

SUSTAINABLE SPATIAL PLANNING FOR RURAL–URBAN FRINGES: A CASE STUDY IN TURKEY

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ABSTRACT

Sustainability was first used more than 50 years ago in a similar context as today. However, the ‘Our Common Future’ report by the UN Brundtland Commission in 1987 made the concepts of sustainability and sustainable development popular. This report defines sustainable development as the development that meets the needs of the present without compromising the ability of future generations to meet their own needs. One of the main discussions related to sustainable urban development focuses on rural–urban fringes. These discussions mostly include topics such as the promotion of economic development with rural activities, support of rural communities and protection of agricultural assets at the same time. However, these topics are generally neglected in countries where rural areas face huge pressure from uncontrolled urban development. Turkey is one of the typical examples where rural–urban fringes have been developing without considering their rural aspects. Within this framework, this study aims to discuss the main principles of sustainable spatial planning for rural–urban fringes in the Turkish case. The second part, after the introduction, focuses on the definition of rural–urban fringes along with their user perspectives, variables and components to reveal their complex and complicated nature. This part also contains theoretical frameworks to understand the formation and evolution of rural–urban fringes. The third part concentrates on the historical development of rural–urban fringes in the Turkish case after the World War II and aims to evaluate the Turkish case concerning the theoretical discussions of the second part. The problems of rural–urban fringes and their possible impacts in the Turkish case highlight why rural–urban fringes undoubtedly need to be considered in sustainable spatial planning approaches. The conclusion is about the principles of sustainable spatial planning for rural–urban fringes in Turkey, extracted from the theory by considering contextual practices.

Keywords: rural–urban fringe, sustainable spatial planning, Turkish case study.

1 INTRODUCTION

In the 1970s, significant changes began to be observed in the basic dimensions of daily life. The economic crises caused by the sharp increase in oil prices led to the disintegration of the dominant modes of production, which was the driving force behind the changes in the economic dimension. The changes in the political dimension have generally been associated with the fragmentation of political representation mechanisms and challenges to representative democracy. The changes in the socio-cultural dimension were related not only to social homogenisation at the global level but also to social heterogenisation, social polarisation, and socio-spatial segregation at the local level [1]–[4]. However, the changes, which are strongly linked to globalisation, have not been confined to these dimensions. There have also been changes and transformations in the spatial dimension at all scales. These changes and transformations resulted mainly from the tendency of globalisation to expand and create spatial patterns under its reality [5].

The changes and transformations in the spatial dimension have been particularly evident in cities. In the context of globalisation, many metropolitan cities have become nuclei, organising production and consumption from distant locations with the help of technological developments rather than controlling the surrounding rural hinterland. As they have become the necessary elements for the functioning of the global economy, they have sought to control



increasingly diversified economic and social relations and to compete for economic dominance [5]. These new functional roles of cities have also led to changes in the urban spatial organisation. These cities do not resemble the monocentric models of the last century, where urban density decreased with distance from the centre. In these cities, high-density residential areas in new urban development zones; new concentrations of service activities close to the outer limits of the built-up areas; industrial and storage areas in the middle of nowhere; and large-scale public investment in the peripheries of cities have become familiar urban phenomena. Urban sprawl, with all its negative consequences, has become the dominant form of urban growth.

Although cities are the main stages of these changes and transformations, they also have significant impacts on rural areas. On the one hand, the relative importance of agricultural production has declined for the sake of services and industries, which makes the protection of natural and agricultural assets more difficult. On the other hand, rapidly developing communication technologies and transportation facilities have created new opportunities for the rural people to participate in urban life at different levels. Various elements of urban economy, urban social life, and urban elements are increasingly observed in rural areas. Under these circumstances, there are studies suggesting that the traditional rural and urban dichotomy may no longer be valid and that this dichotomy has disappeared [6]. Indeed, there are indications that this opposition is disappearing. However, it is not possible to say that these indications are equally valid for all rural areas. In other words, conceptualising a forest village located far away from a city and a rural settlement in the rural–urban fringe with strong spatial relations to the city similarly may be reductionist due to their locational and spatial differences.

