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Determination of Parcel Based Session of Agricultural and Animal Production Facility Areas Inside or Outside the Contiguous Area Boundaries

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Abstract

The adjacent area is neighbor as a word. In the language of cartography, it means the region within the borders adjacent to the zoning boundaries. The parcels located at the borders of the adjacent area are cadastral, that is, the areas that have not been developed in the form of fields. Since this type of parcel is outside the zoning boundaries, certain definite criteria for construction are not as diverse as in a zoning island. The most significant part is that the parcel must have at least one side of the parcel should face the road. In the adjacent area, facilities such as chicken, fattening, cattle breeding farm or cheese, dairy production facilities, trustee parking lot, silo and feed facility are built. The purpose of the study is how the parcels can move within the boundaries in the construction of these related structures. As a method, it is to make it geometrically closed while determining the residential areas for the building at the borders of the parcels with the end-to-end splicing technique. Therefore, with various examples, it is to examine how a construction permit will be granted on the ground within the framework of the regulation on unplanned areas while the facility is placed on the ground in an adjacent area.

Key words: Adjacent Space, Joining Technique, State of Structure.

1. INTRODUCTION

As Maslow mentioned in the hierarchy of needs, the quality of life increases gradually, starting from the most basic needs of the individual to the level of self-actualization. From this point of view, the more the individual can meet his physical, social, economic, transportation and communication needs starting from his daily needs, the more satisfied he is with the part of the city he lives in and his higher quality of life. By examining the positive or negative effects of the mentioned urban quality, it is possible to read the current urban life quality by understanding the physical, social, economic transportation and communication qualities that can be analyzed with the indicators of the urban life quality and the effects of these topics on the citizens. In this way, information about what can be done for a better urban life can be obtained and the new urban space can be constructed more efficiently for users (Kılınç, 2022). To support sustainable development at the country, region and city level, and to create environments that are safe, healthy and have a high quality of life, it is necessary to prepare and implement spatial plans at every scale (Çubukçu, 2022; Spatial Plans Construction Regulation, 2014). In our country, the implementation of the plans is made according to the 1/1000 scaled implementation development plan. The implementation of these plans is realized by making a parcellation plan by the provisions of the current Zoning Law, by subdivision and amalgamation upon the request of the relevant person, or by expropriation (Çubukçu, 2022). To create a more livable and decent living space, taking into account the development aspect of the city, which must be prepared in settlements with a population exceeding 10,000 according to Article 7 of the Zoning Law No. 3194; It shows the future population density, transportation networks and social reinforcement areas that the region and the city will need, and if any, they are all plans with various provisions drawn on the processed and

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approved maps of the cadastral situation (Çubukçu, 2022; Zoning Law, 1985). Zoning plans are prepared within the framework of upper scale plan decisions, institutional opinions, land use data, relevant legislation and regulations, in line with urban planning principles and planning principles. In line with all the analyzes made in the planning studies; It is done to increase living standards, integrate the planning area with its environment, develop together with environmental functions and meet the needs brought by environmental functions, by considering planning ethics and urbanism principles. By meeting the green space and equipment needs of the region and by developing decisions for the solution of practical problems, zoning plan studies are completed with a holistic planning approach, in line with the principles and principles of urbanism, taking into account the property pattern and equipment standards (Çubukçu, 2022). In the zoning plan studies prepared by the zoning law numbered 3194 and the relevant regulations related to this law, there is a certain frame and limit for the plan decisions (Erğan, 2022).

