

SEEKING RESILIENCY IN THE ARCHITECTURE OF DWELLING: KUY-E NARMAK (1952–1958)

Abstract

This essay examines Kuy-e Narmak, a residential neighborhood developed in 1950s Tehran, under the auspices of Mosaddegh's Modernization Program. It argues that the "Economy Without Oil" model, introduced by the Mosaddegh administration, and the implemented land-ownership system contributed to creating a resilient urban form and housing model in Iran. More importantly, it shows how underpinning top-down housing design approaches with bottom-up initiatives would allow democratic over bureaucratic processes for developing large-scale housing schemes, and encourage the active involvement of people in creating their urban communities.

Author

Seyed Mohamad Ali Sedighi
TU Delft

Introduction

In 1952, the Iranian government established a new financial organization, the Bank Sakhtemani (Construction Bank). This organization became responsible for constructing affordable housing through allocating land beyond the borders of the main cities and providing mortgages with a low-rate interest.¹ This organization collaborated with the Association of Registered Iranian Architects (ARIA) to prepare master plans for new housing projects in Tehran.² Accordingly, a series of housing projects were realized, among which Kuy-e Narmak (1952–1958) played a distinct role. Narmak was the first attempt of the ARIA to design a large-scale housing project and accommodate a large number of people in the city.³ Initially, this project aimed at accommodating 25,000 people. Yet it houses approximately 340,000 residents at present. Considering changing urban policies and economic conditions, individual low-rise houses have been transformed into mid-rise apartments, and ironically, the urban form and the public spaces have remained unchanged. These characteristics may define Narmak as a resilient urban form that has the ability to cope with changes while simultaneously preserving its urban structure.

In recent years, the concept of resilience has become a source of inspiration for urban development. This concept was first introduced by Crawford Holling, who investigated the interacting populations and their functional responses in ecological studies.⁴ He describes resilience as “the system to absorb the disturbances between efficiency and persistence, constantly and change, predictability and unpredictability, in order to keep equilibrium continuously.”⁵ Describing the models of change, this conceptual framework gradually influenced the other fields such as engineering, business studies, psychology, social science, and urban planning. For instance, to discuss the resilience of society to climate change, Peter Timmerman established a link between this concept and vulnerability, where he defined resilience as the capacity of a system to absorb a hazardous event after happening.⁶ Another example can be found in material science, where this idea refers to the elasticity of materials to resume the original shape after being stressed by internal and external forces.⁷ However, this idea opened new discussions about urban development during the 1990s and 2000s, when neoliberalism became a form of governance.⁸ In this model, state intervention and public spending have been reduced, while market-centered forces have become main features. Accordingly, this new economic system has influenced urban land-use and development, especially in metropolitan regions. So urban planning has become an entry point for resilient thinking.

Despite the fact that in recent studies the importance of resilience thinking in urban planning has been addressed as a tool for sustainable urban development, the ways through which relationships between affordable housing practices and the resilience concept can be achieved have been rarely studied. Therefore, by analyzing Narmak’s urban form and development, this essay reveals how the “Economy Without Oil” model, introduced by the administration of Mohammad Mosaddegh and the land-ownership system in Narmak contributed to creating a resilient urban form and housing model in Tehran, Iran.

The Economy Without Oil Model and Kuy-e Narmak

The Iranian socio-nationalist movement of the late-1940s led to the formation of a new government in 1951. Led by Prime Minister Mohammad Mosaddegh, his administration nationalized the Sherkat-e Naft-e Iran va Engelis (Anglo-Iranian Oil Company).⁹ The Iranian oil nationalization process triggered international sanctions to the Iranian economy, mainly imposed by the British government. As a consequence, the Mosaddegh administration was not able to export crude oil. To cope with the impact of the economic sanctions, his administration launched the “Economy Without Oil” model between 1951 and 1953.¹⁰ To achieve the intended goals of this campaign, the government commissioned the Ministry of Agriculture with the preparation of a development project. This project was aligned with the country’s first economic and social development plan drafted by the Sazman-e Barnameh va Budjeh (Finance and Planning Organization) in 1948.¹¹

