



The Innovative Housing Models for Green Architecture: Come-Back of the Garden-Cities First Known as Bank-Houses in Istanbul

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Abstract

This research focuses on garden-cities in Istanbul, first developed as a new, innovative housing models in the world, later planned in context of sustainability, green architecture, and recently with the pandemic, COVID-19. In the beginning of the twentieth century, E. Howard's book of *Garden-cities of To-morrow* and his idealized garden-city models became a worldwide phenomenon. First with the climate change concerns, and later the recent pandemic COVID-19 people began to question the old planning theories and doctrines and the city and metropolitan life model which was imposed throughout the twentieth century. Nowadays, with the increasing awareness of sustainability and green architecture, also planning with the renewed interest, this old rhetoric, E. Howard's garden-city models have recently made a come-back as a research object after the recent pandemic. The original English garden-city models and its derivatives in Europe were known as *cité-jardins*, in France, and *Garten-stadts*, in Germany, also known as bank-houses in Istanbul, Türkiye. These housing models were transferred to Istanbul via European, French, and Italian architects later were designed and developed uniquely for Istanbul. Characteristically various models of French *cité-jardins* (garden-cities) developed for Istanbul by Henri Prost a French architect-urbanist who was affiliated the French urbanism school were searched. Until 2000s, the garden city housing models and its derivatives in the post-Prost period known and developed as bank-houses as a version of his *cité-jardins* later implemented by Turkish architects on the Asian-Anatolian side; Kadıköy, Acıbadem, Koşuyolu

and European Side; Levent, Yeşilköy, districts were revealed. After the 2000s, some new and innovative housing models appealing the old, English style countryside living originated from garden-cities were planned out of the city. In the 2020s, with the recent pandemic the old, Welwyn garden-city concept come-back first in England, later influenced the world and Istanbul. As original garden-city, this model first known as bank-houses emerged and evolved as healthy houses concept planned in green areas with the pandemic specifically for Istanbul were examined.

Keywords

Istanbul · Bank-houses · Garden-cities · Green architecture · Housing · Sustainability

1 Introduction

This research examined the garden-cities and their come-back as an old rhetoric helped to build a new and sustainable relationship between dwellers and city presented an updated study after the recent pandemic COVID-19, in the world and in Istanbul. With the global warming, climate-change and particularly the recent pandemic, we have witnessed the come-back of the twentieth century's urbanism theories and doctrines. The climate crisis since the late twentieth century and recent coronavirus created and imposed new lifestyle and housing, and urban planning principles in cities and even new ideologies and theories. We confronted unprecedented urban scenarios and the changing world dynamics altered the city planning and housing design and model parameters that are known to us so far. Reflected in the cities, this unforeseen radical change might be a long-term and permanent process that spans a longer period. If we explain in the other words even,

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we have not confronted the worst incident and circumstances yet (Gates, 2021).

Even though, the newly emerging significant conditions in the cities, the people first underestimated, the consequences of the recent pandemic COVID-19 having vast influences beyond the expected. During the public regulations imposed in the cities such as social distance and isolation effected the social life and psychology of population who clustered in their homes long days and months which enhanced to influences of pandemic. Also, the pandemic emphasized and made more visible the unhealthy living conditions in cities which was not noticed previously. First the climate issues and later the pandemic process have been unexpected and transformative outcomes on cities and led to rapid, and radical changes in people's lifestyles, housing ideas and models. Global warming, and COVID-19 have forced cities to take new and urgent measures, and some major cities like New York, London, Paris, also Istanbul used the pandemic to forge ahead with crucial urban plannings.

The post-metropolitan life and escape from the city centers with its growing population and urgency with the problems by climate—change came to the fore even more after COVID-19 as an inevitable new idea. Indeed, living in the city centers has always been monopolized by the upper class as a privileged living style previously. However, due to recent closure, the people had to clustered in their multi-story apartments for long months without stepping out as well as the craved living in green areas, and healthy lifestyle in rural. Hence, especially, after the coronavirus the people started to look for new living styles and housing models longing for the green areas and forests. They began to question the metropolitan life established on the car dependency model which was imposed us with the twentieth century's urban living norms. Thus, especially, after the recent pandemic, the idea of living a healthy lifestyle in the less dense and greener areas or near towns has emerged again instead of crowded city centers among the people.

The ideas once seen as solutions to the climate issues in the 1980s, were accelerated, especially after the coronavirus, the search for a more green, healthier, car-free and comfortable lifestyle emerged in American States, England, Europe, in the world as well as the in Türkiye. The people first time facing to a pandemic nearly later a century confronted to the dramatic effects and we witnessed the shrunk of America's biggest cities which led the people moving elsewhere (Vox, 2022). Thus, this newly developed circumstance has driven escape from big cities to the less-density suburbia or vicinity of small towns (Wall Street Journal, 2021). In the context of the global warm the densely urbanization and the uncontrolled human settlements not only emerged as a threat after the COVID-19, but the big cities where the carbon emission achieved a peak, have also

now become a threat to human health. The recent pandemic worsened the living and working conditions and forced to people to make permanent and radical changes. The pandemic not only changed housing demands and models but also working conditions and we witnessed the birth of the new remote and hybrid working models. Hence, the big cities and metropolises which were known their popularity before pandemic that offered sumptuous living, and working in high-rise buildings around the chic cafes and shopping areas, now seem to lose their old appeal after that.