These differences are the starting point of this study. By focusing on the rural–urban fringes with an awareness of the locational and spatial differences in rural areas, this study aims to discuss the principles of sustainable spatial planning for these rural–urban fringes in the Turkish case. The second part of the study, after the introduction, presents theoretical discussions on the rural–urban fringes, which have five subparts. Beginning with a definition of rural–urban fringes, this part then discusses the different perspectives, variables, and components of rural–urban fringes, and the theoretical frameworks for the formation and evolution of these rural–urban fringes. These multidimensional theoretical discussions are evidence of why rural–urban fringes are special areas around the cities. The third part focuses on the historical development of rural–urban fringes in the Turkish case and aims to evaluate rural–urban fringes in Turkey concerning the theoretical discussions of the second part. The problems of rural–urban fringes and their possible impacts in the Turkish context highlight why rural–urban fringes undoubtedly need to be considered in sustainable spatial planning approaches. The fourth and final part of the study discusses the principles of sustainable spatial planning for rural–urban fringes in the Turkish case, in relation to the theory and the practice.

2 THEORETICAL FRAMEWORK

Rural–urban fringes are generally like the interfaces where rural and urban areas come into contact with each other. It is very difficult to determine where they begin (namely, the boundary between the urban built environment) and where they end (namely, the boundary between the rural area). However, they are distinctive parts of the metropolitan regions as they contain the spatial relationship between rural and urban areas.

It is also possible to define the rural–urban fringes as a state of in-betweenness. Within this state of in-betweenness, rural and urban land uses sometimes coexist seamlessly while, at other times, they reproduce conflicts of varying intensity [7].



Rural–urban fringes are multidimensional, complex, and complicated; dynamic in nature; and difficult to conceptualise.

- The fact that the rural–urban fringes are multidimensional, complex, and complicated phenomena is related to their compositions varying from city to city [8]. It is possible to observe rural–urban fringes around every metropolitan city; however, the composition and density of these fringes differ in terms of the functional context and role of the city. In other words, the rural–urban fringes of industrial cities are different from those around cities as consumption centres. These differences have emerged not only in relation to land use but also in regard to the different capacities of planning instruments and legal frameworks to control development in and around the fringes. In addition, the content of rural–urban fringes in developing countries differs from that in developed countries.
- The fact that rural–urban fringes are dynamic in nature depends fundamentally not only on the changing relations between rural and urban areas but also on the emergence of new values and perceptions from rural to urban and vice versa. These changing relationships, new values, and perceptions over time complicate the process of achieving stable definitions of these special areas [9].
- The fact that they are located between the urban built environment and rural areas and contain both rural and urban elements makes it impossible to begin the conceptualisation of rural–urban fringes from either the urban or the rural perspective [10]. The lack of an anchor for the definition complicates the process of conceptualisation.

2.1 Definition

Despite the theoretical difficulties, there are many studies on rural–urban fringes. Almost all studies that either discuss rural–urban fringes in general or emphasise a particular feature of these areas begin with a definition of these areas. One of the most cited definitions was made by Pryor [8]. According to his definition, the rural–urban fringe is a transition zone in land use and social and demographic characteristics, located between the urban and suburban areas of the central city and the rural hinterland [8]. It is characterised by ‘the almost complete absence of nonfarm dwellings, occupations, and land use, and of urban and rural orientation; an incomplete range and penetration of urban utility services; uncoordinated zoning and planning regulations; areal extension beyond although contiguous with the political boundary of the central city; and an actual and potential increase in population density, with the current density above that of surrounding rural districts but lower than the central city. These characteristics may differ both zonally and sectorally and will be modified through time’ [8].

Regarding the land use, as one of the three basic components of the definition, rural–urban fringes are multifunctional areas according to Gallent et al. [11]. They are often characterised by essential service functions. They have a dynamic nature and this dynamic nature results mainly from the adaptation and conversion between land uses. In addition, low-density economic activities such as retail, industry, distribution and warehousing are mostly observable in these areas. However, the main references of land uses are not only the urban uses. These untidy areas can be potentially rich in wildlife [11] and in agricultural assets [10].

There are also difficulties in defining the social characteristics of people living in these areas. The fact that these people are socially and economically dependent on cities, although they live outside urban areas is the main factor that makes social consideration of these people difficult [8].