1.1. THEORETICAL FRAMEWORK AND SCOPE

Today, two basic planning systems are implemented around the world: plan-based systems, regulatory planning system, and project-based systems, discretion-based planning system, which are shaped by the influence of the legal backgrounds of countries (Berisha et al., 2020; Rivolin 2017; Muñoz Gielen & Tasan-Kok, 2010). , Nadin and Stead, 2008; Booth, 2003; Tang et al., 2000; Faludi, 1987; Kılınç, 2021). In the planning stratification, the upper-scale plans are the plans in which the main development decisions of the city and land use decisions are made at the principle level, through the main goals and policies determined at the country level; On the other hand, sub-scale plans are the plans prepared in line with these principles and showing the implementation details.Upper-scale plans have a function that determines the framework, directs, and controls the lower-scale plans and determines the flexible environment. (Ersoy and Keskinok, 2000; Kilinc, 2021). In the plan-based system, implementation is a separate process that comes after planning, and implementation refers to the realization of the plan decisions on the map exactly in the space. There is one-to-one integrity between plan decisions and implementation; Implementation cannot be made contrary to the plan decisions. On the other hand, in the project-based system; implementation is not a step independent of the plan and after the plan; is part of the planning process. There is no requirement that there is a unity between the plan and the implementation. The planning process consists of the stages of determining the goals and objectives, determining the current situation, determining the alternatives, evaluating the alternatives, implementing, monitoring and reviewing. Depending on the monitoring and review stages, the application may differ (Türk, 2016; Kılınç, 2021). The implementation approach of the project-based system is unique. In this system, the implementation is not a phase that follows the planning as in the plan-based system, but constitutes a part of the planning itself, and the plan does not have to be the implementation integrity. The discretion-based planning process consists of the stages of determination of goals and objectives, analysis of the current situation, determination and evaluation of alternatives, implementation, inspection and revision. There may be some differences in practice depending on the alternatives and requirements for the audit and revision stages (Gürsoy, 2015;Kılınç, 2021).

2. MATERIAL AND METHOD

Let A be a non-empty sentence about the three-dimensional Euclidean space and let V be a vector space on the body K.

$$f: A \times A \rightarrow V \quad (1)$$

If the function provides the following axioms, A is called an affine space combined with V (Şardağ, 2019).

$$A1 : \forall P, Q, R \in A \text{ for } f(P, Q) + f(Q, R) = f(P, R) \quad (2)$$

$$A2 : \forall P \in A, \forall \alpha \in V \text{ for } f(P, Q) = \alpha \quad (3)$$

there is only one point $Q \in A$ (Şardağ, 2019).

Let A be an affine space coupled with V. If $\{P_0P_1, P_0P_2, P_0P_3\}$ for points $P_0, P_1, P_2, P_3 \in A$ is a base of V, then the dot quartet $\{P_0, P_1, P_2, P_3\}$ is called an affine frame. Here, the P_0 point is the starting point of the roof, P_i, $1 \leq i \leq 3$, and the points called the unit points of the roof (Şardağ, 2019).