In recent years, the architects have had to adopt new, and innovative housing models in response to climate change which was described as the main problem of the world today; however, housing issues and the recent need altering housing models became more significant after the COVID-19, pandemic. In this context, after the coronavirus, the idea of innovative housing design, the garden-cities have recently made a come-back, and the old garden-city models have become a research object focused to create new, and innovative models aimed to plan the green and sustainable architecture. The preliminary examples of this new idea came to the agenda as an old rhetoric and pioneering project, the renewal of E. Howard's Welwyn, in England, which became a symbolic model of garden-cities (Fig. 1). A recent article published in England referred to old Welwyn town designed as a garden-city by E. Howard in the beginning of the twentieth century, it was stated that the city will be renewed as the center of point after COVID-19 (Hertslife, 2021). Furthermore, it was also stated that in this article there was a resurgence of interest in the ethos of the garden-city models and the type of neighborhood, and community advocated by E. Howard prompted the problems of metropolitan and regional development also in accordance with the importance of sustainability in government policy (Schuyler, 2002). The Welwyn Garden City was described by The Times news paper that a world-famous modern new town developed as an experiment in community planning and Hatfield created by sporadic buildings in the open country and Welwyn, made the New Towns Act possible, just as Hatfield, by its imperfection made it necessary (The Times, 1948, p. 5).

However, COVID-19 was not the only reason for this rapid and radical change idea to search for new housing and living models in the green, sunny areas, but also the searching for car-free, zero carbon emission, quiet and calm neighbourhoods, housing shortage, rising housing prices and the expensive cost of living in the big cities played a significant role. Searching for new and healthy living styles delivered the return houses like E. Howard's garden-city models, but also car-free notion with new pedestrian and bicycle ways reminiscent of the ideas of the old garden-cities were reinstated in this new arrangement.

Fig. 1 The specific Garden-city model first designed by E. Howard, in Welwyn, England. Photo, Hertslife (2021)



Likewise the come-back of the garden-cities Welwyn, also, Paris Mayor A. Hidalgo put into effect the most ambitious plan *ville de quart d'heure* (15 mins city) as another alternative solution to the garden-city planning ideas for Paris in the scope of measures taken for the sustainable plan as well as the COVID-19, pandemic. (Financial Times, 2017). Therefore, they specified and developed some new and innovative regulations based to pandemic that they could not even realize with climate change yet, with coronavirus.

Furthermore, as an another idea and reason the houses with gardens it was thought to originally derived from Kropotkin's old notion that low-income people will cultivate their own vegetables, to achieve clean food and environment since the beginning of the twentieth century (Ragon, 1986, p. 19). The pandemic has already become the initiator of a rapid change process with an acceleration that increases the awareness of these innovative ideas that are slowly developing together with the climate crisis.

With the climate change and COVID-19, we have seen the failure of existing urbanism theories and discourse of the twentieth century and the car depended urban ideas. New developments from this century were centered in this study within the context of ideological, and intellectual debates that formed the background of housing, and human discussions. With renewed interest, and as an object of research, rethinking the existing city planning, and housing design questioning the negative impacts of the physical environment that were created by cities built for cars rather than human or environmental concerns. This was realized in reaction to both the practices of CIAM, *Congres Internationaux d'architecture Modern* (International

Congress of Modern Architecture) and modern architectural doctrines in the mid of the twentieth century. It was also a reflection of the necessity of discussing of background such questions as "What is the housing design?", and "How will houses be designed in the future in the context of the sustainability and green design, and architecture"? The pandemic has emerged as a shocking way and notion changed and transformed the cities, people's living, and even working style, system, housing design and plannings very short period.

In recent years, garden-city models have become a research object both on theoretically and practically to create a sustainable model. In the theoretical context, the issue of producing characteristics of the doctrines of sustainable urban planning on innovative housing models was questioned in an article that referred to French urbanist Françoise Choay who constituted primary classifications as a pioneer these discourse and ideas (Choay, 1965).

The idea of designing a more livable environment with sustainable concerns focused on primarily nature, and human needs, as well as the housing problematic was first stated at the Rio Conference, in 1992, and later at the Istanbul Conference, in 1996. After these series of conferences, the idea of searching for housing models that comply with the manifestations and meet the requirements of green architecture, and sustainable design became significant.

The searching new lifestyle, particularly after the COVID-19 led to rethink on the garden-cities, as well-known housing models presented as modern, airy and sunny living areas outside the city since in the beginning of the twentieth century. The coronavirus which now affects the world is changing the priorities in the housing sector

as well, and the need for quiet, peaceful, healthy and spacious residences has started to increase. Recently, Turkish contractors founded a health board to determine the new specifications for changing housing demands of the people after the pandemic and they created specific housing design term healthy city-housing, in Istanbul (Hürriyet, 2021). Turkish, private contractors explained that new housing plannings consisted like houses with gardens or with larger balconies and terraces with green have become one of the indispensable criteria for residences, also the interest in horizontal buildings instead of multi-story, in Türkiye. Additionally, they explained that this idea help to establish a new and sustainable relationship between urban dwellers, and urban areas (United Nations, 2021). Recently, they initiated a new urban agenda planning garden-cities with 90% green areas and described that the COVID-19 period as a second milestone after the 1999s earthquake. Therefore, in the housing planning the use of more green elements and gardens in housing models appeared as an indication that come-back of the garden-city concept.

Although E. Howard's and R. Unwin's garden-city models have been referenced in many studies so far, as a significant future model for green architecture, and sustainable design, there have been few researches on garden-cities in Istanbul. This study addressed this research gap and presented updated research including the period, especially after the recent pandemic by examining housing planning and evolution of the garden-cities in Istanbul, as a case-study to specify the main problematic.

The Methodology

The first part of the research focused on the first half of the twentieth century and garden-cities in Europe. Garden-cities were known as *cit -jardins*, in France, *Garten-stadts*, in Germany, and also known as French version, *cit -jardins* its various derivatives were developed and mostly known as bank-houses in Istanbul. First developed by E. Howard this model and its derivatives was later transferred to Istanbul by European, French, and Italian architects.

