

Examining the Transformation of TOKİ Housing in the Context of Turkish Family Structure: A Case Study of Adana

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Abstract – The state-initiated TOKİ programs in Turkey commenced post-1980s. They were preferred due to their rapid and mass production, catering to the economic needs of low-income groups, consequently fueling a sustained increase in housing demand over the years. Academic research has extensively addressed the issues arising in TOKİ housing concluding that these residences fail to meet the spatial requirements essential for Turkish culture and family life thus failing to ensure user satisfaction. Recently, TOKİ has prioritized horizontal architecture and neighborhood concepts in its new projects to address satisfaction issues. These projects embracing diverse design philosophies, prioritize crucial criteria such as culture, topography, and climate, initiating architectural competitions aimed at guiding future projects. Leveraging academic research this article interprets how socio-economic dynamics rapidly reshaping family structures have influenced architectural spatial requirements alongside examining the brief history and current challenges of TOKİ housing through three distinct Adana TOKİ mass housing examples evaluated within the context of identified physical, social, cultural, and economic codes. The findings in the conclusion section prompt an inquiry into whether TOKİ housing is equipped to adapt to the evolving dynamics of the Turkish family structure in the future.

Keywords – Public Housing, TOKI, Turkish Family Structure, Neighborhood Identity, Spatial Qualities

I. INTRODUCTION

"Housing, home, or nest; can be defined as a private space of the individual, which is a part of the public space as well as independent from the public space, where the person can meet all kinds of human needs such as shelter, protection, and privacy" [13]. Today, the user groups living together in houses are constantly diversifying. The Turkish family structure, which used to exist as extended families, evolved into nuclear families after the 1980s and then into single-user groups. Research suggests that divorce rates will increase, the concepts of marriage and children will change, and the number of children will decrease in the next 10 years. It can be assumed that these anticipated changes will have significant effects on housing design in the future. Looking at our country, the acceleration of migration to cities after the Republic led to a significant need for housing, especially in large cities, resulting in the emergence of slums and unplanned urbanization. As a result, mass housing production by the state began in our country after 1984. The rapid and serial production of buildings, catering to the economic needs of lower-income groups, led to a high demand, and thus, the production of TOKİ mass housing continued to increase.

Research has been conducted for years on the problems of social housing, which generally caters to lower and middle-income user groups, considering various parameters. As a result of these studies, it has been concluded that TOKİ housing is not suitable for the changing and diversifying Turkish family structures due to many reasons, cannot meet the spatial needs required to maintain living standards at an

optimum level, and therefore cannot ensure user satisfaction and continuity. Recognizing this situation, which has been noticed by the Ministry of Environment and Urbanization (SYGM) due to increasing complaints, negative situations, and the increasing rate of returned housing units, TOKİ has recently revisited this issue. Starting to work with the concepts of horizontal architecture and neighborhood concept, TOKİ has gradually begun to abandon the old type of mass housing and initiated competitions and various studies to develop itself in these areas.

II. MATERIALS AND METHOD

In this article, first, the socio-economic dynamics of the Turkish family structure in the present day, its spatial requirements, and the expected changes in the near future will be discussed. Then, TOKİ's formation and approaches from the past to the present will be analyzed through specific parameters using example mass housing projects in Adana. In the conclusion section, the findings reached will be examined. The aim of this study is to examine through examples the extent to which the standard mass housing units produced by TOKİ over the years intersect with the current and future spatial needs of the Turkish family structure, which is an active force in Turkey's housing sector. Identifying the problems and needs regarding this issue will provide important clues about the relationship between past housing designs and users and the success of future planned projects. This study aims to examine how the TOKİ approach and general problems are addressed in depth through literature analysis on both family

and spatial structures in the past, present, and future examples. For this purpose, a literature review was conducted, and scientific studies and example projects related to the topic were carefully examined. The history of TOKI applications and future planning were thoroughly researched to theoretically determine the framework of the study.

A. Turkish Family Structure, Changing Dynamics, And Expectations

"Throughout history, humanity has undergone continuous change. In the time and space that life offers to humanity, people gather in families. Children are born, grow up, disperse, move, and then people come together again, and this cycle repeats itself continuously. During this repetition, the family structure undergoes change, and people pass on this change from generation to generation" [14].