The same difficulty arises for the demographic characteristics of rural–urban fringes. Although these areas are located in between rural and urban in terms of demographic



characteristics, some of the demographic characteristics do not exhibit the transitional character and may be more or less than the rural or urban levels [8].

There are also studies emphasising different qualities of rural–urban fringes and employing a qualitative approach rather than a quantitative and technical one. These studies can be classified into four distinct subgroups [10]. The first subgroup of studies emphasises the relative locations of rural–urban fringes at the urban edges and define rural–urban fringes in relation to these locations. For instance, Griffiths [12] defines rural–urban fringes as the last frontiers; Gallent et. al. [11], as the landscapes at the edges; Shoard [13] as the edgelands; and Whitehand and Morton [14] as the places of transition. While Micarelli and Pizzoli [15] similarly examine the relative locations, they employ a distinct analytical approach to assess the potential functions of these rural–urban fringes, characterising them as the new geographies of urban sprawl. The second subgroup is concerned with the processes of change in rural–urban fringes. In light of the dynamic and unstable nature of rural–urban fringes, Qviström and Saltzman [16] define these areas as ephemeral landscapes. The third subgroup of studies underscores the disorder in these areas. For example, Allen [17] employs the terms ‘heterogeneous mosaics’ to describe rural–urban fringes. Qviström [7] defines these areas as the landscapes of disorder. Similarly, Gant et. al. [18] refer to them as chaotic landscapes. The central concept of the last subgroup is the ambiguity and the lack of control. Scott [19] defines rural–urban fringes as the forgotten landscapes that predominantly emphasise the lack of development control.

What is common to all these studies is the predominant emphasis on the negative aspects of rural–urban fringes. These areas are typically regarded as being ignored in planning processes, exhibiting a greater prevalence of negative attributes than positive ones, waiting for the ideas, decisions, and plans of the public and private sectors for a better something or situation, and being on a trajectory of transformation, whether that occurs sooner or later [7]. Since the transformation of rural–urban fringes is regarded as an inevitable process, it is also possible to evaluate these areas as a phase rather than a spatial category [20].

2.2 Different user perspectives

There are different user perspectives to rural–urban fringes and these perspectives contribute to a complex and complicated overall picture. From the perspective of those who reside in rural areas, it is possible to identify and prioritise agricultural and environmental values in rural–urban fringes. In contrast those who live in urban areas tend to consider these areas as empty and potential sites for urban development. However, these disparate user perspectives are not only related to the definitions of fringe areas. With regard to the interventions in rural–urban fringes concerning different user perspectives (and their priorities), it becomes possible to understand one of the fundamental dilemmas of spatial planning: the question of whether to prioritise development or preservation.

2.3 Variables

While the definition of rural–urban fringes is elusive, a range of variables can be employed to facilitate quantitative descriptions. Pryor proposes that the variables can be classified into three categories and these categories are residents of rural–urban fringes, accessibility, and land and dwellings [8]. As the name suggests, the category of residents of rural–urban fringes is primarily concerned with the characteristics of the population and depends on information such as demographic aspects, socio-economic statuses, occupational structures and income levels. The second category, accessibility, focuses on non-residential services, workplaces,



and the factors of transportation that influence the accessibility of these services and workplaces. As rural–urban fringes are often poorly structured, accessibility can also be regarded as a quality of the overall system of commuting relations. The category of land and dwelling encompasses land uses, lot and dwelling sizes and values. This category elucidates the spatial/physical aspects and land use compositions of rural–urban fringes [8]. Despite the existence of well-defined variables, it is challenging to obtain them in many cases.

2.4 Components

It is crucial to delineate the boundaries that separate rural–urban fringes from rural and urban areas. However, these areas are heterogeneous and comprise permeable sub-areas [9] with disparate qualities and relatively indistinct boundaries. These sub-areas are classified as rural fringes and urban fringes [8].

Rural fringes are adjacent to rural areas. These areas generally have lower residential densities, lower rates of increase in population densities, lower rates of land use conversion, and fewer urban commuting relationships than rural–urban fringes. However, the proportion of agricultural units in this area is higher than the overall proportion in rural–urban fringes [8].