The original version of E. Howard's garden-cities were developed, and designed uniquely for Istanbul; as *cit -jardins* (garden-cities), *cit -parcs* (park-cities), and *cit -satellites* (satellite-cities) by French architect-planner Henri Prost, and later implemented by Italian architect-planner Luigi Piccinato and Turkish architects. In the early twentieth century, as an first generation, French architect-urbanist Henri Prost, who was affiliated with the *l'Ecole Fran aise* (French urbanism school), later taught lectures in *ESA, l'Ecole Sp ciale d'Architecture* (Architectural School in Paris) constituted characteristically various housing models referred to E. Howard and R. Unwin plannings (Figs. 2 and 3). Some derivatives of these housing models



Fig. 2 R. Unwin's English garden-city model, from H. Prost's Urbanism lectures, *ESA l) ESA, l'Ecole Sp ciale*, Paris. Plan, IFA Archives, Paris

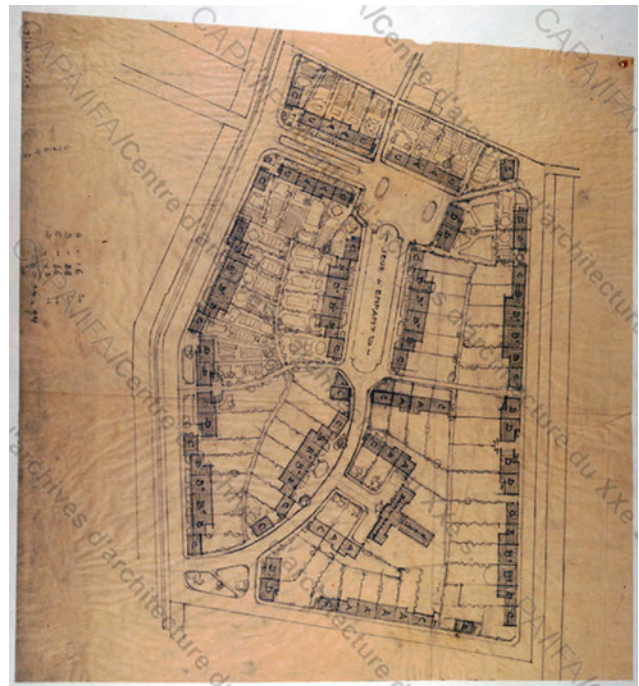


Fig. 3 H. Prost, and his colleagues *cit -jardins* Models Site-Plan in *ESA, l'Ecole Sp ciale*, Paris. Plan, IFA, Archives, Paris

in the post-Prost period known as bank-house projects were developed by Turkish architects and implemented by Bank and Municipality partnership construction system on the Asian Side (Anatolian) districts; Kadıköy, Acıbadem, Koşuyolu, and European Side districts; Levent, Yeşilköy, etc., were examined.

In the second part of the research, including newer versions of the garden-city models were examined, focusing on the second half of the twentieth century to the post-2000s. After the 2000s, new, and modern versions of the old garden-cities were first planned in Istanbul due to increasing awareness, and re-interest in green architecture, and living plea in the countryside. These models directly taken and transferred from old, English garden-city models appeared outside of the city and fringes on the far northern axis of both European, and Asian-Anatolian sides, in regions such as Kemerburgaz, Sarıyer, and Kurtköy, as an English-originated “country” themed projects aimed at modern, sumptuous rural lifestyles. Finally, after the COVID-19 pandemic old, garden-cities come-back with the newly changed idea living in the green areas in the out of the city centers. These constitute the first examples of green planning, in accordance with the development of housing models for the future were examined.

In this research, new, and innovative housing planning models, and typologies in city planning in Istanbul were considered as case studies on the content of the methodology. Although there have been numerous researches on garden-cities, this research will be the first which was scrutinizing of origins of garden-cities and its evaluation as well as the very recent update after the coronavirus in the city of Istanbul.

2 Towards Healthy and Livable Housing Planning: Sustainability and Green Architecture

Since the twenty-first century, the cities, and their inhabitants have faced new, and unexpected circumstances with the rapidly developing urban agenda in the last few decades first after the 1990s, climate-change issues and very recently, in the 2020s, COVID-19. Indeed, in the beginning of the twenty-first century, the urban planning world freed itself from the old explanatory models whose limits that we know today extensively (Paquot, 2013, p. 122). Once again very recently the planning dynamics of cities radically have evolved, and it has created new design paradigms concentrated on new, innovative urban, and housing planning (Coskun, 2021a).

Nowadays, the majority of the world’s human population began to live in mega-cities where they became uninhabitable places with the uncontrollable migration, and urban

sprawl to the suburbia, green areas, and even forest. With this radical change in living conditions, United Nation was declared that in 2008, the global urban demographical structure due to outnumbered rural settlements, by 2025, it is expected that two-thirds of the world population will be living in urban areas (Habitat III, 2016).

Today, the problems experienced in the cities have become significant all over the world and forced the urban planners and administrators to take some instant plans, and precautions. Addressing the problems experienced in the cities recently, and facing an increasingly immobile international community of nations, the mayors of Paris, Sydney, Tokyo, and Cape Town taken some measures even boasted in the *Financial Times* in January 2020, with the boldest ideas, and crucial plans for a sustainable future of the low carbon city and COVID-19 (Hidalgo et al., 2017, p. 2). However, put into effect some implementations with significant decisions in cities having such a vast population as substantial issues like migration and housing was still as the main problematic.

Aside from the other cities as a mega-city Istanbul also has problems that induced arose from unplanned, and uncontrolled urbanization process, as well as the housing issues due to inner migration first initiated in the 1970s, and today, continued with transnational migrations. Nowadays, newly emerged innovative plannings such as sustainability, green design, green urbanism, and eco-planning became significant. Searching for new planning methods has recently become the subject of renewed interest and requirement in Istanbul, specifically after the late pandemic.

By the 1990s, the issue of global warming became the major environmental concern through the efforts of some activists. The first “Earth-Summit” was held related to concerns about climate change, and creating a more livable environment in Rio de Janeiro, Brazil, by United Nations. These worldwide conferences, and debates were focused on sustainability which would be later formulated in Istanbul as Agenda 21 (Pérouse, 2014, p. 230). Thus, living styles in cities began to be questioned again, the center of the critics searched for a healthier, and more livable urban environment, through green architectural designs was emerged. In addition, the idea of desirability of living in the city centers commenced to change after the 1980s, and the urban population in the cities began to sprawl and settle outside the city borders.