The Turkish family structure has inevitably undergone changes over the years, influenced by the societal consequences of the different periods they have experienced. During the Ottoman period, the family structure generally existed in the form of extended families, and it was considered normal for individuals from different generations to live together. However, in the last century, with factors such as the declaration of the Republic, an increase in the standard of living, modernization movements, and the invention of media tools, changes began to occur more rapidly. Developments in medicine, such as modernization and the discovery of simple treatments for many fatal diseases, have also led to a significant decrease in mortality rates, and these important developments worldwide have also affected family structures, leading to demographic changes. The most critical of these changes is the population increase worldwide and in Turkey. "According to the general population census results of 1927, which was conducted in the early years of the Republic, the population of Turkey, which was 13,648,270, showed a continuous increasing trend over the years and reached 84,680,273 people in 2021" [29]. Despite the population increase, there have been developments in family structures such as a decrease in the number of children within families, an increase in divorce rates, and a rapid increase in the number of individuals living alone.

Koç [20] mentioned about these changes, stating that "the socioeconomic, cultural, and demographic transformations experienced by Turkey also affect not only the establishment process of the family but also the process of change. As a result of the process, it is observed that extended family structures, especially patriarchal family structures, rapidly dissolved in Turkey; nuclear family structures increased rapidly and then stabilized since the 1990s; dispersed family structures, especially single-person and single-parent families, are in a rapid process of increase." Moreover, as the family group considered as nuclear family has become increasingly diverse in recent years, it is no longer correct to consider it as a single type. The nuclear family structure has undergone significant changes over the years in terms of household type and household size.

According to a study conducted by the Ministry of Family, Labor and Social Services [25] in 2018, the rate of childless nuclear families today is 18%, while in 1968, this rate was 8.3%, indicating a more than two-fold increase in rates over a period of approximately 50 years. According to Bilgin [7], "When looking at changes in family and society, the most important areas seem to be the weakening of family ties, the

chronicization of poverty, and the increase in internal and external migration processes."

In Macit's [22] research, the anticipated developments in Turkish family structure between 2020-2030 are listed in the table. According to this study, it can be predicted that as a result of the expected developments, the family structure will shrink and diversify in the near future. Among the developments generally affecting family structure, the most significant ones include urban population densification due to migration to cities and the spread of poverty. It can be assumed that the mentioned predictions will increase the demand for affordable housing in cities and thus continue to increase demand for state-supported housing projects such as TOKI initiatives in our country.

Table 1. Examples of anticipated developments in family structure and culture in Turkey as envisaged [22]

Developments that will become important in the near future (10 years) in the family structure and culture in Turkey:

1. Divorce rates and the rate of single-parent families will increase (Marriage and Divorce Statistics, 2019, 2020).
2. The population will age (Sertkaya Doğan, 2018).
3. Marriage preferences and the value given to marriage will change negatively, and the number of children in marriages will decrease (Marriage and Divorce Statistics, 2019, 2020).
4. Poverty will reach a wider audience (Arslan, 2020).
5. Problems in cultural transitions will increase (Ak and Arıcıoğlu, 2018).
6. The extent of cultural lag will increase (Öztürk and Seyhan, 2016).
7. Migration from rural areas to cities will continue to increase, and the social capital created by the migration phenomenon will negatively affect the family (Sertkaya Doğan, 2018).
8. Social inequalities will increase (Bilgiç, 2020).
9. Environmental conditions will affect the family (Akın, 2014).
10. Changes in household roles will occur (Beyaz, Karakuş Umar, and Kılıçarslan, 2020).
11. Social change will accelerate (Karaoğlu, 2020).
12. Social assistance will lead to the emergence of passive individuals (Marazer, 2020).
13. The concept of gender will become more widespread (Keser, Çelik, and Ercan, 2020).

The diversity of family structures and cultures in cities can be addressed with spatial arrangements within homes that meet these new needs and increase diversity in housing design. Furthermore, looking at the changes affecting family structures, the increase in divorce rates and single-parent families, negative attitudes towards marriage and children, and the widening of poverty to a wider audience are among the changes that support the mentioned outcome. One of the expected results is that these prominent situations will have an impact on housing designs. Changes in marriage preferences, rapid decline in the number of children, and increasing divorce rates will direct individuals towards more modular and flexible housing designs. The creation of smaller, customizable spaces for individuals living alone will be necessary, and changes in household roles will require reconsideration of the need for work and living spaces in homes, as well as the reconsideration of multipurpose rooms. Therefore, it is critical for TOKI to determine different design approaches that cater to the newly emerging user groups in the designs of mass housing to be produced.

