each local body it is easy to ready a quick response team under local body to fight any unprecedented events. For example Community kitchens

where setup in each local body within days of the outbreak of Nipah, Floods & Covid19 to give food to the needy. All the quarantined, are monitored and supported with supplies locally by this team. It becomes an 'eye on the street' mechanism as to who is out of quarantine, who is roaming in streets during lockdown, etc. This means each one is monitored physically and not on a digital platform. The food supplies are distributed and coordinated by this local team directly. The same team along with police has proven very efficient in tracing the contacts of an affected person. We have witnessed the success of the same system during the Great floods of 2018 and Nipa outbreak in 2018.



**Figure 6:** Community Kitchen set up by Kudumbasree to give food to needy in wards.  
Source: Indianexpressonline

The concept of a 'ward' is the functional equivalent to the 'sector' in typical western planning concepts. But they are not identified by regular geometrically planned urban blocks but by natural lakes, rivers, forests, fields, roads, sea etc. From a planning perspective this will be completely disordered and chaotic to comprehend to a system. But what is interesting to note is that it works perfectly in order within the said community.

These are not fool-proof systems and might have loopholes and shortcoming. It might as well fail to prevent the inevitable deaths from happening. But the model promises an assurance to its people which is unique, that the system is positioned in the frontline of defense, fighting for the people against the pandemic. This is something, many capitalist models couldn't deliver.

## 6. Conclusion

Cities have to constantly improvise upon existing networks and infrastructure from their experiences to prepare for such tough times. For example studies have shown that 'Work from Home' has proved better results than the conventional model. Silicon Valley Leadership Group CEO Carl Guardino predicted the temporary change could catch on with some companies and workers, spurring "permanent shifts that will lead to positive impacts on traffic congestion and greenhouse gas emission reductions." [2020, Bay area news group] Similarly online education and tutorials shows new ways of learning than in conventional classrooms.

As a physical model, the sectoral system works perfectly in maintaining control and order during such outbreaks and lockdowns. It also helps in organizing infrastructural facilities based on built volume. But with the new digital tools and facilities, the definition of 'planned & ordered' can well be debated as we have seen in the case of Kerala. We

can also understand that high densities as such doesn't pose a threat to pandemic outbreak if equitable built up distribution with a proper infrastructure setup is developed. From the Kerala Model it is evident that a strong social networking system inside such a built framework is to be developed. Many capitalist models failed in this aspect as authoritarian rules do not always trickle down to the lower layers in the hierarchy.

But whether these two seemingly contradicting ideologies can be implemented together is something which we have to practice and evaluate. Thus we may conclude that a socialist model of governance within a 'planned' city framework can probably pave way for better solutions to developing healthier cities.

interests are in Chaos & city planning. He has won commendation award for public space design instituted by Manorama in the year 2016 and Young Architect of the year award instituted by Parpidam in the year 2015.

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## Author Profile



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