Similar to the Soviet-like five-year industrialization plans, the first development plan (1948–1955) pursued a project for the modernization of the nation. To support the implementation of Mosaddegh’s modernizing agenda, the government’s economic policy was particularly focused on the development and modernization of agricultural activities and production, instead of oil extraction and exports. Moreover, land reform received a great deal of attention, as part of a program to develop state-initiated large-scale affordable housing schemes, a key policy in Mosaddegh’s agenda. For constructing affordable housing, the Ministry of Agriculture, in collaboration with the Iran Insurance Company, established the Construction Bank.¹² This bank, due to the land price and land speculation in the urban areas, asked the government to permit the construction of new houses outside the cities. In 1952, the parliament approved a new law, named the registration of dead-lands, through which the Construction Bank was allowed to own un-built lands 3 kilometers from the borders of the existing cities defined by the municipalities.¹³ Subsequently,

Notes

1. Abdi, Mehdizadegan, and Kordi, *Six Decades Housing Planning in Iran*.

2. Habibi and De Meulder, “Architects and Architecture.”

3. Badie, “Causes of Constructing.”

4. Holling, “Resilience and Stability.”

5. Holling, “Resilience and Stability.”

6. Timmerman, “Vulnerability, Resilience and the Collapse.”

7. Callister, *Materials Science and Engineering*.

8. Eraydin and Tasan-Kok, *Resilience Thinking in Urban Planning*.

9. Abrahamian, *A History of Modern Iran*, 97–122.

10. Khome-ye, *Economy Without Oil*, 1–24.

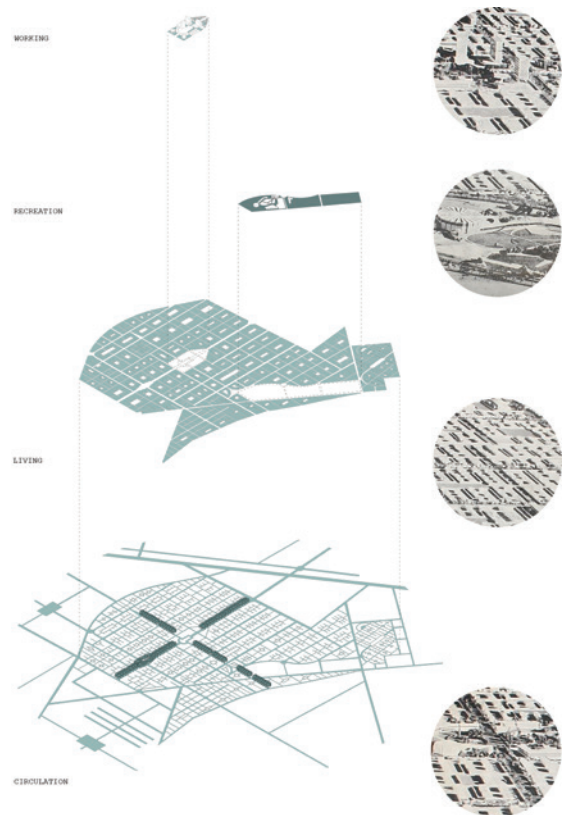
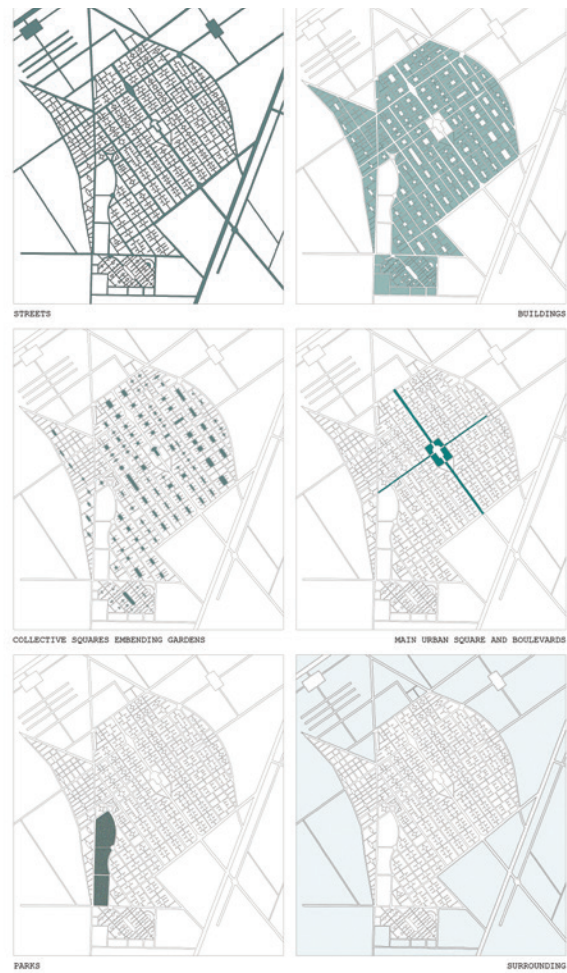
11. The Finance and Planning Organization, “Iran’s National Development Plans,” 37–62.