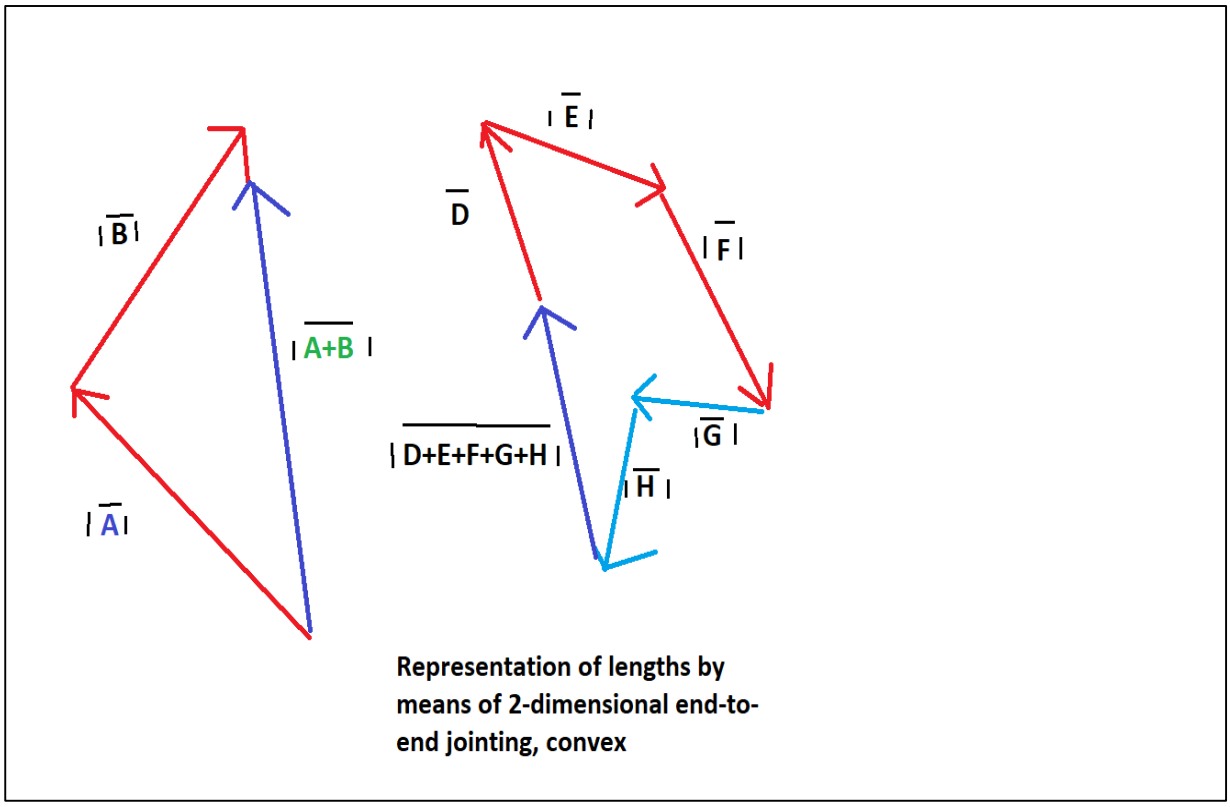

Figure 1. *Representation of a closed convex formation of length directions (Anonymous1, 2022)*

Considering the start and end points of the length directions in Figure 1, if the point where one ends is the starting point of the other, the distance from the starting point of the first direction to the starting point of the last direction is called the sum of the directions, which is called the end-to-end addition method. They form a closed convex area in the form of IAI+IBI=IA+BI or IDI+IEI+IFI+IGI+IHI=ID+E+F+G+HI in the two-dimensional plane (Anonymous1, 2022).