2.1 The Declaration of 1996, Climate Conference, Istanbul, in the Context of the City’s Planning

Recently, Istanbul has become one of the leading mega-cities in the world, with the nearly a country size population

of 15 million according to the late World Bank Reports. Indeed, a serious housing problem first revealed in the city due to initiation of massive inner migrations by the workers in the 1970s. The uncontrolled planning implementations by the Democrat Party in the 1960s, later with the 1980s liberal policies the illegal houses increased led to the deterioration of the housing problem.

After the first “Earth-Summit” in 1992, in the context of Agenda 21, the next Conference would be held in Istanbul in 1996. This conference was seen as the turning point emphasizing issues of İstanbul city once again related to the necessity of taking some measures referred to sustainable city and the Agenda 21.

In 1996, Climate-Summit, in Istanbul, Türkiye, emphasized the importance of the declaration once again. It was mainly stated that in the reports and notes; “Habitat Conference in Istanbul, moved into the twenty-first century and presented a positive vision of sustainable human settlements, a sense of hope for our common future and building a world where everyone has to right to live in a safe home with the promise of a decent life of dignity, good health, safety, happiness and hope) also Conference ideally focused on the human needs and human beings were at the center of concerns for sustainable development on the basis an action plan as implemented in the Habitat Agenda”. (United Nations, 1996)

Furthermore; besides centered on the human, also the this Conference emphasized the right to adequate housing for everyone, in order to sustain the global environment improve the quality of living in our human settlements, and sustainable patterns of production, consumption, transportation, and settlements development pollution prevention, respect for the ecosystems and the preservation of opportunities for future generations. After the 2000s, some new, and innovative projects have come to the city’s planning agenda, to find solutions to the problems of the city that emerged with migrations and the transformation of the city.

Following the Istanbul Climate Conference, 1996, the studies were mostly concentrated on to searching innovative solutions to the problems of the world’s cities. In 2010, about 14 years after the 1996, Istanbul Conference the Istanbul Municipality implemented some actions on innovative settlements that met the requirements of the last meeting.

Today, regarding the recent Agenda 21, Istanbul aimed to divided the city into five specific regions, in the context of sustainable ideas including Zeytinburnu district next to the Historic Peninsula in the west. Even though willing to take some action against the Climate-change, some further steps have yet to be taken by the institutions such as Government, and the Municipality when considering these specified regions in the scope of the Istanbul, Agenda 21.

3 The Come-Back of Garden-Cities the Search for New, and Innovative Housing Models

After the 1980s, the idea of innovative housing design-focused again on the garden-cities as an old concept with a renewed interest in the context of green, and sustainable architecture and urban planning. Since the environmental turn in the 1970s (the considered that the garden-cities back in the twentieth century even earlier), both explicit and implicit green city concept made obligated to reduce the environmental impact of urban settings have been part of urban policies around the world (Müller and Mattisek, 2018; Bauer and Melosi, 2012; Bernhard et al., 2012).

In 1969, Reyner Banham pioneered a new idea and technology, based on human needs, considered that the environmental problems is an integral part of the discipline of architecture. Previously, no historian or architect before him so systematically explored this specific problematic and its impact of environmental engineering, as well as the services on the design of buildings (Howard, 2008b; Banham, 1969). Later, with the growing interest on green urbanism and the idea the first version of this model surfaced via Ebenezer Howard's book, in 1902 entitled as *Garden Cities of To-morrow*, in the context of the political, and social agenda has recently made a come-back (Lehmann, 2011, p. 243).

In addition to recent come-back of garden-cities it is referred that new and innovative housing settlements will be re-planned in the context of garden-cities, also with possible some renewings in the near future. Like Welwyn city which was designed as garden-city originally by E. Howard at the beginning of the twentieth century, in England, has become the center of the point of this newly revived idea. The issue of renewal of this old town has come to the agenda recently due to the an idea improvement of the environment to create more livable places, made them vibrant place to everyone and for humans, pedestrians, and cyclists with the awareness of the recent COVID-19 (Smith, 2021, p. 4) (Fig. 1).

In the late years, architects, and planners needed to rethink on the city planning, and housing models when questioning the negative impacts of the physical environment which was built for cars not for humans as a reaction to the over-confidence in the technique of the 1960s, and to the practices of CIAM, *Congres Internatianux d'Architecture Modern* (International Modern Architectural Congress) and the modern architectural doctrines.

Towards the end of the twentieth century, with the further development of housing, and urban planning the old ideas based on modernism has entered a new process of change with the recent design discourse such

as sustainability, and green architecture, have been significant since the 1980s. This change have also emphasized that the end of the sovereignty of architecture and city planning in the twentieth century. Recently, with the twenty-first century, new, and innovative models that could not be foreseen previously in the twentieth century have come to back the recent urban, and housing planning agenda.

3.1 The Early Garden-City Models Transferred to the Istanbul From France, and Italy

In the early twentieth century, E. Howard's English garden-cities which were first planned in out of the cities in green areas were appeared as ideal houses that were beneficial for human life, and health, with gardens and direct sunlight (Howard, 2008a, p. 99). Indeed, these sunny, airy settlements out of the cities was recognized as early examples of today's green, and sustainable design theories and discourse in architecture and urban planning.

E. Howard's, R. Unwin's original garden-city models, transferred from England, and became widely known in Paris, France, as *cit -jardins* (garden-cities) modern housing plannings. In the beginning of the twentieth century) these housing models were first restricted by *Le Mus e-Sociale* (Social Museum) was known as a think tank institution (Dođrus z, 1981), also as a regulatory, and controlling mechanism in Paris city planning (Horne, 2002, p. 233). Later, these houses were approved by the *Le Fondation del'Association des Cit -Jardins* (The Council

of garden-cities) advocates by French architects, Benoit L vy, and George Riesler who implemented outside Paris *banlieues* (suburbs) as some modern *cit s-jardins* (garden-cities) (Sellier, 1998, p. 23–24).

