Murat Özyavuz (ed.)

Theory and practice in sustainable planning and design

Planning, Design, Applications

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Family-Friendly Planning as a Symbiotic Policy in Sustainability, Livability, and Quality of Life Interaction

Abstract: In the chapter, the physical, social, and economic aspects of the multidimensional sustainability concept are scrutinized based on urban planning, which is the basic context of development. While addressing the balance and physical nature of the physical systems in the environment, it focused on the social dimension of sustainable development in communication with the individual and the society. Thus, factors such as housing quality, indoor-outdoor space quality, access to urban facilities, transportation, and public spaces were emphasized from an environmental perspective, while factors such as affordable living, adequacy and equal distribution of social services, and fair use of urban facilities strengthen sustainable development in the social dimension. Therefore, family-friendly (FF) planning was addressed as a supportive approach for livability and quality of life, along with sustainable development in association with related criteria and experiences. In conclusion, it was observed that there was a symbiotic interaction between FF planning and sustainability within the framework of quality, livable, accessible, affordable, fair and equal, flexible spaces and cities, and supportive democratic policies based on environmental, social, economic, and political perspectives and it is a planning approach that supports individual and social quality of life, and related recommendations are presented.

Keywords: Family-friendly planning, sustainability, livability, quality of life, urban quality, sustainable development, planning policy

1. Introduction

The concept of sustainability was first addressed in the World Charter for Nature document, which was adopted in 1982 by the International Union for Conservation of Nature (IUCN). Therein defined adequate access to sustainable natural resources, their use and management was associated with the uninterrupted fulfillment of basic needs of the current and future generations. The definition emphasized that welfare levels between the generations should remain similar and stressed intergenerational equity of development [1]. Similarly, in the 1987 Our Common Future report (Brundtland Report) by the World Commission on Environment and Development, sustainable development was described as fulfillment of the needs of the present without compromising the

ability of future generations to fulfill their needs. In the environmental dimension of sustainability, adaptation of ecosystems to changing conditions and balance between biological and physical systems are significant. An environmentally sustainable system should only consume non-renewable resources when they were sufficiently produced through the investments and should prioritize the protection of the elements of the ecosystem. Focused on individuals, social sustainability, is associated with the adequacy and equal distribution of social services such as education and health, gender equality, political responsibility, and participation. The analysis of the economic dimension of the concept reveals that the sustainability and manageability of goods and services are important [2]. While fulfillment of the needs of different generations is associated with the environmental dimension of sustainability, well-being and equality refer to the social dimension of sustainability. From this perspective, the balanced distribution of the services and all facilities required by urban citizens when providing urban quality of life, the well-being of the citizens, indoor and outdoor space standards, the diversity and quality of services are important [3]. The significance of the cities derives from the fact that they are the "places" and the geography associated with multidimensional organisms. The city, which also bears the identity of an economic and institutional process, is the focus of social actions and a symbol of collective unity among different user groups [4]. Thus, the cities are at the center of environmental debates as they include a significant part of the population in terms of sustainability or quality of life. Economic sustainability fosters social sustainability as the citizens equally benefit from available goods and services. The future of cities is the main context development along with the culture and sustainable development, and the current focus is the production of more creative models by local authorities to solve urban problems. Thus, the culture and attitudes of the urban inhabitants and key players are at the core of the required creative urban models [5].

In this context, the approach was based on the city as this would create an awareness on quality of life for all and the city is a common habitat for different cultures, social structures, and groups. It was observed that the physical environment properties that are required for a livable environment and quality of life were analyzed in depth in the literature [6–8]. Sustainable development, good quality of life, and livability studies have been conducted with conceptual approaches, methodological and field studies and have analyzed physical and social environments with a holistic approach. Thus, the aim of the present study is to develop a conceptual synergy and recommendations with an FF planning approach for sustainable development and good quality of life. This approach has

a capacity for urban support since it could benefit various social groups such as children, elderly and disabled individuals, and diverse families.