12. Editorial, “The Establishment of the Construction Bank,” 10.

13. Badie, “The Bill of the Barren Lands,” 19–20.

a series of housing projects was proposed around Tehran, among which Kuy-e Narmak was the first one that would be constructed.

This project was designed by ARIA and realized by the Construction Bank between 1952 and 1958. Situated to the Northeast and 3.5 kilometers from the old city of Tehran, Narmak was constructed on an area of 506 hectares, in which approximately 184, 225, and 97 hectares were allocated to the squares and streets (public spaces), dwelling lots, and communal amenities, respectively.¹⁴ The urban layout of Narmak proposed a grid including a series of boulevards and intersected lanes. This grid formed 110 urban blocks where, in the middle of each, a public square was allocated. In the block layout, some dead-end alleys (east-west) were driven from each square, dividing the land into smaller fragments forming the housing parcels. These parcels were also divided into 200 to 650 m² lots where, in total, 7,500 single-family detached houses could be constructed (figure 1).¹⁵



14. Khodayar, "How Kuy-E Narmak Was Created."

15. Sedighi and Mota, "Kuy-e Narmak (1952-1958)."

Figure 1: The urban layout of Narmak. (Source: Mohamad Sedighi in collaboration with Federico Pellegrini.)

This urban structure was the first attempt of the ARIA to employ modernist ideas for designing a large-scale housing project in Iran.¹⁶ Although low-cost housing design and development were not attractive for many highly educated Iranian architects and private developers, for ARIA this was an opportunity to influence the landscape of housing in Iran through the implementation of modern urban planning.¹⁷ This focus might be a result of the CIAM discourses regarding the theme of “The Functional City,” based on the distinction between Dwelling, Recreation, Working, and Transportation. Contrary to the Garden City patterns which satisfied the individual, this charter emphasized the advantages of collective organization, especially for constructing residential areas. Furthermore, generalizing principles of town planning in four distinct categories formed a condition for universal applicability of the very conception of CIAM, which was rigid functional zoning of city plans with green belts in-between and a single type of urban housing, particularly high, widely spaced apartment blocks, wherever possible.¹⁸

To implement these ideas internationally, for instance, Le Corbusier designed the master plan of Chandigarh, India, in 1952, and this project became a source of inspiration for many architects in countries in the region. Before designing the master plan of Narmak, the board members of the ARIA visited India in 1952. They aimed to study modern housing experiences similar to the scale and context of Narmak.¹⁹ After the realization of Narmak, some Western figures visited the project, such as Edward Welz, Marcel deBuer, and Jop Benou, and surprisingly, most of them paid compliments to Narmak.²⁰

For designing individual houses, the architects of ARIA proposed a French prefabricated system: KALAD. Indeed, they used this system to build one-story detached houses in three typologies of two, three, and four bedrooms; and the houses were positioned freely on the lots, surrounded by walls. However, due to the high cost of construction and inaccessibility to the sufficient materials and techniques for mass production, only a few houses with this system were constructed.²¹ To speed up the process of construction, the architects built a few samples of these house types with a mix of load-bearing brick walls and steel skeleton. This helped architects show people how new housing types could be built by local materials, and to propose two choices for the housing construction.²² Accordingly, people could either order a desired type with the Bank, or build their houses with the technical supervision of the ARIA. Although some chose the first option, the majority of people selected to build their own houses, with the help of local builders, known as Mi'mar (figure 2). This created a new form of collaboration between the Bank, the ARIA, and the general public for the

development of Narmak, and gave birth to a resilient housing model. This characteristic might be seen as a result of the financial model implemented by the Bank and the new land-ownership system introduced by the Mosaddegh administration.