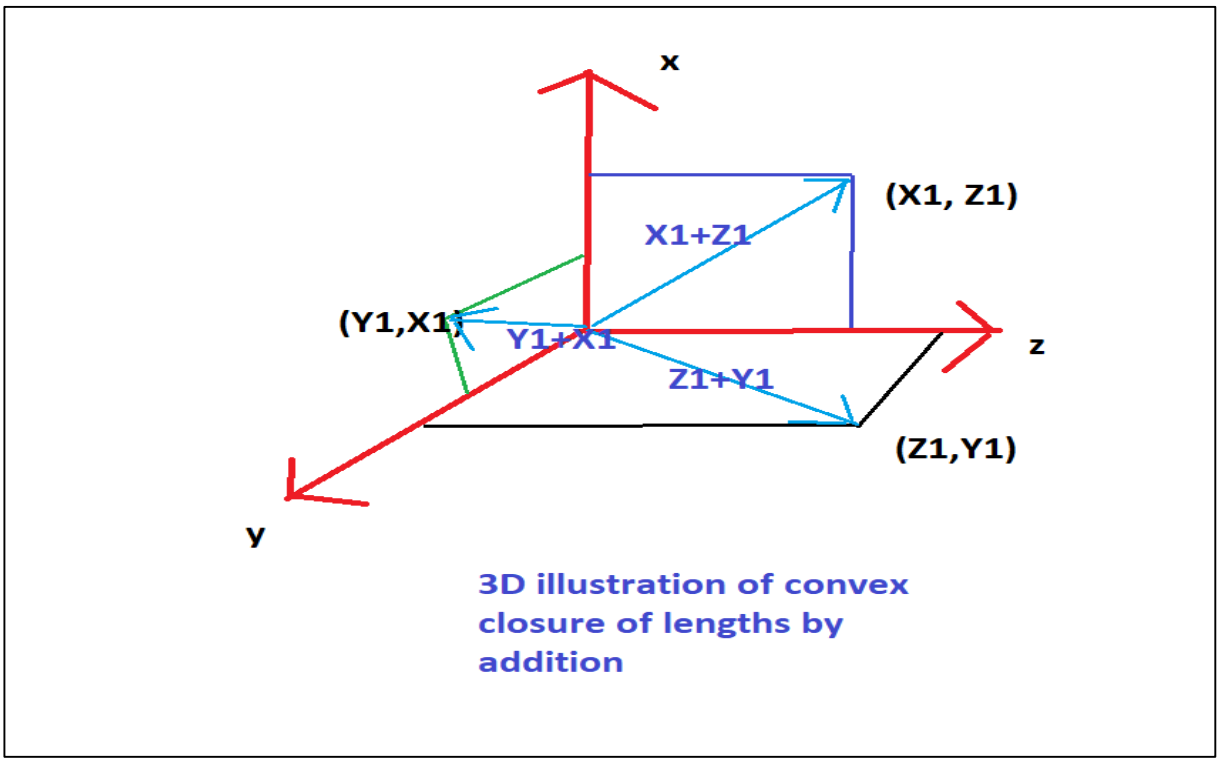

Figure 2. *Illustration of the end-to-end joining method in the three-dimensional plane (Anonymous2, 2022)*

In Figure 2, if we call three regions on the X-Y-Z axis on the three-dimensional plane, the starting and ending points of the shortest path, which is formed by the combination of the ending and starting points of the lengths in the three separate regions, provide the total lengths as vectors. While IX1I+IZ1I=IX1+Z1I vectorial total length is obtained in X-Z plane, IY1I+IX1I=IY1+X1I vectorial total length is obtained in X-Y plane. Three-dimensional total length is obtained by adding IY1+X1I+IY1+X1I+IZ1+Y1I+IZ1+Y1I+IX1+Z1I in total (Anonymous2, 2022).

3. FINDINGS AND DISCUSSION

It is affiliated to the municipalities within or outside the contiguous area, and to the special provincial administration in the areas that are not the metropolitan municipality. Adjacent areas are called areas subject to permission only in parcels such as vineyards or production facilities, apart from areas such as residences, commerce or official institutions. It means the border to the adjacent area adjacent to the zoning border. With more master plans, the adjacent area boundaries can be expanded. Adjacent areas and unplanned areas, may differ according to the desired construction structure in the parcels in the form of seven sections according to the zoning regulation. While in the vineyard or garden areas, according to the regulation, only two floors in the case of house construction and the total construction area not exceeding 250 m^2 are subject to permission. In contrast, in the production areas, different situations arise in the facilities to ensure both agricultural and animal continuity. We will explain this with examples.

