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Strategic decisions on urban built environment to pandemics in Turkey: Lessons from COVID-19



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ABSTRACT

COVID-19 is a global pandemic where urban built environment is facing significant challenges. Deploying robust strategic planning and decisions on built environment can overcome or reduce such challenges. These strategies can help to inform, assist urban citizens as well as address anticipated threats of pandemics. From the Ottoman Empire to modern Turkey has taken several strategic measures for its urban built environment in order to ensure health and safety issues of the urban citizen. Based on secondary based research, this study reviews the historical background on different measures on the urban built environment and giving special attention on COVID-19 until its normalisation phase started on June 1, 2020. This study recommends that centralised decision making and active participation and implementation at the local level can make successful to combat pandemics. This study also recommends that adequate provision of place, safety, health-related issues with an integrated manner are needed to form healthy urban built environment. In addition, safe water, green environment, adaptation-based strategies on climate change, comprehensive community planning, de-densifying inside buildings etc. seems to be a solution for future urban built environment design.

1. Introduction

Planning and decision at the strategic level includes political-administrative leaders that carry political and administrative responsibility and make strategic decisions in the circumstances. They provide public accounts of events, implementation, and support necessary coordination, cooperation and collaboration (Weible et al., 2020). Decision making and its implementation during pandemics for governments is really a challenging task and it becomes more challenging when invisible (virus) pandemics are spreading and transmitting rapidly through human contact (Giesecke, 2020). Again, urban areas are playing central part in this problem due to its huge population, multifamily housing, compact and densified settlements etc. In pandemics, the urban built environment can be impacted in two ways: one is the built environment itself including use of urban land, buildings and its surroundings, transportation modes and systems, use of public places etc., and another is the social context which includes community or neighbourhood level participation, social and public policies etc. Therefore, mitigating spread and transmission of virus as well as adapting “new normal” in its built environment is really a daunting task.

From the past evidence, pandemics have transformed our built environment because of the risk and fear of infection, and diseases (Megaheda & Ghoneim, 2020). Therefore, reflecting past events and learning on what can be improved for future responses are utmost necessary for the built environment and its related professionals because life after the pandemic will never be the same; planning, architecture and built environment will change under the influence of values, lives, and habits (Megaheda & Ghoneim, 2020). Increasing security layers in the modern built environment seem to help to prevent spread of infections and diseases.

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Therefore, this study addresses urban built environment practices from the past centuries in the present Turkey perspective and then detailed viewed on the ongoing COVID-19 response by governments including the strategic level decisions and measures regarding urban built environment as per Turkey's perspective.

2. Method

The government web portals of the Republic of Turkey Ministries, Directorates and Relevant Public Institutions dealing on issues of urban built environment, health and safety are the key data sources in this research. Other sources such as reports, articles of national, public organisations and national newspapers are also included in this study. As COVID-19 expects to continue for some time and it is difficult to draw a complete list of lessons this time. However, lessons can be drawn from phase to phase. Turkey government has confirmed first novel coronavirus case on March 11, 2020 and apparent normalisation so-called “new normal” has started from June 1, 2020. Therefore, in this study from March 11, 2020 to May 31, 2020 has been considered as “before new normal” phase and delineate lessons as per this time frame.