2. The Interaction between Social Sustainability, Quality of Life, and Livability

As a multidimensional development, social sustainability is an improvement that supports the harmonious evolution of civil society, the social integration of culturally and socially diverse groups, and the quality of life of all segments of the population [9]. Similarly, sustainable communities could be described as safe, inclusive, and well-planned spaces that provide equal opportunity and good services and where all population groups that desire to work and live at today and tomorrow [10]. In the literature, studies emphasized inclusion and equality in social sustainable development, followed by the improvement of the quality of life. Sachs directly associated social sustainability with democracy, equity, and human rights, while Koning described societies that are not associated with social exclusion, providing equal opportunities for a good quality of life for all as socially sustainable societies [11, 12].

Quality of life, an outcome of globalization, is one of the most important factors that should be examined in urban environments that continuously change both in Turkey and globally due to economic and social evolution and should be analyzed in combination with livability and sustainability. Van Kamp et al. emphasized that there was no consensus on the concepts of livability, environmental quality, quality of life and sustainability, and on when to use which concept, and supported the transactional correlations among these concepts [6]. Shafer et al. associated the environmental, social, and economic dimensions of sustainability with the quality of life, and similarly developed a model where the dynamic relationship between livability, equality, and environmental sustainability was emphasized. In this context, livability includes physical and social components, equality is the combination of social and economic components, and sustainability is composed of environmental and economic components, while quality of life is the product of interactions between these dimensions. In the model (Fig. 1), the livability property of the physical environment describes an ideal environment, emphasizing the fact that the members of the society could meet their basic needs and have equal economic opportunities in a fair and honest environment. It was reported that policies that support sustainable societies should be implemented not only economically, socially, or environmentally, but with a holistic approach, to allow the individuals to lead a healthy, productive, and "beautiful" lives by ensuring the balance between these components [13].

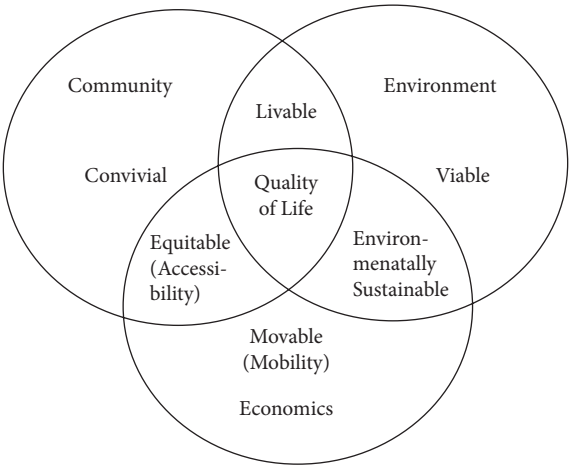


Fig. 1: The conceptual model that contributes to quality of life from a human ecological perspective [13]

In contemporary cities, the global economy rules the societies and cities, and the differentiation between the economic systems also alters the urban structure and requirements. In this context, Duque and Panagopoulos investigated sustainability and environmental quality from the perspective of urban ecology based on urban roles and planning [14]. Similar to Shafer et al. [13], they reported that economical, fairness, and well management properties were important for sustainable cities to maximize individual comfort. Environmental policies should be administered well to achieve sustainability within the dynamic nature of the cities. Although Shafer et al. [13] included economic components in the model as a determinant variable, Duque and Panagopoulos [14] focused on ecology, natural resources, urban planning, and urban ecosystems in the analysis of environmental quality of life. In the model developed to emphasize the significance of the provision of social, economic, and environmental requirements in a livable city (Fig. 2), it could be observed that it would be possible to plan "comfortable" cities with high well-being and environmental quality through ecology, landscape conservation, and urban development.