Urban fringes are located between rural fringes and urban built-up areas. These areas exhibit higher residential densities, higher proportions of residential, commercial, and industrial uses, and a higher proportion of vacant land (as opposed to agricultural areas) than rural–urban fringes. They also have higher rates of increase in population density, higher rates of land use conversion, and more commuting relationships than rural–urban fringes [8].

2.5 Theoretical frameworks explaining the formation and evolution of rural–urban fringes

Although it is difficult to understand rural–urban fringes theoretically, three theoretical frameworks allow us to understand how these fringes have been formed and evolved. Chronologically, these theoretical frameworks are concentric zone theory, fringe-belt theory, and theory of urban sprawl [9].

The concentric zones theory is one of the most widely cited theories for understanding spatial organisation and urban structure. It was proposed by the urban ecology approach nearly a century ago. Although the model that the theory proposes is well known, its explanations of urban growth processes are not widely considered. According to this theory, urban growth is explained by the processes of elimination, sorting, and repositioning of individuals and groups. In other words, urban growth is the result of the expansion and transformation of land uses that occur as a result of the process of growing inner zones that push outer ones. These expansions and transformations allow for the formation of well-defined urban patterns within built-up areas but lead to the emergence of poorly defined urban patterns and inconsistent landscapes in the rural–urban fringe. The fact that the outer boundaries of the commuters' zone, the zone farthest from the central business district, are not given in the model is an expression of this ambiguity [9], [21]. On the other hand, since the basic assumption of the model is monocentric urban structures, it is insufficient to explain the fringes surrounding polycentric urban structures.

While the concentric zone theory develops its explanations for the American city, the fringe-belt theory is based on the European city. The theory reveals how fringe uses accumulate at the edge of the urban built environment and how rural–urban fringes are integrated into the city. This theoretical framework asserts that fringe functions are formed



within a logic, and because of this logic, the theory assumes that the basic characteristic of fringes, namely, the disorder, is limited [9], [22]. The fringe-belt theory, like the concentric zone theory, is inadequate to explain polycentric urban structures. Another shortcoming is the difficulty of observing fringe-belt formations in rapidly-growing and expanding cities.

The theory of urban sprawl explains the formation of rural–urban fringes. The starting point of this theory is increasing wealth, changing lifestyles, increasing private car ownership, and mobility patterns after World War II. The main interest of the theory is the relationship between transportation and urban form, but it has technical, economic, and social emphases in its explanation [23]. The explanation of the formation and evolution of rural–urban fringes is more sophisticated than the explanations of previous theoretical frameworks. On the other hand, it is unable to capture the richness of the rural–urban fringe that has emerged from the coexistence of rural and urban land uses because its conceptual background is based on cities.

3 THE TURKISH CASE

After World War II, an increasing number of studies of rural–urban fringes were conducted in both American and European cities. The reason for this increase is the need to understand rural–urban fringes with their unique characteristics. These studies have produced a kind of theoretical richness on rural–urban fringes. However, this is not the case for Turkish cities although rural–urban fringes have been one of the important items on the planning agenda since the 1950s.

Within the history of urbanisation in the Turkish context, the 1950s are critical since Turkish urbanisation entered a new phase at that time. This phase started with land reforms, mechanisation and modernisation of agriculture, which reduced the employment opportunities in rural areas. These rural people began to migrate in large numbers to cities such as İstanbul, Ankara and İzmir. In these cities, there was a very limited number of affordable houses for this low-income group, so they built informal residential units for themselves, namely squatter units, for themselves in the rural–urban fringes [24], [25]. According to Yıldırım, the development of these squatter units can be considered as the first kind of urban sprawl movements in Turkish cities [26].

In the 1960s, there was a significant legislation that directly and indirectly influenced the development of rural–urban fringes. The Squatter Law enacted in 1965 aimed basically at rehabilitating squatter areas. The spatial rehabilitation plans consolidated some of these informal residential areas on their sites. In addition, this law introduced squatter prevention zones in rural–urban fringes to prevent the further development of those informal residential areas by providing affordable housing for migrants [27].