3. Results and discussion

3.1. Earlier pandemics in Turkey: a brief from urban built environment perspective

Unlike many other countries in the world, Turkey faced numerous times of pandemics in its history. During Byzantine times, the “Plague of Justinian” (541–542 AD) with recurrences until 750) were wreaked havoc across the empire's territories and beyond. Then Istanbul was a centre of constant commerce and movement of people and goods. In the 14th century, the plague paved the way for radical technical transformations towards urban life, such as the construction of comprehensive sewerage systems, improvement of urban infrastructure, separation of buildings according to their functions, satellite urbanization and construction of closed sites. In the Early Modern Mediterranean period (1500–1800), different networks of exchanges of goods and services became the main instruments of expansion of epidemics. The big cities like Istanbul, Bursa worked like magnets; just as they attracted goods, people, capital, and knowledge, they also attracted disease. During this time, European's developed technological know-how to improve sanitation, building codes, sewerage and water supply systems in order to transform the infested areas into hygienic living space (Bulmuş, 2012). The Ottoman state has established quarantine stations for the purpose of controlling and disinfecting individuals and goods that entered its borders with special strict in maritime borders (Bulmuş, 2012). They also expanded the quarantine system in the villages too. They established new communal cemeteries outside the city walls, tried to keep the streets clean, remove businesses such as tanneries or slaughterhouses outside the city walls. They offered tax relief to individuals and communities affected by the plague and promoted the development of health services. The Ottoman plague pandemic between 1812 and 1819 has killed hundreds of thousands of people depleting the resources of the state as it was engaged in battles with foreign adversaries. After 1908, the empire was empowered to inspect, repair and rebuild sewers and even private homes also (Bulmuş, 2012). This time some strict measures in urban areas are implemented throughout the Ottoman Empire which is quoted in the book “Veba” such as:

“Houses should be burned along with their furniture if they are of little value. Their prior inhabitants should be sent far away and examined in tent-hospitals. There their goods would be subject to disinfection procedures. [Even if the houses are of value], no one can live [there] for two months; the municipal or state government will have to provide a place for the inhabitants to live.” < comment message = The citation “Meclis-i Umur-i Tibbiye-i Mülkiye ve Sihhiye-i Umumiye, 1326” has been changed to match the author name/date in the reference list. Please check. > (< /comment > Meclis-i Umur-i Tibbiye-i Mülkiye ve Sihhiye-i Umumiye, 1326)

Therefore, in summary, urban renewal such as expanding margins of the cities, satellite urbanization and construction of closed sites, imposing quarantine systems, opening large public spaces, separation of buildings according to their functions etc.; sanitary reform such as improved water and sewage systems to fight pathogens; building and housing reform are seen to combat the spread of infections and diseases, as well as ensuring a safe environment in the past pandemics in Turkey.

3.2. The on-going COVID-19 in Turkey: from built environment perspective

The on-going COVID-19 pandemic in 2020 has listed as contagious disease as per Article 57 of the Public Health Law in 1593 (Torun, 2020). Various networks became at the forefront of the outbreak of the coronavirus pandemic. The Turkish cities mainly large, industrial and touristic cities such as Istanbul, Ankara, İzmir, Konya, Kocaeli etc., became the hub of various networks, and are at the forefront of Coronavirus outbreak which later spreads in the other districts.

Before normalisation phase, Turkey has reported 163,942 COVID-19 cases, 127,973 recovery and 4540 deaths, with over 20, 39,194 tests completed (The Ministry of Health, 2020b). Turkey has acted quick response and implemented a number of strategic policy tools such as curfews, quarantines, travel restrictions, or travel bans, closing schools, colleges and universities, as well as ‘moral suasion’ to promote ‘stay at home’, ‘social distancing’ and personal protection etc. (Bakir, 2020). The government has taken numbers of strategic decisions or measures to fight against Coronavirus from different pathways: (1) Learning, from the first confirmed cases countries situation such as China, Japan, South Korea, Singapore, Italy etc. And taken different government measures such as partial closures to strict lockdowns, (2) Negotiated agreement, such as passing of stimulus packages, Turkey has provided \$35 billion Economic Stability Shield package to the real sector and low income group (Yesilyurt & Turk, 2020). The country rapidly announced economic support packages to avoid the disruption in productions, providing monthly pension payments to the elders at

their homes, sheltering the homeless, distribution of free face masks to all residents except between 20 and 65 year ages, mobilization of security forces to help the elderly by doing their shopping and meeting their immediate needs etc. (3) Diffusing and transferring ideas across governments like quarantining in first reported countries (Weible et al., 2020) and (4) Ideas in the government. In this respect, Turkey has formed a Coronavirus Scientific Advisory Board (In Turkish: Koronavirüs Bilim Kurulu) in the January 10, 2020 by a group of medical scientists set up by the Ministry of Health to develop measures to fight against the COVID-19 pandemic. Initially, the board consisted of 26 members and later on increased to 38. The board works out guidelines for the treatment by medicals and measures to be followed by the public and updates them in the context of the disease's course in the country. The board reports to the Health Minister. The implementation of the measures is carried out by the government.