The housing models and typologies between the two world wars were various spectrum in Europe and in France (from Le Corbusier's CIAM model to the Henri Sellier, Eugene Beaudoine, who planned *cit -jardins* in Paris *banlieues* for mostly the mid-income, and low-income families) (Coskun, 2017, p. 130). In the 1950s, Paris city developed with *les grand-ensembles* (large-scale settlements), HLM's, and some competitions were held for the construction of these large-scale housing settlements houses (Baratucci, 2006, p. 61). During the World War II, *les grand-ensembles* (large-scale settlements), HLMs, as *Habitat Louer   Moyen* (Medium Rent Houses) were planned around the city of Paris, providing financial resources by private charity groups and foundations (St b , 1998). When the French architect-urbanist H. Prost prepared, Paris Master plan, *Plan d'Am negament de la Region Parisienne* the city's surrounding was already planned with the *cit -jardins* (garden-cities) from periphery to the outside of the city with an advanced transportation network (Bruant, 2011, p. 269).

Paris city *banlieues* were planned specifying class of the people which defined as East–west or North–south *banlieues* (suburbs), known as *cit -jardins* (garden-cities) by the prominent architects-planners. The East–west *banlieues* model were designed for wealthier segment of people by the architects like were; Le Corbusier, and A. Lur at (Figs. 4 and 5). According to Le Corbusier these *cit -jardins* (garden-houses) in the suburbs had ideal life, divided

Fig. 4 Andre Lur at, Modern *Cit -jardins*, Along Sen River, Paris, East–West *Banlieues*. Photo, Anonym



Fig. 5 *Cité-jardins*, Cité De La Muette, Paris, E. Bedoune. Sellier, *Une Cite pour Tous*, Paris, 1998, p. 203



by the plots; 300–400 m² or 500 m² as well as the with a small cultivated garden. These people called as *les banlieusards* (residents in *les banlieues*-suburbs), were lived *villas to pavillions* (residences with gardens), and *cités-ouvrières* (workers-dwellings) as long as their socio-economic conditions allowed (Le Corbusier, 1980, p. 194).

European architect-planners played an important role in the planning of İstanbul since the beginning of the twentieth century, including early models of the garden-city settlements and their recent derivatives. The garden-cities as earlier innovative housing models first spread from England to Europe; France, Germany, Italy, and later they transferred to the İstanbul via French and Italian architects.

3.2 Until 2000s, The Early Models of Garden-Cities in İstanbul Developed as Bank-Houses

- French Architect-Urbanist Henri Prost's Early 20th Century İstanbul Plannings

Before arriving in İstanbul, Henri Prost had a profound knowledge about the European originated housing models as a member of the French *Le Musée-Sociale* (Social Museum) an Institution that previously drew attention to the urban problems of Paris city (Rabinow, 1991, p. 269). He focused on such models with a pragmatic planning strategy to solve the housing problem in İstanbul (Doğrusöz, 2016). H. Prost's İstanbul Master Plans (Prost, 1949, 2008) included some new housing areas that addressed the housing problematic in the city. In the 1950s, housing models, and typologies ranging from single blocks to the building-blocks to the *cités-jardins* (garden-cities)

transferred originally from France according to H. Prost's Master Plans, and plan-notes (Coskun, 2021b). H. Prost planned some *cité-jardins* (garden-cities) in the green areas in the mid of the Historical Peninsula, along the Bayrampaşa Stream with small gardens for the families of workers which were suitable for the urbanism ideas of the era (Bilsel, 2010b, p. 143).

- *Cité-Jardins* (Garden-Cities) Developed by H. Prost for İstanbul as Bank-Houses

In the early twentieth century, derived from E. Howard's original and innovative ideas the *cité-jardins* (garden-cities) after the Paris were planned for İstanbul city's outskirts, in green areas or in woods planning a sunny, healthy life-style for low-income people or retirees. Indeed, planning new houses was not on the agenda of a newly established Turkish Republic on that era having economical difficulties which was emerged in the inter war years. Also, Türkiye was lack of some advanced housing construction institutions like developed countries; the French HBMs, *Habitat Bon Marché* (Social-Rental Housing), HLM, *Habitat Louer à Moyen* (Medium Rent Houses) (Merlin, 1991, p. 30; Stébé, 1998, p. 74) as well as the other institutions; banks, municipalities etc., and *Le Credit Fonciere* (An Institution Supply Credit for Houses) which produced houses for low-income people in France supported by social insurance as an institution for HBM with the economical aid (Guerrand, 2010, p. 292). The bank-municipality model was first developed in İstanbul as a model of housing production likewise the French-originated HBM and HLM version known also *grand-ensembles* (large-scale developments) (Cohen, 2010, p. 51) (Figs. 4 and 5). The other model was the cooperative model based on the German

Fig. 6 The bank-houses planned as garden-cities in 1960s, Yapı-Kredi Bank, Kadıköy, Koşuyolu, Asian (Anatolian) and later European, and other districts in Istanbul. Photos, left R. S., 2009 and U. Dogrusöz and IFA Archives