B. From Past To Present: TOKI

After the declaration of the Republic, the increase in migration rates triggered urbanization and marked a turning point in the housing sector. The concept of apartment buildings emerged in the 1950s, and according to Akyol [3],

"Apartmentization was a status symbol at that time." Another housing phenomenon that emerged in the 1950s was shantytowns. This period was defined by Akpınar and Uz [2] as follows: "Shantytowns are typically unplanned and unauthorized shacks, often hastily built overnight, usually constructed by low-income families and mostly not in compliance with basic infrastructure and housing standards. Masses migrating to major cities, especially Istanbul and Ankara, with dreams of finding work in newly established factories and starting a new life, settled informally on public/state land. These informal settlements, first seen in 1947 in Zeytinburnu, Istanbul, and in 1948 in Altındağ, Ankara, were tolerated by the government until the 1980s. Shantytowns proliferated in line with rapid and unplanned industrialization and urbanization policies." Unplanned urbanization continued until the late 1980s, after which, due to the inability to meet housing demand in city centers, these informal structures were rapidly replaced by apartment complexes and mass housing. Cities then began to adapt to vertical architecture. The emergence of the Housing Development Administration of Turkey (TOKİ) during this period is explained by Tuğcu and Vural Aslan [28] as follows: "With the aim of meeting the increasing housing demand in Turkey in a planned manner, the Mass Housing Law No. 2985, which came into force in 1984, established the Presidency of Mass Housing and Public Partnership, and in 1990, this institution was reorganized as the Presidency of Mass Housing and Public Partnership as two separate administrations. In summary, TOKİ is responsible for developing and implementing housing, infrastructure, and social facilities projects directly or through its affiliates, constructing social facilities for the public under protocols with ministries and other public institutions, providing credit for the maintenance, repair, and restoration of registered immovable cultural assets, land production, and R&D activities. While implementing urban renewal practices within the scope of housing policies for the transformation of shantytowns, illegal construction areas, and areas at risk of disasters, it also produces housing for low-income groups to prevent the formation of new shantytown areas."

After the 2000s, with the concept of consumer society, housing design evolved, influenced by migration, economic conditions, urban transformation, and the aging of existing building stock, leading to two different directions: luxury housing estates and residences, or mass housing estates, i.e., social housing. For both of these examples produced in these years, a common feature can be identified, as described by Akpınar and Uz [2]: "The homogenization of all houses is a new kind of 'displacement.' As the interior spaces of houses become homogenized, secure sites created by breaking away from urban context redefine displacement with references to traditional Ottoman houses, emphasizing in marketing texts nostalgia for old neighborhoods and 'problem-free' old Istanbul." In addition to all these new developments, the balance of the continuously evolving housing sector underwent a significant change as of 2004. "The law enacted in 2004 fully authorizes TOKİ to develop shantytown transformation projects, carry out construction practices, and regulate financing arrangements. TOKİ also has the authority to put plans into effect within three months if they are not approved by the relevant institution. The authority to expropriate real and legal persons' land and plots and any appendages and structures therein or thereon is also given to

TOKİ" [2]. The practices mentioned led to the state-driven structuring of the construction sector and the consideration of urban growth not from a human-centered perspective but from a profit-oriented approach. Uncontrolled production of these wrong construction practices paved the way for the emergence of low-quality, contextually disconnected, and unsuitable mass housing.

Research by Eranil [11] indicates that most of the social housing produced by TOKİ did not satisfy its users. It was concluded that some TOKİ housing units produced between 2009 and 2012 were not suitable for large families due to their small size, around 45 m², and being in the form of a studio apartment (1+1), affecting the satisfaction level. Increasing complaints and the rising rate of returned housing units led to the recognition of this issue by the General Directorate of Social Aid, resulting in measures such as increasing the size of TOKİ housing units and changing the layout from studio apartments (1+1) to two-bedroom apartments (2+1) after 2011. Turhanoğlu and Çetin (2023) address the problem of the standardization of housing over the years and its failure to meet cultural, social, and physical needs: "The functional definition of family life in modern societies standardizes the spatial organization of homes, while alternative household dynamics such as living alone, sharing homes with friends, and single-parent families bring different dynamics to the concepts of 'space use' and 'privacy.' The functions and use of indoor spaces in homes are shaped in connection with the social gender roles and responsibilities embedded in minds." Additionally, families living in mass housing complexes were completely isolated from functions such as education, neighborhood, shopping, and green spaces in their former neighborhoods. Therefore, a sense of belonging did not develop in many families. The uniformity of housing across Turkey, ignoring concepts such as natural environment, topography, morphology, cultural characteristics, traditions, and belonging, has brought about stereotypical standard project proposals, giving rise to studies conducted in Turkey and around the world over the years with the aim of maintaining local identity. In this context, TOKİ has emphasized a new approach in its future production plans, implementing horizontal architecture and quality spatial features in its projects. It aimed to keep the cultural memory of the community alive by including neighborhood identity and tradition concepts and initiated studies on these topics. The most prominent of these studies, known to the public, is the "7 Climate 7 Region: Neighborhood National Architecture and Urban Design Ideas Competition" organized by TOKİ-Emlak Konut GYO A.Ş. TOKİ expected participants to use identity elements that are suitable for current and future needs and proposals, compatible with cultural characteristics and regional living habits.