In the 1970s, there are two important phenomena that change and transform the rural–urban fringes. The first one is the increase in private car ownership [27]. This phenomenon made rural–urban fringes relatively accessible and created new demands for these areas although temporary oil shortages and oil price increases reduced overall urban mobility levels for certain periods. These demands were also related to the decentralisation of industrial areas and services, which triggered urban growth, especially in urban fringes.

In the 1980s, the Mass Housing Law was enacted to address the housing shortage of middle-income groups. Housing cooperatives were able to obtain financial supports to implement mass housing projects in the rural–urban fringe and initiated suburbanisation around Turkish metropolitan cities [28]. Although rural–urban fringes were usually targeted by squatter units until the 1980s, these areas subsequently became the locus of housing cooperatives [29].



Observing the experience of housing cooperatives in rural–urban fringes, large-scale land development companies began to pay attention to fringe areas in the 1990s. They considered fringe areas as suitable settings for residential areas where high-income groups could meet their demands for a new and changing lifestyle. In addition, they see these areas as profitable in many cases due to relatively cheap land prices and high residential densities proposed in spatial development plans [29].

The Kocaeli earthquake in the year 1999, which dramatically demonstrated that low quality building stock can cause huge damage and losses during earthquakes made urban regeneration a hot topic on the spatial planning agenda [30]. It was considered as a kind of panacea to cure all the urban problems. Since the focus of spatial planning turned onto the built environment, rural–urban fringes could not arouse spatial planning interest in the 2000s and 2010s. However, this lack of interest did not mean that there was no development in the rural–urban fringes during this period. On the contrary, in the last two decades, the number of high-density residential areas, industrial and storage areas, shopping malls and certain commercial uses, airports, universities, city hospitals, intercity bus terminals, stadiums, and many other large-scale private and public investments have continued to increase at a remarkable rate in rural–urban fringes. Housing investments have been realised, mostly under the control of the Mass Housing Administration [27]. The increase in the number of industrial and storage areas is related to the fact that the most suitable areas for these uses are located in rural–urban fringes in terms of their spatial requirements. The reason why shopping malls and certain commercial uses are located in these areas is the result of the tendency of population density increases in the fringe areas. In particular, high-income groups in the fringes attract these commercial activities to themselves. The increase in the number of large-scale public investments by both local and central governments, such as airports, universities, city hospitals, intercity bus terminals, and stadiums is driven by the relative abundance of public land in the fringes. The construction of these investments on public land eliminates the possibility of expropriation of private land, which reduces the initial costs of these investments. It is interesting to note that all these investments in the rural–urban fringes are not spatially structured due to the distributed planning authority and the diverse planning responsibilities of the institutions.

The theoretical definition of rural–urban fringes fits the Turkish case to a certain extent. Rural–urban fringes in Turkey are also transition zones between rural and urban areas in terms of social and physical aspects. They are multifunctional areas that contain both rural and urban functions. However, in the Turkish context, this multi-functionality is predominantly shaped by urban land uses, particularly in cities surrounded by unfertile lands. This phenomenon can be attributed to the low profitability of rural economic activities on such lands, which has led to a significant divergence in rural and urban rents. Given that rural communities are not adequately compensated for their agricultural income, they eagerly await their lands to be converted to urban land uses, with the expectation of benefiting from the higher urban rents.

In terms of qualitative definition, rural–urban fringes in Turkey can be positioned in between forgotten landscapes as Scott [19] does and landscapes of disorder as Qviström [7] does. There is a causal relationship between these definitions. The apparent lack of development control on fringes, which makes them forgotten landscapes consequently produces a disorder.

As in other foreign cases, there are both rural users and urban users in the Turkish rural–urban fringes. However, their attitudes are different from the other cases. In the Turkish case, the ideas of the rural users are usually parallel to those of the urban users. In other words, both rural and urban users focus on development while neglecting preservation.



Rural–urban fringes are not homogeneous zones. In fact, they have rural fringes and urban fringes with different compositional characters. In the Turkish case, rural–urban fringes have mostly urban fringe character due to the concentration of urban land uses close to urban areas. The relatively high transportation costs increase deterrent effect of physical distance and reduce the degree of dispersion of urban land uses. In addition, the heterogeneity of rural–urban fringe cannot only be described vertically (perpendicular to the urban areas), but also horizontally (parallel to the urban areas). As the fringe-belt theory depicts, rural–urban fringes have similar characters, especially when they are located around monocentric cities with limited geomorphological variations. In the Turkish case, however, there are sectors with different spatial configurations and characters.