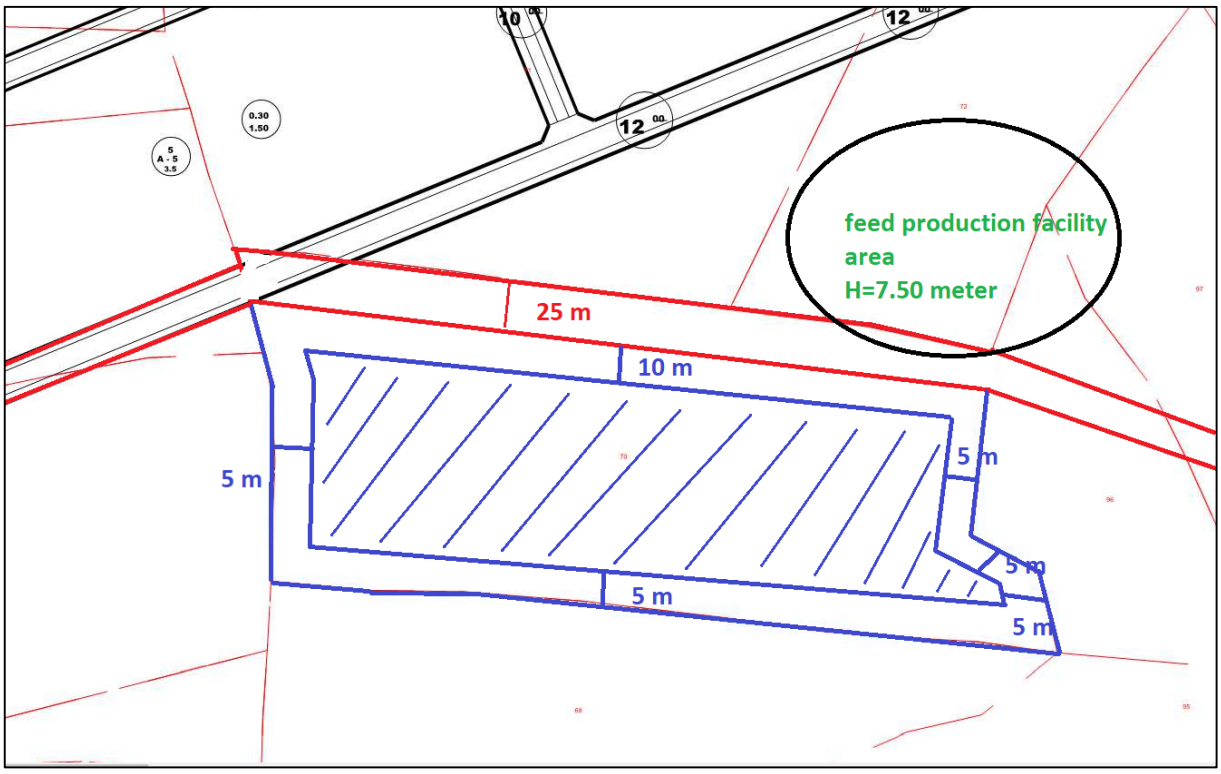

Figure 3. *Feed Production Facility Parcel Layout Border Display*

When the relevant parcel applies to the institution to obtain permission to establish a feed production facility, it can apply in line with the measuring distances from the outside to the inside, which shows how it will move within the parcel so that it can place the business facility buildings at which points. Since it is a cadastral parcel adjacent to the zoning boundaries where it is seen, but without zoning, at least one side of the parcel must face the road according to the zoning regulations for unplanned areas. That means that a facade is a boundary to the road. In order to establish a feed production facility on a cadastral, that is, unzoned parcel facing the 25-meter road, the zoning gravity limits must be determined within the parcel, provided that at least 10 meters from the road in or outside the areas adjacent to the regulation, and 5 meters from all points in neighboring parcels, even though there is a side or backyard. The total construction equivalent areas of the integrated structures of the feed facility to be built should be allowed, based on 5 percent of the title deed area, not exceeding 7.50 meters of building height. In addition, this height can be doubled in non-zoning areas, provided that the opinion of the provincial directorates of agriculture is obtained at the adjacent interior or exterior points. A feed facility is established based on the total construction precedent that the relevant institution will give, which exceeds 5 percent, that is, agriculture will give (Unplanned Area Zoning Regulation, 2021).