In this context, "it was expected that the synthesis of neighborhood texture, neighborhood culture, sustainability, identity, human/user focus, life and space quality, social life, traditional values, modern life requirements, social integration, architectural elements, urban aesthetics and landscaping, silhouette, and ecology concepts with the common components of new urbanism would be realized at the neighborhood scale" [28]. According to Tuğcu and Vural Arslan [28], the reason for the emergence of various studies such as this vision change and competitions is that "Rapid and economic solutions bring standardization along with them by leaving aside local identity features. The transformation

practices that arise in urban environments not only occur as physical environmental characteristics but also result in the loss of common social values that interact with the physical environment. Awareness of the importance of maintaining local identity features due to the consequences of this situation has emerged, and there is a need for identity search in urban transformation practices. (...) In this context, examples such as the "7 Climate 7 Region: Neighborhood National Architecture and Urban Design Ideas Competition" organized by TOKİ (Housing Development Administration) and Emlak GYO A.Ş. and the "Neighborhood Design Ideas Competition" organized by İller Bankası A.Ş. under the "City 2023" studies have provided a platform for developing different ideas to maintain local identity elements for future practices at the neighborhood scale."

C. *Interpreting the Spatial Identity Codes Of Adana TOKİ Mass Housing Units*

Spatial Evaluation Criteria

In order to assess the suitability of TOKİ housing for the Turkish family structure, certain parameters must first be considered. To understand this relationship, it is necessary to dissect and analyze the subject into its components. Tuğcu and Vural Arslan [28] stated in their literature review that architectural space and the user interact mutually, shaping each other's identities, and that the components of these two elements come together to form a comprehensive place identity. Relph [24] states that place identity is defined by three components: the physical environment of the space, all activities and events occurring in the space, and the holistic meaning formed through the users' experiences of that space. While the physical environment and activities can be observed and conveyed, meaning emerges as a more subjective concept, as it is derived from users' experiences of the place. Relph [24] suggests that these mentioned subcategories are intertwined in a way that cannot be strictly delimited but can be reasonably nested within one another. Galster [15] lists the spatial components that constitute the concept of a neighborhood as follows: structural characteristics of buildings, infrastructure characteristics, demographic characteristics of the settled population, class status characteristics of the settled population, tax/public service characteristics, environmental characteristics, proximity characteristics, political characteristics, social interaction, sensory characteristics. The information obtained from these studies has been categorized, and three main headings have been identified as physical codes, social codes, and meaning codes for proper analysis.

Regarding the determination of identity, Demirseren Çöl [10] states: "The formation of the physical identity of cities stems from two factors: their natural and spatial structure. (...) Topography, climate, orientation, and geographical features necessarily affect a city's settlement, development, and thus gain a unique image. (...) Spatial structure constitutes the second dimension of physical identity. Spaces created by street-square unity, limiters, the combination of material-color-texture, and relationships with greenery form the spatial structure". According to Özbek Eren [23], the physical/spatial codes representing the traditional neighborhood include scale/human-street-building, block-plot-street/morphological structure, boundaries/size, focus/public center typology/building-street types, benchmarks, and local government representation space. Social codes are related to the user of the space and their experiences within it. The daily

lives of neighborhood residents and the formations within this flow constitute the culture of the space. Users' lifestyles and how they are shaped within the framework of which traditional values, norms, rituals, or beliefs essentially form the culture of the space [4]. Özbek Eren [23] lists the social-mental codes representing the traditional neighborhood as "value system, social law, cultural structure, ideology-technology, social structure and institutions, demographic characteristics, politics-economy-production". In this context, culture actually influences people's lifestyles and behaviors, shaping the perception of space and making it meaningful for the user. With this approach, it can be said that the third heading, meaning, is the integration of the perceived space with the user's personal experiences and values with the place over time.