As seen above, sustainability overlaps with several dimensions of urban livability requirements, and there is a mutual and dependent correlation with sustainability and the quality of life in cities where the relations between the society and the environment form a network. Based on the evolution of the concept of

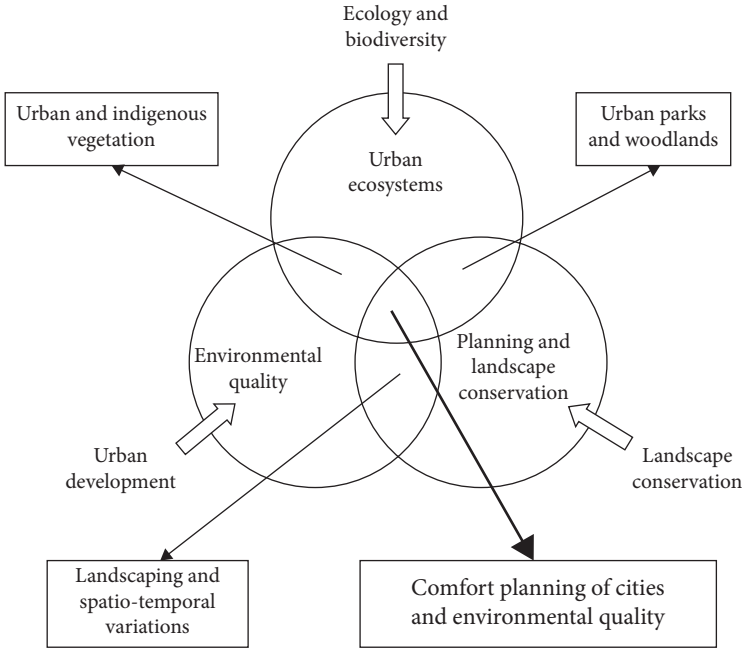


Fig. 2: Comfortable urban planning and environmental quality [14]

sustainability over time, Holden et al. emphasized that especially social properties were evaluated on a local scale rather than a global scale, and there was no nation that fulfilled all threshold requirements of sustainable development that include safeguarding long-term ecological sustainability, satisfying basic needs and promoting intragenerational and intergenerational equity. Thus, local policies and effective government interventions were very important, and different countries contributed to the overall health, quality of life, and well-being of the planet, and the global framework was also important [15].

Categorization of physical and non-physical components based on the factors that contribute to urban social sustainability and socially sustainable urban settlements led to a discussion of several components such as social education, participation and local democracy, health and quality of life, safety, social cohesion-inclusion-interaction, sense of community, and cultural traditions in social context, while components such as attractive public realm, decent housing, environmental quality and amenities, accessibility (e.g. to local services and facilities/employment/green spaces), sustainable urban design, neighborhood

and walkable neighborhood are discussed within the context of physical factors [16]. Thus, environmental design decisions play a role in the support and orientation of social sustainability. To take more positive steps towards fulfilling the needs of the social and bio-physical environments is another conflict of our age [17]. Today, development and improvement should be targeted rather than maintaining the current conditions, especially in developing regions [18]. Socially, economically, and environmentally sustainable cities that meet the challenges of population growth is one of the biggest tasks of the century.

Characteristics of sustainable urbanization include a) the quality of life of the individuals living in the cities when using the urban public spaces and when purchasing public services, b) the ability of the city to maintain its existence as a settlement unit, and c) avoiding the overuse of the capacity of the urban ecosystem [19]. Thus, zoning is important for sustainable urban development. Significant issues associated with sustainable land use are as follows:

a) Facilitating access to work, shopping, and business areas to sustain mixed zoning and to balance the population density,
b) Prioritizing high-density occupancy on main avenues in urban centers,
c) Design of adequate spaces that would motivate large-scale social participation and public spaces that would strengthen social identity,
d) Development of public transportation systems, and
e) Reducing vehicle ownership by slowing down the urban sprawl and saving infrastructure expenditures and resources [20].

Another significant issue that affects urban development is the built environmental decisions made after zoning of the land. The built environment components that support social sustainability was comprehensively reported by Woodcraft et al. as amenities and social infrastructure (infrastructure, supports for social interaction, safe places, and engagement); infrastructure (schools, nurseries and childcare, and good transport); areas that support social and cultural life; spaces that support public participation; and flexible spaces for growth. The design of the built environment in neighborhood scale plays an active role in reorganization of the society, and open spaces that support safe social interactions, inclusion of citizens in long-term economic plans, flexible and adaptable housing, and flexible and gradual master-planning are significant planning policies [21]. Within the context of social, physical, and economic dimensions that should be analyzed with a holistic perspective for sustainable development, strengthening the socioeconomic properties and quality of life at urban, individual, and community levels is important. Thus, family and child-friendly planning, which is

discussed in the next section, is considered as a supportive planning policy for urban pattern and livability of different age and social groups.