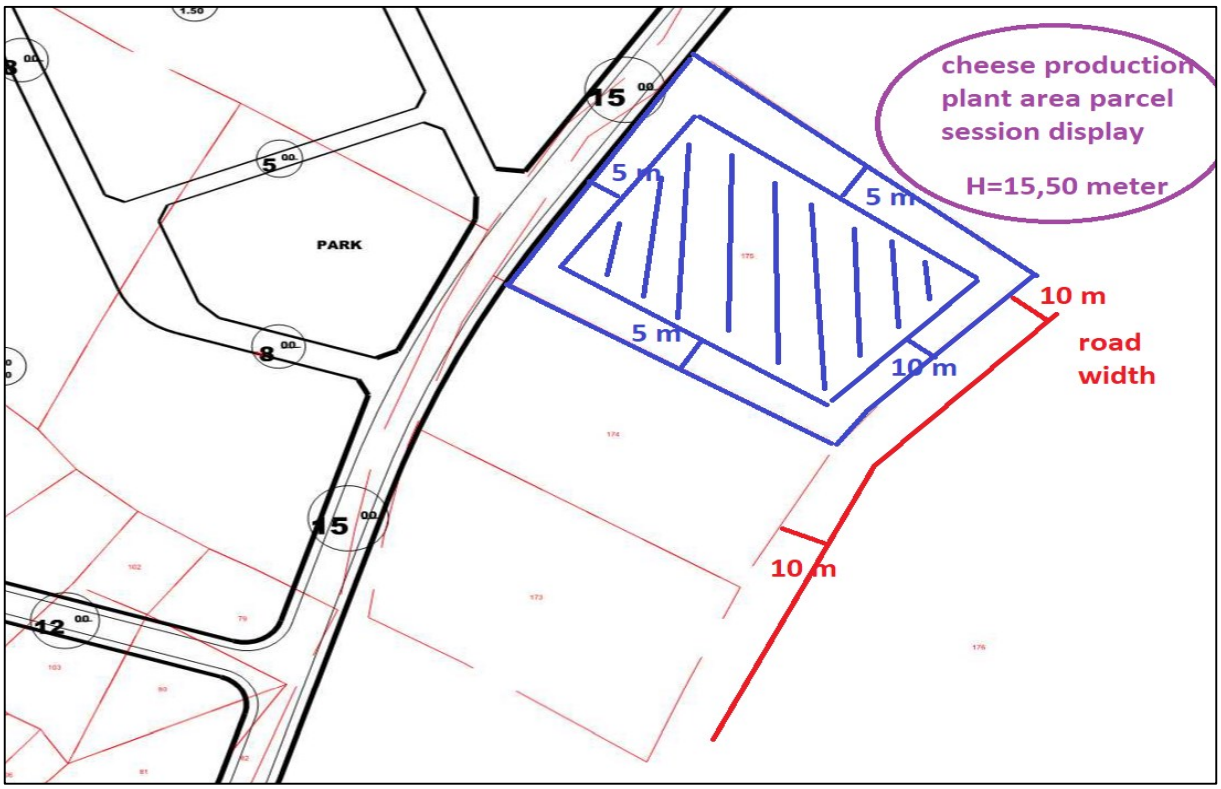

Figure 4. *Cheese Production Facility Parcel Layout Border Display*

When a cheese production facility is desired to be built on a cadastral parcel, a field, which is right next to the zoning boundaries, the first step is to examine whether the parcel has a road. According to the regulation, if this parcel has come from parcels, parcelling means that a parcel is created by dividing over one parcel of land enough for the front and depths. It is to have a frontage to a road of at least 25 meters and to be created not less than 5000 m2 (Unplanned Area Zoning Regulation, 2021). In order to get permission for the cheese production facility on the parcel with a 10-meter road front, the facility to be created by pulling at least 10 meters from the road and pulling 5 meters from all neighboring parcels is given towards the middle. While these pulls are being created, the area closure is formed as convex, by considering the vector length on the paper, in the clockwise direction, coming to the end-start points. In other words, with the correct shooting distances, the area where the production facility will be created is determined by making an angle distance on the land with the end-to-end method. In addition, the area to be built on the parcel is again expressed as a maximum of 15.50 meters.

