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Abstract
While the communication of architectural/planning knowledge between core and periphery countries was intensified during the Cold War, it brought about new challenges regarding the relationship between imported ideas and the architectural culture of the host countries. The first master plan of Tehran, prepared by Victor Gruen and Abdolaziz Farmanfarmaian in the late-1960s, is an example of such cross-cultural dialogue, in particular with reference to the design of housing. This paper aims to examine how the first master plan introduced new low-cost housing strategy for the city of Tehran and how it affected the rapid marginalisation of the urban poor in the capital. Through a short review of the emergence of low-cost housing in Tehran since the 1940s and the examination of the two phases of the master plan, this paper seeks to unravel the complexity in the exchange of planning ideas from Western countries to Iran. In turn, the translation of Western ideas into domestic architectural vocabularies is examined through the changing local situation and the role of local mediators. The paper concludes that the privatisation of housing shifted the spotlight from state-led low-cost housing into the luxuries high-rise residential complexes which changed socio-spatial structure of the city.

Keywords: Tehran’s master plan, Victor Gruen, Privatisation of housing, marginalisation of the urban poor

Introduction
The social and physical structure of Tehran was extensively altered and modernised under the socio-political influences of the Cold War, particularly during the 1960s and 1970s. Iran’s oil-rich reservoirs put the country at the cross-section of global influences, politically, economically and even technologically. Under such influences Tehran, the second fast growing city in the Middle East after Cairo, transformed from a small concentric Islamic town into a linear modern metropolis, and the city’s population jumped from 1.7 million in 1956 to 2.7 million in the mid-1960s. To plan a new structure for the rapid growth of the city and to solve the acute housing shortage, many Western architects, urban planners and advisors (such as Victor Gruen and Constantinos Doxiadis) gained commission to work on the Tehran urban planning project in collaboration with Iranian joint ventures. As a result, Western architecture and urban planning initiatives, methods and techniques were exported into Tehran and were translated into local practices. In this complex process, a new physical and social structure for the future growth of the city was provided; the structure which still characterises the modern Tehran.

While during the early post-war decades, the state’s endeavour was more focused on the formalisation of spontaneous settlements in the capital through the construction of several low-cost housing projects in Tehran’s peripheries. There is a body of existing scholarship focusing on Tehran’s state-led housing projects, including the work of Rana Habibi and Mohammad Ali Sedighi, who have analysed the emergence of early modern mass housing projects in Tehran, the complex process of their localisation and their lasting impacts on Tehran’s housing form; however, the first master plan’s approach towards Tehran’s acute housing problems and its socio-spatial consequences remains almost untouched, despite the significance of the plan in Tehran’s urban planning history. In addition, this paper provides a framework to trace the changing strategy of low-cost housing in the Iranian post-war context.

During the 1960s and under the direction of several invited architects and urban planners from Europe and America, Tehran was planned as a modern metropolis. At that time, Tehran had an urgent need of 80,000 affordable houses. Understanding of how the master plan dealt with increasing housing demands necessitates a deeper study of the plan. Although the plan attempted to put low-cost housing in the same line with the future development of the whole city, this paper argues that in reality it resulted in the isolation and immobility of the urban poor by sequestering them in the south and adjacent to growing industrial areas. Through a short review of
the state-led low-cost housing projects in Tehran and thoroughly examination of two phases of the Tehran master plan, ‘Concept Development’ and ‘Detailed Plan’, the paper investigates the changing strategy of Tehran’s low-cost housing during the post-war period. In addition, through a close analysis of the master plan’s intentions and actual goals for low-cost housing, this paper not only aims to unravel the plan’s housing strategy, but also touches upon its lasting socio-spatial impacts on modern Tehran.

The early state’s endeavour to formalise Tehran’s spontaneous settlements

During the post-war era, Tehran’s accelerating population growth transformed the housing shortage into a housing crisis on an unprecedented scale. Tehran first became an industrial city in the 1930s, comprising 43% of the country's total industries by 1935. Becoming the country’s second industrial core, after the oil region of Khuzestan, resulted in a dramatic influx of working class migrants into the capital. The hope for finding jobs and the better standard of living attracted more and more people from farther cities and villages. As a result, the population of Tehran increased from 200,000 to 2 million between 1927 and 1962. The growing population, the lack of suitable houses, and concomitant increase in housing costs, was not equally matched by an increase in the wage levels. Consequently, a large part of the population grew unable to pay for suitable housing accommodation. It was at this point that the first Seven-Year Development Plan (1949-1956) underlined that the intervention of the state is that of importance. So, the state play a significant role through “subsidiising housing projects and encouraging and assisting private enterprise in building houses for those of lower income groups”.