According to Özbek Eren [23], "Experiences create a sense of place on the space through perception and memory, and essentially, neighborhood life is based on the wholeness of space patterned around human experience, belonging, memory, and values". The meaningful space that emerges and is perceived essentially involves the intertwining of experiences such as the user establishing a connection, sense of belonging, and satisfaction with the space over time. According to Göregenli et al. [16], "Attachment to place expresses a tendency shared by people in their interaction with space and represents the emotional bond felt towards the place. The duration of living in a place, sense of security, social ties are the most important components affecting people's attachment to a place. This attachment is not a one-sided formation, but rather the result of the mutual interaction between individuals, identity, and places". The aforementioned headings are the main criteria in the user's relationship with the space, and in this article, they will be addressed in the context of the Turkish family as the user and the TOKİ mass housing complexes as the space. The main headings and components are summarized in a table prepared by Tuğcu and Vural Arslan [28] based on the definitions provided.

Table 2. Neighborhood identity components table [28]

Physical Codes	Social-Cultural-Economic Codes	Meaning
Natural Environment (Climate, Vegetation, Topography, Prevailing Wind Direction, etc.)	Social Relationships (Socialization, Cooperation, Solidarity, etc.)	Belonging
Morphology (Relationship between Plots, Blocks, and Streets, Texture)	Neighborliness	Perception
Built Elements (Buildings, Infrastructure Features)	Activities	Familiarity
Formal Characteristics	Cultural Characteristics	Collective Memory
Typology/Architectural Elements	Values	Partnership
Use of Materials	Beliefs	Sense of Place
Construction Type	Customs	Place Attachment
Boundaries/Scale	Rituals	Symbols
Focus/Public Center	Traditions and Customs	

	Symbolic Elements	
	Demographic Characteristics	
	Politics	
	Economy	
	Production	
	Historical Fabric	

In light of the mentioned components, three different TOKİ projects in the Adana region will be examined and evaluated within the framework of their suitability for Turkish family structures. The reason for selecting Adana TOKİ mass housing projects as examples in the article is that, despite being produced in the same region and under the same conditions, these projects differ in terms of physical, social, and semantic codes. Furthermore, considering that the projects were produced in different years, they can be analyzed in the context of past, present, and future, allowing TOKİ's development over the years to be clearly demonstrated through quality examples.

The Adana Yüreğir TOKİ Mass Housing Complex

The Adana Yüreğir TOKİ mass housing complex, which can be considered as a "past example," was built in 2009. The project consists of 15 type A buildings with 10 floors, 22 type B buildings with 7 floors, and 14 type C buildings with 10 floors, totaling 51 blocks and 888 units. Out of these units, 308 are allocated for low-income groups. Type A and C blocks consist of apartments with a gross area of 110 m², while type B blocks consist of apartments with a gross area of 80 m². The structures implemented as standard projects were designed without considering the region's climate data and local architectural features. According to research by Çardak [8] focusing on urban transformation in the area, the new settlement pattern in the former shantytown neighborhood failed to satisfy the residents in many parameters. Çardak [8] emphasized that, considering the users past experiences, projects with low-density human scale should be preferred. They highlighted the importance of creating structures with spatial organizations suitable for the habits of these individuals, taking into account the living experience of the people settled in shantytowns. In a satisfaction survey conducted by Öcal and Çelik [9] in 2017 regarding the mentioned mass housing complexes, 69.4% of the participants disagreed with the statement "I am satisfied with living in TOKİ housing." Similarly, 77.2% of the participants disagreed with the statement "The green areas and children's playgrounds in the TOKİ housing where I live meet the needs of my children."



Fig. 1 Adana Yüreğir TOKİ mass housing A, B, and C type block examples [8]

In the context of physical codes, it can be mentioned that the design of the Adana Yüreğir TOKİ Mass Housing Complex does not comply with natural environmental criteria such as topography, climate, prevailing wind direction, and local vegetation cover. TOKİ's 10-story standard projects were found to be unsuitable for the region's hot climate and topographic features. A project with courtyards and green areas, designed to be compatible with the region's climate, could have offered a different approach to the natural environment. The building blocks were designed without considering the position of the sun and the direction of the prevailing wind, resulting in an unequal distribution of sunlight and shade for each unit, with some units being condemned to darkness throughout the day. The complete destruction of vegetation that could have been beneficial for effective sunlight and a warm climate, without subsequent consideration during the project phase, is a misguided practice that reduces the quality of life. Proper landscape design could have created planned green spaces where users could spend quality time and made decisions that would ensure satisfaction. There are deficiencies in the morphological context and the relationship with built elements due to the complete transformation of the area where the mass housing complexes are located, which initially completely eradicated the neighborhood fabric from old structures to transform it into an aseptic area, followed by the construction of TOKİ housing. A positive approach to the relationship between plots, streets, and blocks could not be adopted among the designed housing blocks within the area, and the design of spaces created by the unity of street-squares could not be achieved, with insufficient social facilities such as green spaces and social facilities. Formal features such as typology, material usage, and construction type were kept the same as all mass housing complexes produced by TOKİ that year nationwide, without considering the needs of the area and the desires of the users. In terms of scale, it can be said that the significant change between the old and the new may have disturbed the users. It can be observed that the transformation of the Sinanpaşa district from an area consisting of 2-3-story buildings to an area consisting of 7-10-story blocks resulted in a disconnection from the human scale. Additionally, the location of the Sinanpaşa neighborhood in the city center, allowing users to easily connect with the rest of the city and providing opportunities for socializing outside the TOKİ housing areas, is a positive feature. In the satisfaction survey prepared by Öcal and Çelik [9], participants supported this view by agreeing with the statement "I comfortably do my shopping in the market and bazaar in the TOKİ housing where I live" by 87.1%.