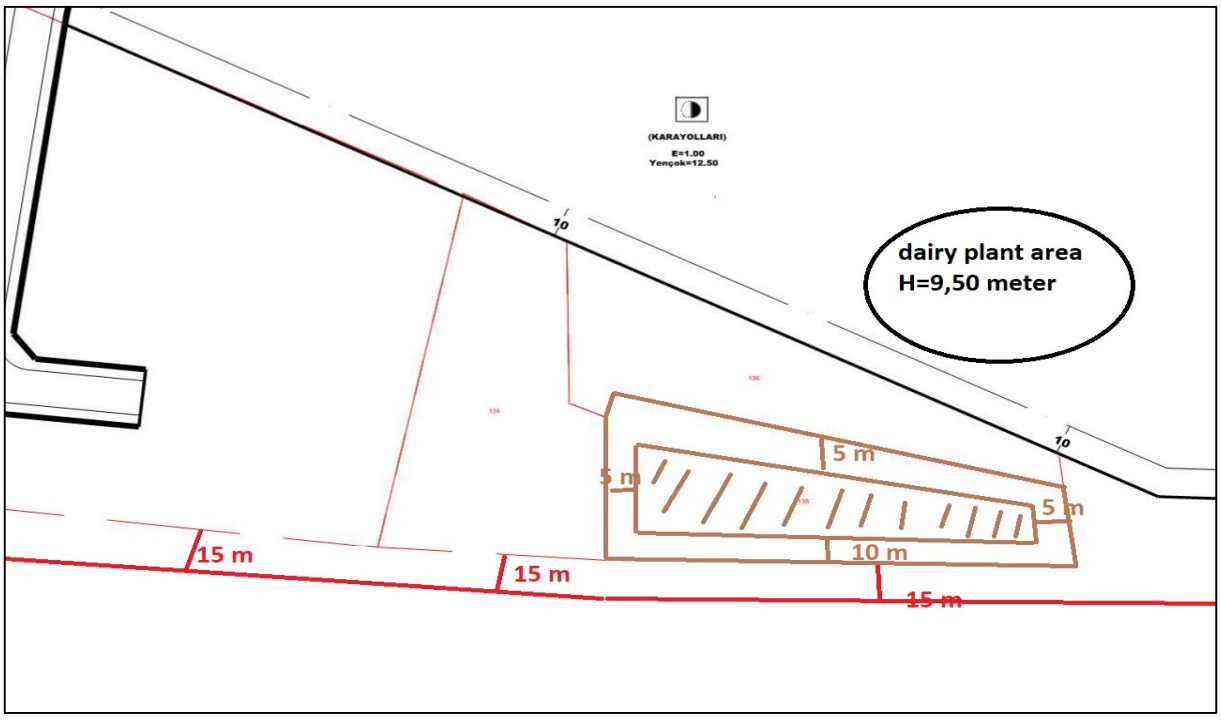

Figure 5. *Dairy Production Facility Parcel Layout Border Display*

According to regulating the unplanned areas, in terms of animal production continuity, in order to give the parcel located on a cadastral parcel for the formation of facility integrated buildings, 10 meters from the front of the 15-meter road and 5 meters from the neighboring parcels, and the interior shooting lengths are added as a vectorial end and beginning. has been created. It is understood that milk production facility buildings will be constructed up to a maximum of 9.50 meters. When the total interior area is determined as convex by adding the end and starting points of the interior drafting distances in a clockwise direction, only the integrated facility part is the percentage of the title deed area of the parcel before the shooting, while it cannot exceed 0.40 if it will be built together with the facility at home (Unplanned Area Zoning Regulation, 2021). After determining both the parcel edges and the post-drawing distances of a cadastral parcel, the closed area is determined by adding all the edges end-to-end with the X-Y coordinates.