In that context, progressive intellectuals in Iran concerned about the increasing housing problems in the capital. In the early 1940s, the Society of Iranian Architects endeavoured to get the answer by interpreting and criticising of Western mass housing concepts. To examine Tehran’s housing problems and review Western solutions, many housing-related articles were published particularly in the journal of ‘Architect’ (1940-1948), a well-known Iranian architectural journal of that time. By understanding the socio-economic context of the city, Iranian architects attempted to localise the Western concept of mass housing during the Iranian post-war context.

Although the way of living in Western mass housing is in contrast with the Iranian traditional lifestyle, the importance of mass housing as a major solution in developed countries should not be overlooked in Iran. Besides, we should not simply imitate Western style mass housing. Through the localisation of Western ideas, we should make mass housing projects more compatible with the Iranian context.

In his article on ‘Tehran’s housing problems’ published in ‘Architect’ journal, Abbas Ajdari, one of the members of the Society of Iranian Architects, examined two different approaches towards Tehran’s serious housing shortage: first, encouraging the development of empty lands within the city by controlling land speculation; second, the construction of mass housing in fringe areas with low land values, which did not interest private housing developers. During that period, the over-population, increasing rents and land prices in the central area of Tehran made the de-centralisation of the population necessary. As a result, the construction of low-cost housing in Tehran’s peripheries got a prominent place on the development agenda, especially after the approval of the first Seven-Year Development plan in 1948. One decade later, the approval of the ‘Public Land Ownership’ Act in 1960 was a turning point in the history of Tehran’s development; the Act was primarily oriented towards the construction of low-income housing outside the city limits rather than rehabilitation or renewal of blighted areas within the city.

To mitigate severe housing problems of the capital, the second Seven-Year Development Plan (1955-1962) promoted a more active role for the government in housing provision. In order to finance the construction of affordable housing in Tehran’s peripheries through long-term loans, the government entered into close collaboration with Mortgage Bank, Construction Bank, and Industry Bank and several public sector agencies. Subsequently, a number of new mass housing projects for low and middle income residents were constructed in the immediate post-war period until the early 1960s. These included: 400-unit housing (1944-1946), Kuy-e-Narmak (1956), Kuy-e-Kan (1958), Shahr Ara (1958-1959), Nazi-Abad (in the early 1960s), and Kuy-e-Nohom-e-Aban (1965-1966).

As a result, mass housing projects began to mushroom around the city. The areas in which these projects were located only provided very basic services for the residents, rendering such dormitory suburbs highly dependent on the central area of Tehran. Furthermore, dispersed state-led mass housing projects did little to ameliorate social tensions and housing shortages in the capital. Those projects were unable to keep up with Tehran’s incremental housing demands (by the mid-1960s, Tehran’s population had reached nearly 3 million). Indeed,
housing the increasing population and regulating the rapid outward growth of the city necessitated the provision of the first master plan for the future development of the city.

**The first Master Plan of Tehran and marginalisation of the urban poor**

In the context of the Cold War and intimate connection between Iran and the United States, Victor Gruen, an Austrian-born émigré architect in America, gained a commission to provide the first master plan for the capital in collaboration with an Iranian joint venture, Abdolaziz Farmanfarmaian. As the first scientific urban planning in Tehran, Gruen brought new visions towards restructuring the city from different social, cultural and economic perspectives.

[. . .] In a near future, Tehran will be a totally different city. Its population will increase 80 percent (around 5.5 million) in 25 years. To meet the increasing demands of the population, a larger area is necessary for the city. The complex process of expanding the city will put a crucial economic pressure on the government.