housing construction system [*Garten-stadt* or *Siedlung* (garden-city) in Germany known as GEHAG] realized mostly in the capital city Ankara (Tekeli, 2011; Akcan, 2006, p. 51). However, this model was never applied and implemented in Istanbul. H. Prost's the "multiple housing models and proposals" for Istanbul were the "property-housing" model targeted the middle-income group, also applied similarly in France between two world wars. In Türkiye, the development of the banking system also allowed the emergence of the "middle-class" bank-housing model. The origin of the H. Prost's "middle-class" housing models should be sought in housing finance systems developed with the Turkish banking system. Some French-model of *cit -jardins* (garden-cities) were known as bank-house projects after the this building model was first implemented in the Levent region, the European side, Istanbul. Uncommonly, the housing model of the first Bank project was inspired by Le Corbusier's block design explained by French architect-urbanist H. Prost, and his close colleague Aron Angel in 1949. Later, the project was handed over and re-designed by Turkish architects K. A. Aru, and R. Gorbon. Later in the European Side, these housing models developed on the Asian (Anatolian) Side, in Kadık y, Acıbadem, Koşuyolu districts, etc. After H. Prost left the city, in the 1950s–1960s (the Levent model previously planned by him) as "bank-houses" were built with a new method of housing planning in Levent district, by *Istanbul İmar Limited* (A Government Housing Construction Company) established at the end of 1946, in partnership with Istanbul Municipality and Emlak Bank (Tekeli, 2013, p. 449). The bank-houses were known as specifically by some bank names and brands which were realized their construction: İşbank houses, Yapı-Kredi bank-houses, Emlak bank-houses, etc. (Fig. 6). Garden-city settlements were widely built in post-Prost era some of them developed as middle-class houses typomorphologically in the Asian (Anatolian) Side. In the late 1960s, with the abandoning of social based policies housing production left the private sector and Istanbul's housing construction have evolved into completely a privatized different system form the social housing since then.

- *Cit -Parcs* (Park-cities), Developed by H. Prost as a Unique Model for Picturesque Bosphorus, Istanbul

In the Bosphorus Heights of Istanbul by architect-urbanist H. Prost planned some *cit -parcs* (park-cities) in the slope of Bosphorus in order to save the groves which were been neglected for many years (Bilsel, 2010a, p. 369). Although, based to the old urban planning principles of E. Howard, and R. Unwin's, England, Letchword, etc. *Cit -jardins* (garden-cities) this housingmodel reflects some differences that were developed as another version of garden-cities like *cit -parcs* (park-cities) designed uniquely for Istanbul groves. *Cit -parcs* (park-cities) planned as less-density areas to refrain from harming the picturesque integrity of green areas in the Bosphorus Heights where they located.

- *Cit -Satellites* Planned by Italian Architect Luigi Piccinato as Post-Howard Generation on the West Axis, Istanbul

First envisioned in Istanbul's, 10 years Master plans, by French architect-urbanist Henri Prost's *cit -satellites* (satellite-cities) later developed, and implemented by Italian architect-planner Luigi Piccinato as a post-Howard generation (of garden-cities) he followed the old, rhetoric who realized some urban planning in London with the big-scale city projects and garden-cities. L. Piccinato was collaborated a Turkish architect E. Menteş in the Atak y region planned a project according to newly established bank-housing system, by Emlak Bank. Later, the Italian architect-urbanist was appointed to the head of the Istanbul planning office after the H. Prost, and he prepared a macro-city plan by expanding and moved the city's boundaries with the newly planned *cit -satellites* (satellite-cities) (İller Bankası, 1972) (Fig. 8). The project planned first in the European side, along the newly specified city's western axis ~12,000 residences and 60,000 inhabitants (Malussardi, 1993, p. 48) (Fig. 8). In the 1970s, with the new Bosphorus Bridge, European, and



Fig. 7 Bosphorus Bridge, Istanbul, today. *Cité-parcs* were planned uniquely by H. Prost in the 1940s, to protect groves on Bosphorus heights. Today, Bosphorus with uncontrolled houses. Photo, Trthaber

Fig. 8 Ataköy, Istanbul, Today. Planned as first *cité-satellites* (Satellite-cities), by Italian architect, Luigi Piccinato with bank-houses system, by Emlak Bank. Left, Habertürk, Right, *Arkitekt* 1958, N. 02, p. 290



Asian (Anatolian) Sides connected with a new transportation network first time (Fig. 7) the new *banlieues* (the suburbs) were planned as bank-houses in previously vacant and unreachable green areas. After the 1970–1980s, housing problematic of Istanbul was emerged with massive inner workers migrations just after the industrialization finally evolved more chaotic period. The city continued to sprawl with new *banlieues* (the suburbs) connected by the new railways both European, and Asian (Anatolian) Side along the city's east–west axis from in Asian (Anatolian) Side from Kadıköy to Pendik and in European Side from Eminönü to Bakırköy districts. In the 1960s, to find a solution to the housing problem, schematically prepared garden-cities for the middle-class hastily planned after

the French architect-urbanist H. Prost the outskirts of the city suburbs based on the creation of new Turkish middle-class as a physical reflection of policies economically and socially (Akpınar, 2010, p. 183).

3.3 After the 2000s, Developing Modern English Garden-Cities in Istanbul Countryside

Nowadays, from the early twentieth century still stimulate great re-interest in the world E. Howard's garden-cities have also previously planned, as an exemplary model for new, innovative sustainable, and green planning.

Furthermore, between 1990s–2000s, the original old, English garden-city models was previously became popular out of the Istanbul city, in the green areas as a new and innovative housing plannings and introducing a new English style country living. Although, in the 1950s, first transformed, and developed as a model for bank-houses, later in the 2000s, again with the increasing re-interests these garden-city models, were transferred directly from originally from English country lifestyle model in Istanbul.

In the 2000s, these garden-city models which evoke and the temptation of the English lifestyle in the countryside planned along the new northern development axis of Istanbul city towards the outside of the central regions, especially to the Northern woods, and green areas as large-scale residential projects, and settlements.

These original English garden-city settlements were planned in the wide green areas as English countryside theme housing models directly inspired from England, with large-scale housing projects such as; Kemer Country, AlarkoAlkent, Orman-evleri (Wood-houses), İstanbul and İstanbul, etc., and as well as the Asian (Anatolian) Side; Ömerli Kasaba (Town) project, Beykoz Houses, etc. (Figs. 9, 10, 11, and 12).