Fig. 2 Before and After Urban Transformation in Sinanpaşa District [8]

In the context of sociocultural codes, the inability of the structures to meet the general needs of users in terms of physical codes also prevents the formation of social ties in the region. Poor living spaces have created problems for users in terms of carrying out traditional customs, cultural events, and rituals. The disconnection between the structures, the lack of areas for spending time together, and the inability of space designs to provide the necessary areas for socialization have hindered the formation and strengthening of social ties among different user types. The texture of the place and the appropriate settlement approach, which allow users to communicate with each other in the former neighborhood environment, are not present in the TOKİ mass housing, thus the spatial designs and the diversity of housing types addressing cultural celebrations, events, and activities, as well as the lack of variety within the housing units tailored to each user group, are missing in the newly created mass housing areas. This design approach has led to the emergence of spaces devoid of cultural values, historical texture, and traditions specific to the region, thus creating impersonal, identity-less spaces. Since the concept of neighborhood culture in previous settlements was shaped according to the place, it provided an environment suitable for the family structure, while new structures undermine concepts such as neighborliness, socialization, mutual assistance, and feeling of belonging to the place.

From the perspective of meaning codes; due to the weak and meaningless connections established both in the interior design of the housing areas and in their relationship with the environment, the feelings of belonging, familiarity, or satisfaction have not been generated in users. For a place's identity to exist, users must feel a sense of belonging to it. In this example, however, meaningful relationships that users established with the place in the Sinanpaşa region disappeared with the demolition of the shanty town. The new mass housing structures have created empty living spaces that mean nothing to the user, erasing the sense of locality and neighborhood identity. Despite being located in the city center, the project fails to provide safe, quality spaces due to inadequate physical and sociocultural planning, such as not being produced in accordance with human scale and lacking spatial configurations suitable for socializing. The production of identical housing units hinders the coverage of different

demographic and economic characteristics of the region's inhabitants, making it impossible to form collective memory due to these components of the project.

When the project is considered as a whole, it can be seen that it fails to meet many parameters set for ensuring space quality and user satisfaction. Being disconnected from the surrounding environment, the cultural characteristics of the region, and the needs of users, it can be described as a project that has strayed from the human focus. In this context, the Adana Yüreğir TOKİ mass housing can be discussed as an unsuccessful example due to its inability to meet the diversity of the constantly changing Turkish family structure and emerging needs. It can be emphasized that housing can be improved by adopting more flexible solutions, spatial configurations, and variations in housing sizes to adapt to different cultural backgrounds and family structures, and that TOKİ should avoid the standardized project approach.

Adana Sarıçam TOKİ Mass Housing

As a "contemporary example," Adana Sarıçam TOKİ mass housing was produced in 2019. It stands out at an important point as a project resulting from collaboration with teams awarded in the architectural ideas competition "From 7 Climates to Future" organized by TOKİ in 2014. The project aimed to create an original housing environment in the Sarıçam district of Adana Province, reflecting the Mediterranean Region's climate and geographical features, at low cost, and reflecting the morphological characteristics of urban space.