It is difficult to collect the data on the variables to define rural–urban fringes; however, there are certain inferences about the quantitative aspects of rural–urban fringes. In terms of the characteristics of the residents of rural–urban fringes, the inhabitants of rural–urban fringes are in between rural and urban populations, proximate to the urban one especially around the metropolitan cities. This proximity results from the growth of residential areas for high-income groups in the fringe areas, mostly as gated communities. Inhabitants of these gated communities tend to have high socioeconomic statuses not only because of their income levels but also because of their educational attainment and occupational prestige. This group is influential by shaping population characteristics. Concerning accessibility, rural–urban fringes in Turkey are similar to foreign cases. The number of services and workplaces is slightly higher in rural–urban fringes due to the relative scarcity of services in cities. The character of rural–urban fringes in Turkish case in relation to land and dwelling also resembles foreign cases.

The theoretical frameworks developed to explain the formation and evolution of rural–urban fringes in American and European cities are inadequate for explaining the Turkish case. While Turkish and American cities are similar concerning the rapid urban growth in general, the concentric zone theory is not very satisfactory to explain rural–urban fringes in the Turkish context due to the dual character of Turkish cities. This duality manifested itself in the form of squatter areas. The location of these squatter areas on the peripheries of cities has an impact on the spatial sorting of social groups on urban space. Thus, it is not possible to follow the logic of the concentric zone theory in explaining the sequential growth of cities in Turkey. Similarly, the fringe-belt theory for European cities does not fit to Turkish cities since it is unable to explain rapidly-growing and dynamic cities. The rapid expansion of Turkish cities does not allow the formation of fringe-belts as they are observed in European cities. The theory of urban sprawl is also inadequate for explaining the formation of rural–urban fringes in Turkey because of the very low levels of private car ownership than both the United States of America and the European countries.

All these statements make rural–urban fringe special areas where many planning problems are observed.

- These areas are usually under direct pressure from urban expansion. This pressure occurs not only in cities with growing populations but also in cities with stable populations. The reason for the pressure in such cities is the high land values in the built-up areas and relatively low-cost lands that rural–urban fringes offer.
- These areas are the first to come to mind where to locate industrial and storage areas, universities, logistics centres, intercity bus terminals, and similar transportation infrastructure. However, the centripetal urban impacts that these uses produce towards themselves are generally ignored when determining their locations.



- These areas often have agricultural and/or environmental values that need to be preserved.
- In general, it is not possible to talk about spatial development plans that properly organise rural and urban uses and ensure the relationship between these uses on rural–urban fringes. The reason for this inability is the use of partial development plans as the main type of spatial plan for these areas. These are plans that are proposed for areas outside the boundaries of the existing spatial development plans in order to meet certain demands of private interests on rural–urban fringes. They do not allow to achieve comprehensive planning frameworks for rural–urban fringes that emphasise a balance between development and preservation within the framework of sustainability.

4 CONCLUSION

As previously stated, rural–urban fringes are spatial categories that present a significant challenge to address. This is particularly evident in the case of rural–urban fringes surrounding Turkish cities, where there is a complex and chaotic combination of rural and urban land uses. In light of these considerations, a meticulous planning approach to rural–urban fringes has to be determined. However, adopting a planning approach from another country and applying pre-existing planning prescriptions for rural–urban fringes may not be logical, given the structural diversity of rural–urban fringes in different contexts. In other words, a planning prescription that is effective in one context cannot be assumed to be effective in another. It is essential to assess each rural–urban fringe on its individual merits and develop an appropriate sustainable spatial planning framework that aligns with its specific circumstances. Such a framework should be based on the principles of sustainable spatial planning. While there is a general consensus on the necessity of following these principles, there is still a lack of clarity how to define them systematically. This is particularly evident in the context of rural–urban fringes.