3. Family and Child-Friendly Planning in Connection with Related Criteria, Experiences, and Livability

It is essential that settlements for families meet the needs of the individuals of different ages constituting the family, allow for social interaction, provide a quality environment for children to grow up, and ensure safety. Almost all city planners support the idea that the family is very important for social growth and the families are the most important population reinvesting in their settlements in terms of time, money, and participation [22]. Studies on FF settlements have evaluated the topic from different perspectives, such as restructuring of local governments, planning and housing for different resident groups, transportation, recreational areas, and economy [23, 24]. It is clear that these components play a major role in the social, physical, and economic sustainability of living environments. The support given to family structures in urban settings or FF neighborhoods yields physical, social, and economic benefits. Cities where different age groups live together and the public infrastructure is improved in such a way as to meet the care needs of children have higher standards in terms of security and livability.

Different organizations around the world focus on a variety of factors when evaluating FF cities, including housing, affordability, education quality, safety and crime rate, transportation and mobility, and public-open-recreational spaces. Furthermore, ambient environment, pollution, availability of child care services, activities for kids, unemployment rates, and happiness levels may also be investigated [25–28]. Among the criteria involving FF environments, being child-friendly and livable are central. According to UNICEF, child-friendly (CF) cities should be places that:

- are capable of protecting children against exploitation, violence, and abuse,
- allow children to grow up in a healthy and well-cared for way, with qualified, inclusive, and participatory education and skills development,
- are safe, secure, and clean, with access to green spaces,
- provide children the opportunity to participate in cultural, community, and social life [29].

To support these features of CF cities, the specific policies must focus on providing public participation, a healthy life, equality, and inclusiveness and on being responsive to the needs of children and families and adaptable to changing circumstances [29]. Environment and housing factors should support the

planning policies that are key to the implementation of the system sustaining FF and CF cities. In parallel with the UNICEF criteria, results from research studies investigating children's views about CF cities have found that these cities should:

- be able to respond to basic health needs,
- have playgrounds that support development and entertainment needs,
- have durable and environment-friendly dwellings, along with education and sport facilities,
- be located away from traffic and crowds, stress-free, safe, easily accessible settlements that have green and recreational spaces,
- be able to facilitate participation and sense of belonging [30–33].

ARUP [34] evaluates CF and FF cities as parallel concepts. CF cities that boast a connected infrastructure, making them multifunctional and intergenerational with green, sustainable public spaces, support urban citizens too. In this context, it can be stated that the requirements of sustainability and livable environments in terms of physical, social, and economical aspects have a symbiotic relationship.

The qualities of housing are important, especially for mental health of children and low-income families [35, 36]. Action plans and studies were taken to develop FF-CF settlements in different cities in line with prevailing dynamics as indicated below:

- Action plan in Seattle Planning Commission: Improvement of the suitability and affordability of housing highlight the importance of proper housing dimensions, incentive zoning programs, low and mid-rise multifamily, ground-related housing, affordability, strengthening partnerships in city planning initiatives to ensure growth, and the renewal of planning efforts from a family-oriented perspective [37].
- The study in San Francisco: The characteristics of CF housing are explained as affordable housing establishments that are at site-level, allowing for supervised outdoor and play space, and unit-plan decisions that respond to changing needs of families over time [38].
- Massachusetts: The amount of affordable housing, the reformation of residential access, childcare, and healthcare have gained importance [39].
- CF housing in Portland: Play areas, accessibility, privacy, public interaction, safety, and security have emerged as important matters, along with the demand that housing should be capable of meeting the changing needs over life cycle [40].