Fig. 3 TOKİ Adana Sarıçam 825 Social Housing Project [6]

In the context of physical codes, it can be observed that importance was given to the natural environmental components during the design process. Considering the significant challenge of protecting against the sun and heat in the Mediterranean region, the project prioritized the creation of defined and small-scale gardens, balconies, and terraces between the buildings instead of large and idle open spaces. Additionally, attention was paid to preserving the balance of shade and light through landscaping efforts. One of the most critical issues in TOKİ mass housing projects is the deficiency in social spaces within high-rise blocks. To address this, the project emphasized the creation of planned green spaces and dedicated areas for sports, play, and strolling, ensuring that users can spend quality time in these areas and overall satisfaction is achieved. Analyzing the traditional urban fabric, the project developed a design scheme and street system appropriate for the region. In this system, 3, 4, and 5-story buildings were constructed, with their entrances facing the streets and areas requiring privacy designed as rear courtyards and gardens. The incorporation of different spatial configurations in the design was praised for creating a more sustainable and inclusive design. The emphasis on maintaining a human scale in the design scheme, particularly through the

street layout, reflects a positive design concept. However, it's worth noting that the distance of the Sarıçam region from the city center, being 18 km away, presents a drawback as users may find it challenging to establish convenient connections with the city. The isolated nature of the collective housing area from the surrounding built environment has resulted in a weak approach concerning security and social relationships.



Fig. 4 TOKİ Adana Sarıçam 825 Social Housing Project [17]

From a sociocultural perspective, addressing the needs of users within the framework of physical codes has contributed to the formation of strong social ties. Designing with an approach that incorporates the neighborhood fabric and culture has enabled users to establish positive connections with the space and each other, facilitating socialization and the realization of cultural activities. The settlement approach in line with the historical texture of the area, along with the diversity in the spatial designs both inside and outside the housing units, can be readily observed in newly developed mass housing areas. The presence of various plan typologies catering to different user groups has reinforced user diversity and social relationships. For these reasons, the Sarıçam mass housing project in Adana holds a significant position in terms of witnessing the development of TOKİ mass housing projects within the criteria of historical, demographic, cultural characteristics, and social relationships.

In terms of semantic codes, the strong approach exhibited in the interior space design of the residential areas has adapted well to the user's family structure. Additionally, placing importance on the relationship with the surroundings has been effective in eliciting feelings of belonging, familiarity, or collective memory in the users. By integrating regional characteristics into the architectural space, meaningful spaces have been created that align with the cultural understanding of the Adana region and cater to different user groups. Being a

pedestrian-focused design at a human scale, it can be said that it provides users with a sense of ownership and satisfaction. Furthermore, successful design approaches contribute to the identity of the place, leading users to develop a sense of attachment to the area. When considered overall, due to encompassing various physical and sociocultural codes, and responding to the climate, cultural norms, and living standards of the region with consistent spatial organizations, it can be said that the TOKİ Adana Sarıçam mass housing project meets the desires and needs of the evolving Turkish family structure in many aspects. For these reasons, this project can be considered a positive example produced under the name of TOKİ and a strong example showcasing the evolution of TOKİ over the years.

7 Climates 7 Regions Competition, 1st Prize Project for the Mediterranean Region

"An example for the future," the 1st Prize project for the Mediterranean Region in the 7 Climates 7 Regions - Neighborhood National Architectural and Urban Design Idea Competition was designed by Studio FORA and WE're in 2017. Departing from the classic TOKİ approach, the proposed project aimed to create a "neighborhood where people can shape themselves, feel belonging, establish social relationships, and respect human scale." The primary goal of the proposed project was to create a socially rich living environment for users. In the design process, the aim was to make living spaces more sustainable and inclusive by ensuring that users establish relationships with various open, semi-open, and enclosed spaces segmented into different layers. According to the design team Studio FORA + WE're [5], "Establishing relationships between these mentioned open, semi-open, and enclosed living spaces and ensuring the livability of the spaces is the most important problem of the design. The 'Promenade,' described as the life spine of the project, delineates the desired public areas around social facilities, and the eaves formed around these social facilities define the desired public areas in the project. While numerous courtyards accessible from the promenade on foot define semi-public spaces, the interiors of residential blocks are considered more private areas."



Fig. 5 TOKİ Adana Sarıçam 825 Social Housing Project [17]



Fig. 6 Mediterranean Region, 7 Climate 7 Region – Neighborhood National Architectural and Urban Design Idea Competition [5]

In terms of physical codes, when examined, it can be seen that the natural features of the selected areas were taken into account in the project inputs, and design decisions included data such as topography use, relationship with the immediate environment, use of local plant species, climatic characteristics, and prevailing wind direction. The historical texture of the region is actively utilized in the project design. Traditional courtyard-type building typologies suitable for the warm and humid climate of the Mediterranean are reconsidered, and wind corridors are attempted to be created through various movements. With consideration to strong sunlight, the use of awnings integrated into the buildings aimed to create quality and comfortable spaces. Distances between buildings are designed to maintain the balance of sunlight and shade, ensuring that no residential structure remains shaded throughout the day. Another aspect emphasized in the project's design is scale. The increasing scale of construction in the construction sector affects the scales of transportation axes, limits human interaction in the building environment, and creates more favorable environments for vehicles. To overcome this, the scale composition was kept at a neighborhood level on a human scale during the project design, and pedestrian-oriented shared spaces were created to enable users to easily establish social relationships.