After three years of research into the spatial, socio-cultural and economic situation of the capital, in order to reduce the increasing pressure on the existing city the master plan recommended the de-centralisation of urban facilities and services. Gruen proposed a linear arrangement of six new satellite towns (each with a main active urban centre) in an east-west direction running perpendicular into the existing north-south direction (Figure 1). The plan thus structurally transformed Tehran from a monocentric city into a multicentre metropolis. Ensuring the westerly growth of the city, Gruen attempted to counteract the existing north-south expansion. Through the rapid development of the urban centres of distant new towns in the west, the plan aimed to attract the population and capital towards the west.

Figure 1: The preliminary diagram of Tehran’s new linear structure including the existing parts and the six proposed satellite towns

Along with planning a new structure for Tehran, the provision of low-cost housing was one of the major concerns of the master plan. The urban poor acutely suffered from the housing shortage and were not able to solve it without the government’s assistance. Therefore, improving the housing situation of the low-income families was of central importance. The master plan divided the problems of low-cost housing into two levels: (1) the urgent need to either re-construct or rehabilitate unsuitable houses in the old central areas which roughly estimated around 200 hectares; and (2) the rapid construction of new accommodations for both the influx of rural-urban immigrants and those who needed to be displaced by urban renewal (according to the master plan, these totalled around 600,000 people).

After reviewing a few cases of state-led mass housing in Tehran’s peripheries, such as Kuy-e-Nohom Aban and Kuy-e-Kan, the master plan highlighted the government’s disability to fully financially support the realisation of Tehran’s future massive low-cost housing projects. The plan underlined the government’s first obligation to support the city’s development through the rapid implementation of new infrastructures rather than highly invest in housing construction. In order to solve acute housing shortage in Tehran, in terms of the location, typologies, financial policies and their integration with urban activities, Gruen put mass housing strategy in the same line with Tehran’s de-centralisation and its future development. Unlike the previous strategy of the construction of mass-housing in the distant cheap-price lands, the master plan attempted to integrate the low-cost housing districts into the new linear structure of the city.
The physical re-distribution of social classes

As mentioned above, Gruen’s proposal emphasised a linear development pattern. To physically re-distribute and de-centralise the population, the master plan put too much emphasis on (1) car-based mobility and (2) income levels. “Most of the master plan’s analysis was based on future trends of car ownership”23. Besides, increasing differences among social levels was that of central importance. In order to clarify the transformation of socially homogeneous structure of the old city, the master plan illustrated the huge difference between the traditional and existing social pattern of Tehran (Figure 2). By assuming that the poor could not afford a car, they were re-located in the south along with the linear structure of the city thereby positioning them closer to growing industries in the south. In fact, the plan more concentrated on the middle class –which was rapidly expanding since the Second World War– by positioning them in the middle belt of the city and in close connection with active urban centres (figure 3). Though the master plan situated the increasing urban poor nearby their possible workplaces, segregating them gave rise to their immobility, social isolation and less integration with the whole active system of the city.

To support the linear way of development, the master plan put emphasise on the rapid development of the farthest new satellite towns. Thus, the most strategic one, Latmer, was elaborated as the model of a modern satellite town. In detailed plans for the development of Latmer, a huge part of the town in the south (adjacent to the industries) was allocated to low-cost housing to home those who had to leave their houses in the old centre due to the urban renewal project. Because of the value of the land next to industries, the low-income district was designed based on the small plots of land with highest density (Figure 4).

Figure 2 (Left): Diagrammatic representation of the homogeneous social structure of the traditional city of Tehran (a) compare to the social segregation in Tehran during the 1960s (b).

Figure 3 (Right): Re-distribution of social classes in the new linear structure of Tehran proposed by the first master plan.
Privatisation of low-cost housing and its socio-spatial reflection upon the city