- The housing design guidelines in Emeryville: Landscaping, parking and access, site planning, architecture, building massing and materials, open spaces criteria, and suggestions for adapting housing environment again to needs of families and children gain importance [41].
- The housing strategies in Melbourne: Affordability, diversity of housing, quality of design and amenities, safety, and role of the government are important. It is remarkable that housing density creates a balance between the different shareholders and affordability.
- Vancouver: Suggestions have been made to focus on unit designs, common open spaces and play areas, and hierarchy of spaces that ensure safety, and make neighborhoods compatible for families with children where high-density has been achieved in line with a livable urban approach [42]. It is important for families that the apartments have common outdoor play areas, are in close proximity to community services and recreational facilities, and have minimal nonresidential land uses and heavily used traffic routes.
- The study conducted by the Ministry of Family and Social Policies in Turkey: The importance of participation, accessibility, human scale design, urban culture, public space, security, and FF economy for FF cities gained importance, and stressed that more analyses and recommendations related to housing scale are necessary [43].

According to multiple studies evaluating FF settlements it can be remarked that:

- dwellings that meet the size and functions that respond to changing needs of families, diverse and affordable housing supply, usually low-rise or mid-rise housing,
- transportation and proximity to urban facilities, childcare, good quality schools, safe and good-quality open public spaces, inclusive transportation systems, and affordability,
- social interaction, social justice, control and security, and participation of families in the decision-making process are important.

It is necessary to focus on the physical and social environment in the policies targeting CF and FF environments, using a more holistic, multi-sectoral, and interdisciplinary approach [33]. Funding and physical planning decisions, as well as the participation of families in planning process, are important for directing the transformation process [22]. Political legislation that enables low-income households with large families to have housing options have the potential to be an introduction to securing social justice.

4. Family-Friendly Planning in Supporting Sustainable Development and Quality of Life

The main elements of FF and CF planning and the properties that support the socio-physical and socioeconomic sustainable urban development overlap to a large extent. FF planning that supports the social integration and inclusion of culturally and socially diverse groups and the familial quality of life of all segments of the population are capable of providing equality and quality of life for everyone as emphasized in studies on sustainable development. Diverse and adaptable housing units, low and mid-rise multifamily, ground-related and affordable housing that support various families fulfill the decent and affordable housing and flexible spaces of growth dimensions of physical sustainable development as reported in the literature [16, 21]. As observed in cities such as Seattle and Emeryville, residential designs driven by certain design standards foster physical sustainability through open and closed space standards for housing units and neighborhoods. Construction of residential spaces that meet the requirements of families in a society and CF and FF approaches that allow raising the children in a safe, creative, quality environment with accessible facilities support the welfare and equity, adequacy and equal distribution of social services among different social groups, and have the capacity to improve quality of life.

In the context of access to urban facilities, it is important for children in CF cities to grow in healthy, safe and good-quality open environments, as well as benefiting from development and good quality education opportunities equally. Affordable access to childcare services in association with the FF approach, design decisions on walkable neighborhood, proximity and inclusive transportation to urban facilities, planning to ensure a balanced distribution of urban services and facilities (green space, health, education) in every urban neighborhood, affordable accessibility and transportation facilities, and physical spatial qualities would support social sustainability and quality physical sustainability. Furthermore, FF planning, which is important for avoiding pollution and providing good-quality open public spaces, and important with properties such as distance from traffic and crowds, stress-free, safe, easily accessible, inclusive transportation, green and recreational space [30–33], would support sustainable zoning density as stressed by Brebbia et al. [20] in physical sustainable development via mixed and balanced distribution of functions and facilities, transportation systems, public transportation, slowing down the urban sprawl and would trigger the development of an attractive public realm.