As a one of the 1990s, modern Turkish English garden-cities model Kemer Country was planned as residential, and social facility area located in Göktürk neighbourhood in the northern part of the İstanbul (Figs. 9 and 10). In this residential area, the garden-city concept was created for the first time in 1986, similar to today's sustainable housing

design model by the group of people who aimed to English country-style life out of the city. This modern version of old garden-city model appealing the high-income people designed around the wide green areas, and consisted of large golfing areas in the northern forest of the İstanbul city. This settlement also included, a hotel, a club house, horse farm, sports facilities, and it currently has a population approaching 4,000 people.

With the sustainability, and green design concept in the architecture and planning attracted attention at that time when innovative projects emerged in the world, these projects could not appeal to the majority population as presented an isolated lifestyle outside the city in İstanbul. However, this lifestyle and housing plannings which were previously criticized as far from the city, and facilities like shopping areas have unexpectedly become popular, after the recent pandemic, and the interest by the people who wanted to live outside of the city and residences with gardens, in the green areas has increased rapidly.

3.4 2020s, İstanbul, Rising Demand of the Garden-City Models After the Recent Pandemic

In the 2020s, in post-Pandemic period, after the COVID-19 and searching new lifestyle, led to come-back garden-cities again, which were presented as modern, airy, green and sunny living models outside the city at the beginning of the twentieth century. The coronavirus which now effected



Fig. 9 2000s, modern garden-cities, Kemer-Country, Kemberburgaz, İstanbul. Photo, Kemer Country website



Fig. 10 2000s, modern garden-cities, Kemer Country Golf-areas, Kemerburgaz, Istanbul. Photo, Kemer Country website



Fig. 11 2000s, modern garden-cities, Alarko, Alkent, Büyükçekmece, Istanbul. Photo, Alarko.com.tr website

the world is changing the priority of choice in the housing sector as well, and the need for residences with gardens or with more green areas. The specific effects of pandemic particularly in Istanbul city, and in Türkiye were even more diverse and multifaceted. Aside from pandemics, the consequences of global warming and sustainability concerns have not yet created an awareness, the pandemic has made this issue even more significant, and visible.

With the pandemic as a new problematic of the world cities as well as the İstanbul made some radical changes in people's living and working styles reflecting the housing demand including people who mostly living in multi-story apartments, (approximately five-six stories) concrete blocks or building-blocks. The pandemic public measurements during the pandemic such as social distance and long-term isolation led social



Fig. 12 2000s, modern garden-cities, Casaba, Project, Anatolian Side, Istanbul. Photo, Casaba.com.tr website

and psychological effects on the populations who clustered in these high-rise concrete blocks. Similar to the American cities, people in Istanbul especially those who preferred the hybrid or remote works from distance began to escape from the city centers and from the big cities towards near small towns like: Kocaeli, Tekirdağ, etc. Therefore, many houses were sold in Tekirdağ a close town to Istanbul and its population started to increase rapidly (Trthaber, 2022). The people who had to remain in the city began to look for houses with gardens including additional office rooms that will be convenient for their hybrid or remote working schedule which emerged after the pandemic while living in outside the city or near small towns.

Due to the effects of the pandemic's which led to a rapid change people's demand on living style and housing ideas, Turkish private sector contractors established a new health board to determine the radically altered housing model by the people's recent request. In the 2020s, according to the recent requirement of Turkish clients, the garden-city concept comes to the fore again and the houses with gardens, large green balconies, and expanded terraces with green elements have become one of the indispensable criteria for residences first in Istanbul, later in all Türkiye (Habertürk, 2020). They explained that the housing construction and planning period after the COVID-19, is a second threshold after the 1999 earthquake they had to re-regulated the housing, and construction. The housing projects began to plan similar similar to the garden-cities with 90% green areas, indicating that the come-back of the old garden-cities and its similar forms or low-rise multi-story blocks..

Therefore, in the 2020s, after the recent COVID-19 pandemic, the new specific concept determined as *saglıklı- evler* (healthy housing) were emerged specified the houses with garden or green terraces in the green areas as a newly entered term in the housing terminology first in Istanbul, Türkiye. Also, matched the ideas of United Nations'

declaration to sustain a sustainable relationship between urban dwellers and urban areas, increasing the land value emphasizing the more livable and healthy house for everybody. The healthy houses concept include gardens or three, or four story low-rise blocks with wide green balconies and expanded green terraces started to planned in the outside of the city in airy, sunny and green areas with the recently launched new projects in Istanbul's European side, Levent, and Asian Side, Çekmeköy regions, etc. (Internethaber, 2022) (Figs. 13 and 14). Indeed, in the mid of the 20th century, garden-cities, previously known as bank-houses, were in demand as a housing model for the upper-middle people and incomers in Istanbul. The first garden-city model was introduced by French architects for many years since the beginning of the twentieth century, before the some modern versions of this model were planned in 2000s. Therefore, in the 2000s, these housing models with the re-interest of high-income people were planned as sumptuous green ghettos for Turkish *bourgeoise* people located near green areas in Istanbul. Today, with the effect of the pandemic, COVID-19 the demand for garden-city houses have come-back, increased considerably spreading throughout society's all segments as affordable houses (Tables 1 and 2).

The recent pandemic, COVID-19 made a considerable change and led to the spread of garden-city models to lower-income people and even to all income groups throughout all segment of the society. It is noteworthy that even TOKİ, a state construction company have preferred more horizontal architecture instead of high-rise housing blocks and they initiated planning more garden-cities and neighbourhoods in the green areas in their recent projects. However, in large-scale projects, aimed at a mixed planning model instead of the settlements consisting entirely of houses with gardens in the past, it is also planned as mixed or generally low-rise horizontal settlements.