Regarding sociocultural codes, it can be said that the project aimed to shape the space with the culture of the place and the social characteristics of the users. Creating common areas was prioritized in the general design approach, and importance was given to the realization of site-specific activities, celebrations, or traditions in the designed spaces to strengthen neighborhood ties. The project was considered positive in meeting some social codes such as cooperation, neighborliness, activities, cultural characteristics, and traditions. Diversity emerged prominently in the internal structuring of residences, with different areas designed for user groups with diverse demographics, cultures, and economic characteristics. Areas providing privacy were created with enclosed courtyards and rear gardens, and a successful approach was adopted to ensure a proper overlap of old and new, in harmony with the historical texture.

When examined in terms of semantic codes, familiarity was effectively applied through space designs that are in line with cultural values and the traditional fabric of the city. The diversification in the layout plan can trigger a sense of belonging and satisfaction among changing user groups. Through successfully implemented physical and sociocultural codes, a livable environment integrated with nature, human-scale, and pedestrian-oriented, was designed. Having a connection to the local context, planning regional events, and

emerging space designs suitable for these events can be guiding in establishing a deep relationship between users and space. It can be anticipated that through the social relationships formed by users with this positive approach, they can feel attached to the place, contribute to the collective memory, and contribute holistically to the identity of the place. Overall, when interpreted, the project can be seen to provide a space design suitable for the expectations of the changing Turkish family structure. Through its social spaces, internal space diversity, general layout, and commitment to cultural elements, it can adapt to family structures and realize semantic codes to create a healthy living environment.

III. DISCUSSION

With this research, as we approach the design decisions of TOKİ towards traditional neighborhood life and cultural context, it is observed that as they align with the Turkish family structure, users feel more belonging to the place they live. It has been emphasized that the components constituting the identity of the place, analyzed as physical, sociocultural, and semantic codes, need to be structured in interaction with each other, and when these criteria coexist, more meaningful and family-friendly spaces are created. Examples of depersonalization, standardized structures, and erosion of societal values can be observed in cities when these components are not taken into account. Therefore, it can be said that the subheadings of physical, sociocultural, and semantic codes, which have been examined, play a critical role in the formation and existence of the identity of the place. In this context, it can be stated that Adana Yüreğir TOKİ standard mass housing is far from a human-centered design approach in many aspects and is not suitable for Turkish family life. It stands out that in these designs, interactive spaces where social relationships are established are not prioritized, and concepts such as neighborhood, solidarity, sharing, friendship, and family are not compatible with the design configurations. Users who seek the old social relationships and sense of belonging due to the area's strong neighborhood structure before TOKİ have not been satisfied with the new construction and have abandoned the mass housing at the first opportunity. In addition, negative feedback from users in the following years has been analyzed by TOKİ, and a new approach has been adopted in mass housing designs aiming for pedestrian-focused, low-rise, and diversified spatial configurations. With the Neighborhood National Architectural and Urban Design Idea Competition held in 2017, quality proposals for future approaches have emerged, and the project proposals in the competition have been taken seriously, leading to the production of new structures in this concept. The ongoing transformation, represented by Adana Sarıçam TOKİ mass housing, has been considered positive both in terms of its flexible designs, social facilities, and adaptation to the physical environment, and also because it is suitable for different cultural, economic, and demographic characteristics of Turkish family groups and expected future family structures. The results of the 7 Climate 7 Region competition, considered as the future of TOKİ's transformation practices, highlight mass housing and neighborhood structures designed with physical and social dimensions together, and the importance given to the identity of the place.

IV. CONCLUSION

It can be predicted that in these planning processes, common living spaces will be designed according to the desires and needs of users, which will strengthen social ties and foster a sense of belonging. By aiming to go beyond mere sheltering actions, these practices aim to produce spaces suitable for future family structures and changing demographic characteristics. In this regard, it has been observed that past practices lacked a focus on cultural life necessities, building social ties, and an inclusive approach, but with evolving ideas, concepts that constitute identity are increasingly being included in projects, leading to designs that are human-centered, meaningful, and diverse. The competition results expected to be implemented in the future will contribute to the existence of spaces suitable for the Turkish family structure by successfully providing the mentioned physical, sociocultural, and semantic codes, creating site-specific, meaningful, and human-centered mass housing.

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