To meet the increasing demands of the lower income residents, the master plan almost entirely relied upon free market activity through the privatisation of housing. In contrast to early state-led attempts to alleviate Tehran’s affordable housing crisis, the master plan did not indicate the need for the state to pursue the active program of low-income housing. In order to realise the privatisation of low-cost housing, the master plan emphasised the encouragement of not only private housing sectors through the state’s financial support, but also private industries to provide accommodations for their workers in the south. Both were financially supported by the state through tax exemption, long-term and low-interest loans, decrease in the price of land and such promotions. Arguably, the master plan shifted the state-led low-cost housing strategy towards unguided private sector housing development. In the book *Privatisation and its alternatives*, William T. Gormley, thoroughly examines the controversy of privatisation: At its best, privatisation can reduce the costs of government and introduce new possibilities for better service delivery. At its worst, privatisation can raise costs and has the potential to undermine other important values, such as equity, quality, and accountability.
In the context of Tehran, the effects of the privatisation of housing were aligned with Gormley’s analysis, leading to the rapid marginalisation of lower income groups. In other words, the financial facilities proposed by the government encouraged private developers to invest in high-rise and large-scale projects for privileged. In the first master plan for Tehran, “questions of culture, class, and social discrimination were not the focal concern of the early modern planning approaches in Tehran.” As a result, public authorities chose to intervene less and less in the housing market for the disadvantaged. According to Tehran Development Council’s analysis of the first master plan in 1976, “the master plan advocated a housing policy which was tailored to higher income consumption patterns.” In fact, modern housing became an apparatus to modernise the society and change their traditional form of life; transforming the social norms and values; and introducing consumer culture and new social roles for women.

Generally speaking, due to decreasing returns, private enterprise was not that much willing to provide low-cost housing. Consequently, private housing investment shifted towards luxurious high-rise buildings in outer areas, such as ASP (1969); Eskan (1972); Ekbatan (1970s); and Sharak-e Farahnaz known as Shahrak Omid (late 1970s), despite the fact that Tehran still suffered from a shortage of affordable housing (Figure 5). The master plan’s strategy to solve Tehran’s housing problems formed a foundation for later housing strategies. Tehran witnessed a high-rise boom during the 1970s, supported by the unprecedented Iran’s oil boom, which changed the city’s built form “from low-rise to high-rise and from single developments to large new towns, constituting a complex and ever-expanding metropolis.” Regarding the high-rise revolution in Tehran, New York Times published an article in 1976:

During oil boom, Tehran's low-lying skyline has been sprouting modern high-rise building [. . .] The trend towards the construction of high-rise residential buildings is incompatible with the traditional needs of Iranian families [. . .] the high-rise building form could be very detrimental to the traditional aspects of Persian life. 32

Figure 5: Tehran’s high-rise boom during the 1970s. The top image shows ASP residential complex built for high-middle families. The below image at left shows the King Mohamad Reza shah and his daughter, Farahnaz, visiting Farahnaz (or Omid) high-rise residential complex in 1978. The below image at right shows the construction of Farahnaz residential complex during the 1980s.
Additionally, the effect of commodification of housing resulted in land speculation and the surging price of housing to very high levels. This situation brought about a continual decline in the quality and the number of low-cost housing stock in the capital. It also had direct repercussion on the social structure of the city, creating a harsh social polarisation which continues to affect the social geography of Tehran until present. In other words, the master plan’s housing strategy gave rise to social polarisation which was cemented by spatial inequality which remains as a dominant feature of the city. In short, the incapacity of the city to meet the housing demands led to the development of “squatter” housing, as an alternative way to deal with housing problems (Figure 6).
According to increasing problems of the city, Tehran Development Council “headed by Prime Minister Amir Abbas Hoveyda” was formed in 1975 to evaluate the master plan and supervise the implementation of municipal plans. Therefore, an in-depth assessment of the master plan was undertaken in 1976 to determine which parts of the plan were still viable and could continue in effect with only minor modification. According to the analysis of the Tehran Development Council, Tehran’s master plan was a land use plan, therefore, found to be weak in the areas of social, economic and administrative programs. Regarding housing strategies, Tehran Development Council’s report highlighted the wrong prediction of Gruen’s master plan about increase in family incomes and the probable decrease in the number of low-income families. By this assumption, the major focus of the plan was on high and middle income families, while the reality was thoroughly different. According to the Tehran Development Council’s statistics the income distribution became dramatically exacerbated between 1965 until 1972. Thus, Tehran Development Council suggested the urgent revise of the master plan to meet the needs for low-income housing and preparing public services for the poor districts of the capital.