Speaking of the public realm, another common point of FF and sustainable cities is the creation of a social interaction environment supported by these types of public spaces and the significance of participation with control of community including families. Within the framework of sustainable development, it was emphasized that a democratic, equal, fair, well-administered, and honest environment that respects human rights and provide equal economic opportunities for all would maximize individual comfort [11, 13, 14]. Adoption of a more holistic, multi-sectoral, and interdisciplinary approach in FF planning, the need for participation of families in funding and physical planning decisions [22, 33] would give a chance to feed sustainable development from the core through the quality of life of the families that form the core of the society. FF and CF cities prioritize the opportunities of the families and children to participate in cultural, communal, and social life. With this approach, the local policies that were mentioned by Holden et al. among the main characteristics of sustainable development could be developed [15]. Thus, revealing the needs of individuals and groups of different ages, gender, and social status could facilitate equal use of urban facilities and provide social inclusion and democracy for a multidimensional sustainable development. In fact, the formation of a democratic participation environment for the individuals that would be directly affected by these policies before the implementation of the plans and decisions would support economic and social dimensions. FF planning approach, when reflected to long-term policies and implementations, would also contribute to long-term economic earnings, similar intergenerational welfare, and intergenerational equity of development in the country. Within the context of human scale design, urban culture, economy, and participation, further studies are required on FF planning in Turkey, which was considered as a supportive approach [43].

The FF approach, which could support holistic and multidimensional sustainable development with its social, economic, and physical dimensions, as assessed from different perspectives, could move a multidimensional configuration from the neighborhood scale to the urban scale via environmental design decisions. Thus, it could be considered positive to include FF planning in the political agenda as a feasible planning approach that aims to integrate the requirements of the social and bio-physical environments, which was emphasized as an important conflict of our age [17].

5. Conclusion and Recommendations

Due to rapid population growth and in the age of great global mass powers, the Earth faces environmental problems that challenge the life and the environment

such as the rapid depletion of natural resources, environmental destruction, the increased housing needs and the increase in unqualified housing, and the conversion of land into built environment. Factors such as mass immigration, international problems, and national, urban, and global economic inequalities trigger an inequality between individuals and communities, leading to formation of groups that could not access urban facilities and social problems such as severe segregation and social conflict. On the other hand, positive incentives are also observed such as economic developments, more planned developments, well-designed environments, and areas with higher social integration. The experienced positive and negative developments and changes require the support of sustainable development with its social and physical dimensions with local decisions at a multidimensional scale associated with the global status. In fact, the requirements of sustainability and livability overlap significantly and support the quality of life.

Thus, in the present study that addressed the symbiotic relationship between sustainability and quality of life and FF planning, it was observed that FF planning approach could support sustainability and quality of life at both personal and urban levels with its physical, social, and economic dimensions. A summary of the points discussed in the previous in detail would demonstrate that sustainability and FF planning support one another with their properties such as housing and neighborhood-level spatial standards, safety, affordability and neighborhood and urban scale facilities, accessibility, equal and quality access to health and education services, and mixed and balanced planning for access to various functions and services. Thus, within the scope of FF planning, a) common green spaces that are able to provide social interaction, secure playgrounds, and properly designed common spaces in housing for different age groups and families would help to ensure livability, b) providing equal access to outdoor spaces or facilities through urban zoning based on proximity and inclusive transportation that support access to residences and facilities, c) building residential units with flexible plan layouts and planned based on occupant requirements and income levels if possible, and supporting democratic approach, and d) the support of the political framework by encouraging user participation and strengthening partnerships in urban planning initiatives to ensure growth are very important.

Planning and design science aims to transfer the neighborhoods and cities to the future via sustainability. Therefore, the neighborhood and urban planning should be conducted to support family life without deteriorating the lifestyle of the families and thereby, that of the community. The limited resources should be used by applying creative and rational methods, and appropriate steps should be taken in line with the target of increasing the livability, quality of social and

urban life in maintaining and sustaining the cities. From this perspective, as a multidisciplinary planning framework for sustainable development in urban dynamics, the FF planning approach has the capacity to support the quality of life with its physical, social, and economic dimensions. Thus, blending global experiences with local environmental and social properties and implementing socio-physical policies that support the global requirements of sustainable development and the lives of the local population could improve the social well-being and quality of life.

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Murat Özyavuz (ed.)

Theory and practice in sustainable planning and design

Global warming and the resulting climate change affect the cities most. With the decrease of rural areas in recent years, migration to cities has increased. With the rapid migration, an orderly structuring occurred in the cities, and as a result, the quality of the urban environment has started to decrease. In order to mitigate this issue, planners and designers have started to use different approaches to make cities more sustainable and livable. This book contains new theories, approaches and practices that scientists devise for physical planning and design.

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