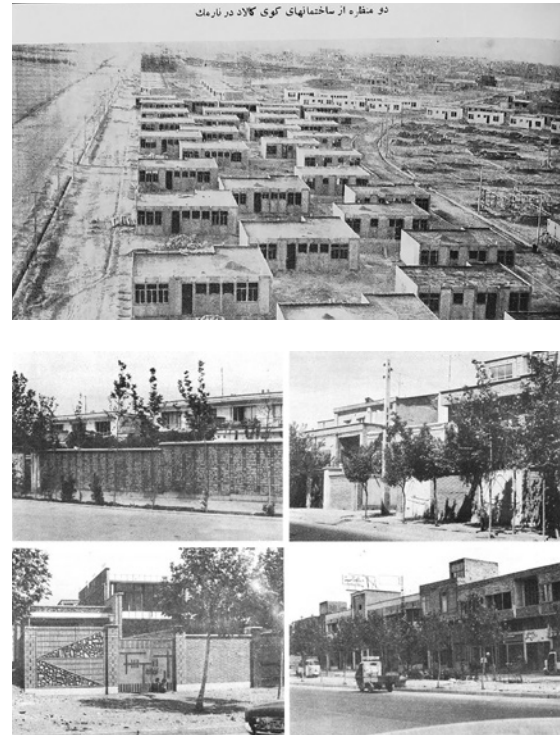


Figure 2: The individual houses in Narmak. Shown left are houses constructed by the Bank (Source: *Journal of Bank-e Sakhtemani* 1, no. 6 [1956]: 57). Shown right are houses erected by people (Source: *The Comprehensive Plan of Tehran: Review and Evaluation*, Tehran: The Planning and Finance Organization, 1970, 3.15-3.16).

16. Badie, “Causes of Constructing.”

17. Habibi and De Meulder, “Architects and Architecture.”

18. Mumford, *The CIAM Discourse on Urbanism, 1928-1960*, 59-103.

19. Khodayar, “How Kuy-E Narmak Was Created.”

20. Badie, “Summary of Some Letters,” 37.

21. Sedighi and Mota, “Kuy-e Narmak (1952-1958).”

22. Ma'arefi, “What Do You Know,” 12.

A Resilient Urban Form

The approval of the dead-land registration law created a new form of ownership system and brought about a shift of paradigm in the provision of housing. Since the 1909 discovery of oil in Iran, the government was largely dependent on oil revenues to fund various urban modernization projects.²³ In 1951, however, international sanctions on Iran's oil industry forced the government to rely on other kinds of resources, such as agricultural activities, to generate income. In this context, land policies became a key issue for the government, which initiated a land-reform program and changed the traditional land-ownership system in Iran. One of the most important land reforms in this sector was the so-called dead-land registration law. Until the early 1950s, the person who occupied and revitalized barren lands could claim the ownership of the land. However, in 1952 the dead-land registration brought an end to this regime. Moreover, the new law became a powerful instrument for Mosaddegh's government to control the real-estate sector in general, and the housing sector in particular. It enabled the government to regulate issues related to land use, urban planning, as well as determination and adjustment of the land price. The law secured a wider and more controlled utilization of land for the provision of public housing, mainly for middle- and low-income civil servants.²⁴