Today, informal and spontaneous settlements are expanding in an alarming rate in the capital. The inefficacy of the official housing market to provide the urban poor with suitable houses has resulted in the fast expansion of these informal settlements. The lack of state-sponsored housing market in Tehran can be traced back into the 1960s when the third Five-Year Development plan (1963-1967) encouraged the emergence of the private housing sector through offering tax breaks, long-term low-interest loans and such financial facilities. Thereafter, the process of privatisation of housing was further intensified by the first master plan’s housing strategy (1966-1969). As a result, the private sector investment grew to overshadow the public sector in Tehran. In this market-led system of housing, private housing firms profited from the government financial support if they built mass housing in towers of ten stories or higher. They were luxurious buildings for the privileged, however, the growing numbers of the urban poor were suffering from the severe housing shortage.

**Conclusion**

In Iranian post-war contexts, affordable housing in Tehran underwent substantial changes, especially through a complex process of transnational practices. Tracing these changes represents a sudden shift from the dispersed affordable mass housing led by the state (during the 1940s to the early 1960s) into the privatisation of low-cost housing which intensified by the first master plan (1966-1969). The plan repeatedly highlighted the necessity of alignment of low-cost housing with the new structure of the city; however, it arguably failed to fulfill the increasing demands of affordable housing due to the promotion of privatisation of housing. Although the master plan attempted to improve the urban life of the poor, its privatisation strategy resulted in the marginalisation of the disadvantage. By ceasing the state’s endeavour to formalise spontaneous urban poor settlements, the first master plan released the government to directly take lead the low-cost housing. This market-led system of housing highly promoted by the master plan shifted the spotlight from the avant-garde state-led low-cost mass housing into the luxurious high-rise residential buildings for wealthy middle-income. Additionally, the privatisation of affordable housing without any direct control and support of the government led to the noticeable reduction of the quality of their houses and in turn their urban life.

In spite of the plan’s early intention to integrate the urban poor with all socio-cultural and economic urban activities to let them freely climb the social ladder of the city, relocation of low-income families in the south and close to industrial areas made them less immobile, isolated and segregated from the whole city’s urban activities. In other words by too much focusing on car-based mobility as well as social levels, the plan almost was unsuccessful in getting the poor more involved in the active urban life of the city. It can be argued that the master plan marginalised affordable housing for the rising urban poor through the privatisation strategy and shifting the spotlight into high- and middle-class residences. To sum up, the effect of the plan’s housing policy can be divided in two levels: first, rapid reduction in quality and quantity of the low-cost housing stock; second, unprecedented residential high-rise boom and the radical transformation of building forms in the capital. In fact, the plan housing strategy resulted in a rapid top-down socio-spatial polarisation of the capital on a metropolitan scale.
Tehran Problems

Rooted Histories and Ever building dams and roads, the 'Plan Organisation' provided five series of seven/five development plan and supervisions in Iran from 1946 to 1969. During the Second World War, 'Plan Organisation' was shaped to supervise Iran’s planning development activities. Designing a series of seven or five development plans and supervisions of their execution was the main function of the 'Plan Organisation'. Accordingly, over nearly 30 years, the 'Plan Organisation' provided five series of seven/five-year national development plans, each of which containing projects such as building dams and roads, and improving the public health system and rural life. See: Azadeh Mashayekhi, "Urban Change in Iran: Stories of Rooted Histories and Ever-Accelerating Developments," ed. Fatemeh Farnaz Arefian Seyed Hossein Iradj Moeini (Springer, 2016).

Endnotes

4 Azam Khatam, "Tehran Urban Reforms between Two Revolutions Developmentalism, Worlding Urbanism and Neoliberalism" (York University, 2015), 68.
6 ‘Plan Organisation’ (Sâzmân-e Barnâma) was the principle economic and social development agency of Iran’s government. A decade after the Second World War, ‘Plan Organisation’ was shaped to supervise Iran’s planning development activities. Designing a series of seven or five development plans and supervisions of their execution was the main function of the ‘Plan Organisation’. Accordingly, over nearly 30 years, the ‘Plan Organisation’ provided five series of seven/five-year national development plans, each of which containing projects such as building dams and roads, and improving the public health system and rural life. See: Azadeh Mashayekhi, "Urban Change in Iran: Stories of Rooted Histories and Ever-Accelerating Developments," ed. Fatemeh Farnaz Arefian Seyed Hossein Iradj Moeini (Springer, 2016).
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