Fig. 13 2020s, the post-pandemics, a healthy-city concept, newly launched with low-story %90 green areas Modern Houses inspired from garden-cities, Asian (Anatolian) Side, Çekmeköy, Istanbul. Photo, Dapyapı.com.tr website



Fig. 14 2020s, the post-pandemics, a healthy-city, newly launched modern garden-cities with 90% green areas, European Side, Levent, Istanbul. Photo, Dapyapı.com.tr website

Table 1 Planning process of the Istanbul city through the years

Dates	Istanbul city planners	Plans	Region
1935–1950	Henri Prost Plan	Modernization plan	European and Asian Side Mainly
1950–1960	Luigi Piccinato	Metropolitan plan	Out of the Historical City Area
1970–1999 Inner migration problem	Increasing Illegal Housing	Blocks and Apartments, Legal and Illegal Houses	All City; Bosphorus Heights, Suburbans
After 2000s	Future planning of the city, etc	Future projects; eco-cities, garden-cities, etc	City's outskirts, green areas
After 2020s	Future Planning of the city, etc	Garden-cities, Healthy-cities (after Covid-19)	City's outskirts, green areas

Table 2 Early-mid-20th-century housing projects

Dates	Planner	Origin	Regions	Bank-houses; garden-city models and typologies
1935–1949	Henri Prost	French	Bank-Houses; Anatolian Side; Kadıköy, Acıbadem, Koşuyolu, etc. Bosphorus Heights	<i>Cité-jardins</i> (garden-cities), And <i>Cité-parcs</i> (park-cities)
		<i>Cité-jardins</i>		
1950–1960s	Luigi Piccinato	French	West Axis, Ataköy	<i>Cité-Satellites</i> (Satellite-cities)
		<i>Cité-satellites</i>		
After 2000–2020s	Various	English	Northern Regions of Both, European-Anatolian sides	2000s Garden-cities and Healthy-Cities, etc
		Garden-cities		

4 Conclusion

This research examined the garden-cities and their recent come-back after the pandemic COVID-19, in the world and in the example of Istanbul, Türkiye particularly. After the recent pandemic, the information is reached that and sheds light on an updated development and evolution of garden-cities and their derivatives from the beginning of the twentieth century to the present day.

E. Howard's garden-cities which have been modelled for many time as housing projects since the twentieth century recently come-back, and today this housing model still continue to influence world today and will be significant example for future housing designs. Since the 1980s this model has also come to the fore in the context of green architecture, and sustainable city planning, with the climate change issues, and recently, unexpectedly this housing model has gained more importance with the COVID-19.

Furthermore, a recent article mentioned and highlighted that the come-back of the garden-cities concept and renewal of the old Welwyn town, in England. The town which was designed originally by E. Howard in the beginning of the twentieth century will be renewed as a centre of the point again as a much-improved environment

for pedestrians, and cyclists in the context of the COVID-19. Additionally, the article also referred that the garden-cities as innovative settlements that will be planned and developed possibly in the context of a future model.

In this study, E. Howard's English garden-cities that were first transferred, and designed by French architect-urbanist Henri Prost in Istanbul, after the 1950s, planned and known as bank-houses, later in the 1990s-2000s as modern versions of these garden-cities planned again out of the city appealing as modern English countryside living, finally, in the 2020s, today as a new and innovative housing this model made a recent come-back after the COVID-19 were examined.

Emphasized the modern living style of that time E. Howard's, old English garden-city housing models and its 1940s–1950s French derivatives first emerged in France as *cité-jardins* (garden-cities) and later they were transferred and planned by French architect-urbanist H. Prost, and implemented after his leaving in Istanbul. These houses were mostly known as bank-houses for mid-income people, and retirees planned in the newly developed Asian (Anatolian) Side and European Side *banlieues* (suburbs). Also in the 1990s–2000s, modern settlements based and taken from originally planned English

garden-cities' outside the city as an example of new and innovative housing planning were examined.

Although the early garden-cities in the beginning of the twentieth century as the first-period projects were not directly taken from the original English model, they transferred via France to Istanbul indirectly and were developed by French architects-urbanists. The modern garden-cities after the 2000s, as the latest period projects, were known as some implementations of English-originated garden-city projects in the city.

The different and various versions of garden-city models were previously designed by French architect-urbanist H. Prost with an innovative approach in the green areas as *cit -jardins* (garden-cities), especially in accordance to preserving the groves, and woods of picturesque Bosphorus Heights, in Istanbul as well as the planned as *cit -parcs* (park-cities).

Indeed, while the original garden-city models focused on a specific model, new models of French architect-urbanist H. Prost in Istanbul such as *cit -parcs* were developed uniquely in accordance with the natural characteristics of the city. Likewise the bank houses as originally designed *cit -jardins* also *cit -parcs* are specific models were planned as unique to Bosphorus Heights, in Istanbul, and never planned in France, and other countries as well.

Today, the garden-cities, previously known as bank-houses planned for upper or mid-class houses, in Istanbul, have evolved into a different path, and with the influences of the pandemic, COVID-19 the demand for these houses considerably has spread throughout the society's all segments. Although the first garden-city model has been known by first introduced by French architects-urbanists for many years since the beginning of the twentieth century, many modern versions were planned in the 2000s, for high-income people near green areas in Istanbul.

Recent COVID-19 have led to garden-city models spread and more achievable for the lower-income people once monopolized by high-income people and even for all income groups throughout the society. It also changed the provision of the Turkish constructors, private or governmental side likewise the TOK , a state construction company have guided their plannings and preferred more horizontal architecture instead of high-rise housing blocks also initiated planning more garden-cities and neighbourhoods in the green areas in recent projects.

In conclusion, in the context of this research, it was found that some of the old originally well known garden-city models and its derivatives developed in the other countries such as France like; *cit -jardins* (garden-cities), *cit -parcs* (park-cities), or *cit -satellites* (satellite-cities) uniquely were developed for Istanbul, such as planning of bank-houses, *cit -parcs* (park-cities) and these models never designed and known elsewhere in the world.

Furthermore, these housing models come-back with the recent pandemic COVID-19 due to people's changing life-style and housing demand they will continue to influence even future housing planning for Istanbul or for other cities in the world.

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