In Narmak, this law enabled the Bank to introduce a new financial model for the land development. The Bank asked for a down payment to sell individual dwelling lots. In so doing, the Bank gained needed financial means to provide mortgages for the construction of public spaces and new houses. This financial model made the project independent from the external investments, so the Bank was able to self-organize the project. This capacity (i.e., land division and development) was also brought forward by the people who bought a plot in Narmak. These landowners needed financial support to realize their houses. To do so, many of them divided their land into some smaller pieces, kept one lot, and sold the rest. While a direct result of the land division was the provision of financial resources for construction, more importantly, it provided a capacity through which people could organize, control, adapt, and change their living environment by themselves, reinforcing the self-organization concept in this project (figure 3). Consequently, this concept, which according to Francis Heylighen is a process of internal organization within a system without guidance or management by an outside source, established a ground for evolutionary change, indicating resilience thinking in the planning process.²⁵

23. Hein and Sedighi, "Iran's Global Petroleum Landscape," 349-74.

24. Sedighi and Mota, "Kuy-e Narmak (1952-1958)."

25. Eraydin, "Resilience Thinking for Planning," 28.

26. Heylighen, *The Science of Self-Organisation and Adaptivity*.

27. Umbach and Huppauf, *Vernacular Modernism*, 1-23.

28. Eraydin and Tasan-Kok, *Resilience Thinking in Urban Planning*, 6.

29. Bourdieu, *The Logic of Practice*, 53.

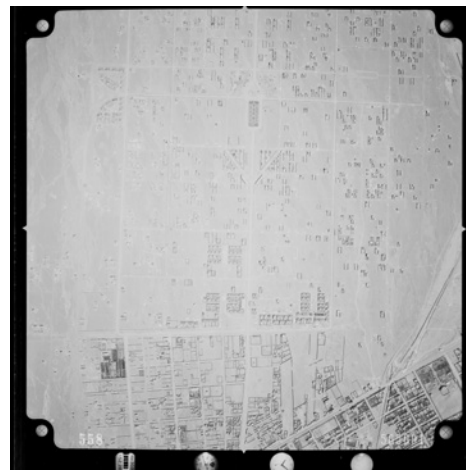


Figure 3: The growth and change of Narmak over time. (Source: National Cartographic Centre, Tehran.)

The land-ownership system in Narmak created a sense of liberty for the inhabitants, permitted by the general justifications of property rights and a willingness for participation in the state-initiated development program. In addition, in Narmak the land-ownership system provided a capacity for transformability/adaptability, which is the opportunity for self-organization, although the urban structure remained intact and absorbed changes.²⁶ In short, it might be argued that these characteristics represent Narmak as a resilient urban form, where the top-down development benefited from a bottom-up participatory process in the construction and development through time, facilitating a concrete praxis that led to a form of vernacular modernism, as defined by Maiken Umbach and Bernd Huppauf.²⁷

Conclusion

Comparing Narmak with the other neighborhoods constructed for middle- and low-income families between 1940 and 1960 in Tehran, there is a strong collective identity and sense of belonging among its residents. Seemingly, the characteristics of Narmak, as a resilient urban form, have a substantial impact on creating this feeling. These features, according to Erydin and Tasan-Kok, are "(1) the ability of a system to absorb or buffer disturbances and still maintain its core attributes, (2) the ability of the system to self-organise, and (3) the capacity for learning and adaptation in the context of change."²⁸ During the past 50 years, this urban form, as a system, was able to absorb and cope with changes, despite the unstable political and economic conditions in Iran, the rapid growth of population density in Tehran, the considerable increase in the building density, and the radical transformation of Narmak's skyline. This ability was mainly possible through the financial model, introduced by the Bank, and the land-ownership system, regulated by the parliament, which enabled Narmak to undergo a self-organization process.

On one hand, this process refers to the bottom-up development of Narmak where the role and participation of inhabitants were essential for constructing a new neighborhood. On the other hand, although the master plan of Narmak was a result of top-down development, the general urban layout of this project constituted a frame within which change could take place, and occur in a harmonious way. Without strictly determining factors, the residents realized their houses based on the habits and with the local materials, and transformed them based on their new needs. Indeed, this characteristic refers to what Pierre Bourdieu called "habitus."²⁹ Furthermore, in the development process, the traditional role of inhabitants in neighborhoods, as non-elite populations, changed to an active agent of social and economic change, and the residents were able to respond to urban population growth and housing needs through transforming individual houses to residential apartments, and adapting their living spaces to the new circumstances.

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