In order to address this challenge, this study examines the sustainable urban planning principles put forth by the U.S.–China CEO Council for Sustainable Urbanization [31] and provides an interpretation of those principles in the context of rural–urban fringes. As outlined in this document, there are five domains on which sustainable urban planning principles can be developed: environmental quality and ecological restoration, land development and integration of urbanisation and industrialisation, liveable and healthy cities, environmental protection and resource recycling, social inclusiveness, and cultural promotion.

In the domain of environmental quality and ecological restoration, rural–urban fringes warrant particular attention as they often encompass a range of valuable ecological assets, including agricultural lands, forest areas, water resources. These areas may serve as ecological corridors, ecological red lines, or ventilation channels. Therefore, spatial planning should preserve these areas and avoid development on them. To safeguard the environmental quality, the spatial plans should focus on low-impact practices that minimise harm to the natural environment. This is especially crucial in the Turkish case where rural and urban origin groups share similar motivations for urban development. Consequently, the preservation of ecological assets in Turkey becomes a vital aspect of ensuring long-term sustainability.

In most cases, rural–urban fringes are regarded as no man’s lands where there is limited development control on land. In the domain of land development and integration of urbanisation and industrialisation, the primary objective is to direct urban development into predetermined settings through the implementation of urban growth boundaries. These boundaries may take the form of a sharp line that separates the urban areas, rural–urban



fringes, and rural areas from one another, or they may be an intricate structure that allows these categories to be articulated with one another. In either way, they represent the main focus of this examination. This examination is significant because it allows for the consideration of both the qualitative (form) and the quantitative dimensions (size) of urban development. The urban growth boundary has never been employed as a planning tool in the context of Turkish planning practice. The objective of controlling urban growth is attempted through the implementation of spatial development plans. However, due to the inherent limitations of these plans in accurately reflecting the dynamic nature of cities, there are, in almost all cases, planning proposals and urban development outside the planning boundaries, driven by the pursuit of profit or the desire to circumvent specific planning regulations. In light of these considerations, Turkish planning practice should adopt urban growth boundary for sustainability. Along with the urban growth boundary, densities, floor area ratios, and building heights should be under strict controls in order to preserve some parts of the outskirts as ecological districts. Similarly, if there are villages in rural–urban fringes, renovation plans for existing villages should be prepared by considering their integration with the surrounding elements. It is also imperative to integrate land development with environmental protection through the implementation of green finance standards.

In the domain of liveable cities and healthy buildings, transportation is another primary concern. The prevalence of urban porosities in rural–urban fringes results in the use of motorised transportation and longer commutes, which are conducive to sustainability. In the Turkish context, the degree of urban dispersion on rural–urban fringes is relatively limited. However, it does not become an advantage due to the low levels of mobility. The structured land development in rural–urban fringes, which may promote bicycling and shorten the commutes, is also a crucial consideration in the Turkish case. The use of preserved environmental features as recreational areas may enhance the liveability in rural–urban fringes. Furthermore, the adoption of smart/green buildings and communities may support bolster the liveability of these areas.

Waste treatment strategies are of paramount importance dimensions in the domain of environmental protection and resource recycling. These strategies should primarily focus on waste-to-energy technologies for power generation. Such strategies may help to reduce the high costs of implementing utility systems in rural–urban fringes. Most of the metropolitan and midsize cities in Turkey have their waste treatment facilities. With the exception of major metropolitan cities, the technologies employed in these facilities are relatively old and in need of renovation. Small cities, on the other hand, are constrained by limited capacity to effectively manage waste treatment. Renewable energy, such as solar, wind, and geothermal energy, can be instrumental in managing the increasing energy demand and reducing consumption levels, which is beneficial for environmental protection. Turkey boasts considerable renewable energy potentials; however, the utilisation of this potential remains constrained.

The domain of social inclusiveness and cultural promotion is primarily concerned with the public participation. There is always a wide range of stakeholders in rural–urban fringes, both from urban origin and rural origin. All of these stakeholders, particularly those involved in preservation in the Turkish context, should be included in the public participation processes of spatial planning. The preservation of local cultural features is also of great importance, as it can enhance quality of life conditions for the sake of sustainability.

The number of these principles can undoubtedly be increased. While increasing the number, there is a question to be kept in mind: What is the importance of sustainable spatial planning in the rural–urban fringe? This is a fundamental question that can guide urban planners in their approach to the rural–urban fringes.



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