Considering both regional and local scale of urban built environment, the Republic of Turkey Ministries, Directorates and Relevant Public Institutions on dealing on the issues of urban built environment have taken a number of consequential strategic decisions on built environment such as quarantine buildings or neighbourhood's to reduce spread of Coronavirus, ensuring safer public transportation systems, accommodating to homeless people, frequent waste collection and awareness raising, adequate supplies of clean water, restrictions in the park, shopping mall or public places etc. Discussions regarding these issues and government decisions on urban built environment are provided below:

3.2.1. Building's or neighbourhood is quarantined

As per Article 195 (1) in Turkish Penal Code “Any person who refuses to comply with the precautions imposed by the authorized bodies at places under quarantine, due to someone becoming ill or dying from that disease, to avoid the spread of disease, is punished with imprisonment from two months to one year” (Torun, 2020). Until May 11, 2020, a total of 69,146 people in buildings or in neighborhoods are quarantined after getting more than one case or spreading viruses. The decisions are taken by the provincial sanitary committee and applying the Law on Provincial Administration (Law no.5442) (Cantekin, 2020). The entries and exits are banned and the needs of those living in the buildings or neighbourhoods are supported by the various social support group, municipality etc. This effort makes less transmission to make less challenge for the society to make a liveable urban built environment.

3.2.2. Ensuring safer public transportation systems

Transportations and built environment are closely interrelated. The Turkish government has identified that public transportations are the most networks to spread the virus. Therefore, the government reduced 50% passengers in the EGO bus and other transportation modes abolished the cable car service. Cases more prominent in big cities in the first wave of coronavirus, around 84% of passengers have reduced in the auto buses in Ankara (EGO General Directorate, 2020). Ankara Metropolitan Municipality has placed “keep your distance for health, leave the seat empty (In Turkish: *Koltuğu Boş Burak, Sosyal Mesafeni Korum*)” stickers on the seats of EGO buses. As the maximum deaths occurred to aged people, therefore, citizens aged 65 and over and below 20 years have suspended the use of EGO cards, making punishment system and curfew to go outside home (The Ministry of Internal Affairs, 2020). These types of strategies have reduced the spreading and transmission of coronavirus.

3.2.3. Accommodation to homeless people

Homelessness people are movable people therefore they are at extreme risk for contracting as well as spreading the virus. They have lack of access to basic survival resources more specifically health care service delivery. There is no exact figure of homeless people but it is estimated that around 70,000 people are homeless in Turkey (Tezel, 2019). Considering their protection, the Turkish Ministry of Family, Works and Social Services have launched a project on “Shelter for homelessness project” (In Turkish: *Evsizlere Konaklama Projesi*) for the homelessness, shelter-less and loneliness people, in order to provide accommodation in the public guesthouses or private hostels and hotels in all 81 provinces of Turkey where they can avail basic needs until the threat of the epidemic, is eliminated (The Ministry of Family, Labour and Social Services, Turkey, 2020).

3.2.4. Frequent waste collection and awareness raising

The Minister of Environment and Urbanization has published 11-point guidelines on March 13, 2020 and among the guidelines 1–5 point are focused on cleaning and disinfection in various public and private areas (The Ministry of Environment and Urbanisation, 2020). The guideline no.7 has focused that special attention to frequent and regular waste collection, garbage collection vehicle and personnel capacity will be kept at a sufficient level. And necessary measures will be taken in garbage storage and disposal facilities. Guideline no.8 has focused on more awareness raising through billboards, posters, mobile applications, digital media, social media to the citizens to fight against Coronavirus.

3.2.5. Adequate supplies of clean water

The General Directorate of State Hydraulic Works released a written statement on March 27, 2020 about the water treatment facilities will strictly apply hygiene rules, disinfection initiatives (The Ministry of Environment and Urbanisation, 2020). The city government's taken some measures on cutting water subscription and use clean water. For instance, Ankara water and sewerage authority has implemented that those citizens who are in debt to the water bill had not water subscription until the month of May 2020. However, the State Hydraulic Works suggested saving water as water consumption has increased due to COVID-19 pandemics (Anatolian Agency, 2020). The Confederation of Progressive Trade Unions of Turkey, Confederation of Public Laborers' Unions, Union of Chambers of Turkish Engineers and Architects and Turkish Medical Association have launched a signature campaign on 31 March to enforce seven emergency measures. One of them regarding urban service deliveries such as electricity, water, natural gas, communication bills etc. to postpone during the epidemic without future interests (Confederation of Public Employees' Unions,

2020).

3.2.6. Restrictions of park and public spaces

Parks and public spaces are offering numerous health, environment, physical benefits, and are providing lots of opportunities for physical activity, social integration, and mental rejuvenation. The Ministry of Agriculture and Forestry banned barbecuing in gardens, parks and promenades, and the Ministry of Internal Affairs has banned to 65 years and above aged person to go outside their residence and open spaces including parks and gardens who are posing chronic disease. Even, after normalisation in June 1, 2020 the Ministry of Health provided some restrictions like mandatory use of mask, cleaning and strict distancing such as personnel and visitor planning should be made in a park/garden, recreation and promenade area with one person per 4 square meters and number of people intake inside the park/garden should be arranged accordingly. Even, there should be at least 3 m distance between tables in picnic areas (The Ministry of Health, 2020a).

4. Lessons and concluding remarks

From historical perspective it can be concluded that centralised decision making and active local level can make successful combat to a pandemic. However, Coronavirus is different from plague because it spreads exceptionally rapidly. The Ottoman State was a highly politically decentralised state, with local affairs often being dealt with by local authorities. Therefore, it would have been almost impossible to impose a one-size-fits-all solution to a pandemic. The Ottoman State established quarantine stations to control and disinfect individuals. Even, on-going Coronavirus pandemic, the quarantine system becomes fruitful to reduce spread and transmission of viruses. The present Turkish government are maintaining their status quo on implementing free healthcare service deliveries (those who have general health insurance (both local and foreigner), public healthcare system and generous social assistance program. Due to a number of strategic decisions taken by Turkey government in time to time from different pathways and therefore, the number of people who died during this coronavirus pandemic as per affected population is less than other most affected EU countries or the USA. Before the new normal phase, the fatality rate was only 1.28%, recovery rate 78.06%, and critical cases treated under intensive care units are below 0.4% of all cases (Coronatracker, 2020). It has seen that the ongoing need for adjustments in Coronavirus responses and continuous engagement from both national and local levels where urban citizen vis-à-vis urban built environment plays an important role. Increasing security layers in the modern built environment seems help to prevent the spread of infections and diseases. To meet the current challenges a sustainable as well as an antiviral-built environment (Megaheda & Ghoneim, 2020) is necessary where adequate provision of safe, healthy and adequate places for people are needed. The study also recommends that:

- Safe water, green environment is vital to fight against viruses therefore, green buildings, green interiors inside buildings more specifically adaptation-based strategies on climate change will be fruitful in different uncertainties (Ahsan, 2020). Still, Turkish cities are not bicycle-friendly and it seems individual transportation system will be one of the main choices; therefore, municipalities should prepare bicycles/electric scooters/motorcycle etc. friendly transport systems. In addition, the existing climate mitigation and adaptation strategies more specifically clean and green practices should continue its activities and implementation (Ahsan, 2020).
- To ensure healthy community or neighbourhood, comprehensive community planning will be needed to prepare by emphasizing public health issues in zoning, designs, and other necessary improvements. In this respect, an integration of urban design, smart technologies in urban planning and management, and disaster response approaches are needed.
- One of the principles of designing built environment is to increase social interaction, create safe public spaces to bring people together, and address social disparities in urban areas. Therefore, densification is necessary for the cities to accommodate population growth on the other hand quarantine system seems successful to prevent pandemics but de-densify inside buildings by physical distancing with adequate provisions of health measures can be delineated as a solution for future building design.

Finally, it can be concluded that the robust strategic and operational decision and its implementation can reduce spreading virus or mitigate its negative impacts. This study just provides the decisions and measures that taken by the Turkish government till new normal period on urban built environment perspective and it is needed to draw lessons from new normal and post-pandemic period to combat existing and future challenges.

Declaration of competing interest

None.

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