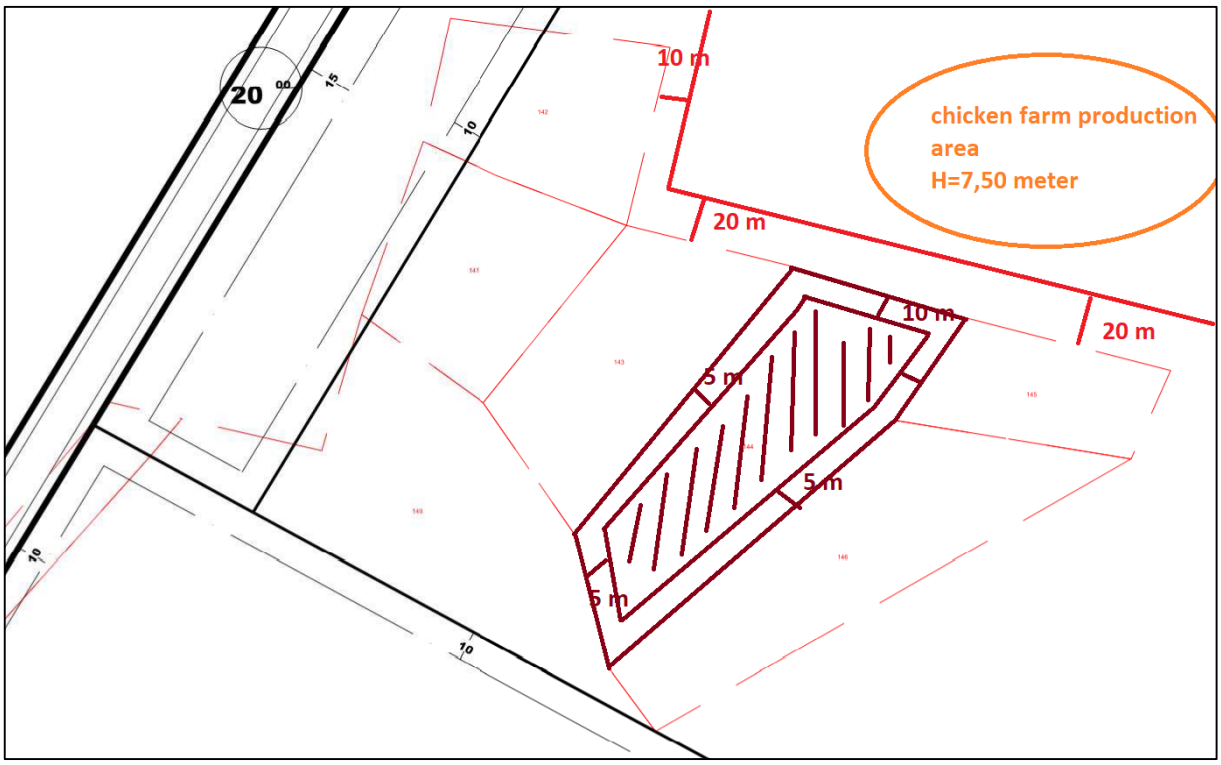

***Figure 6**. Chicken Production Facility Parcel Layout Border Display*

Chicken production facilities are also generally established in non-zoning areas. Therefore, if a building permit is to be given to a place in the determination of parcel boundaries, at least one frontal parcel boundary should face the road as in the others. Regardless of the height of the façade facing the 20-meter cadastral road, the integrated facility residence area is determined by drawing 5 meters from the adjacent parcel borders of the parcel, on the condition that 10 meters are withdrawn from the part called the front garden in the zoned areas. If the height of the integrated production facility structure is to be increased while the length closure is made on the field with end-to-end splicing, the opinion of the provincial directorate of agriculture is requested.

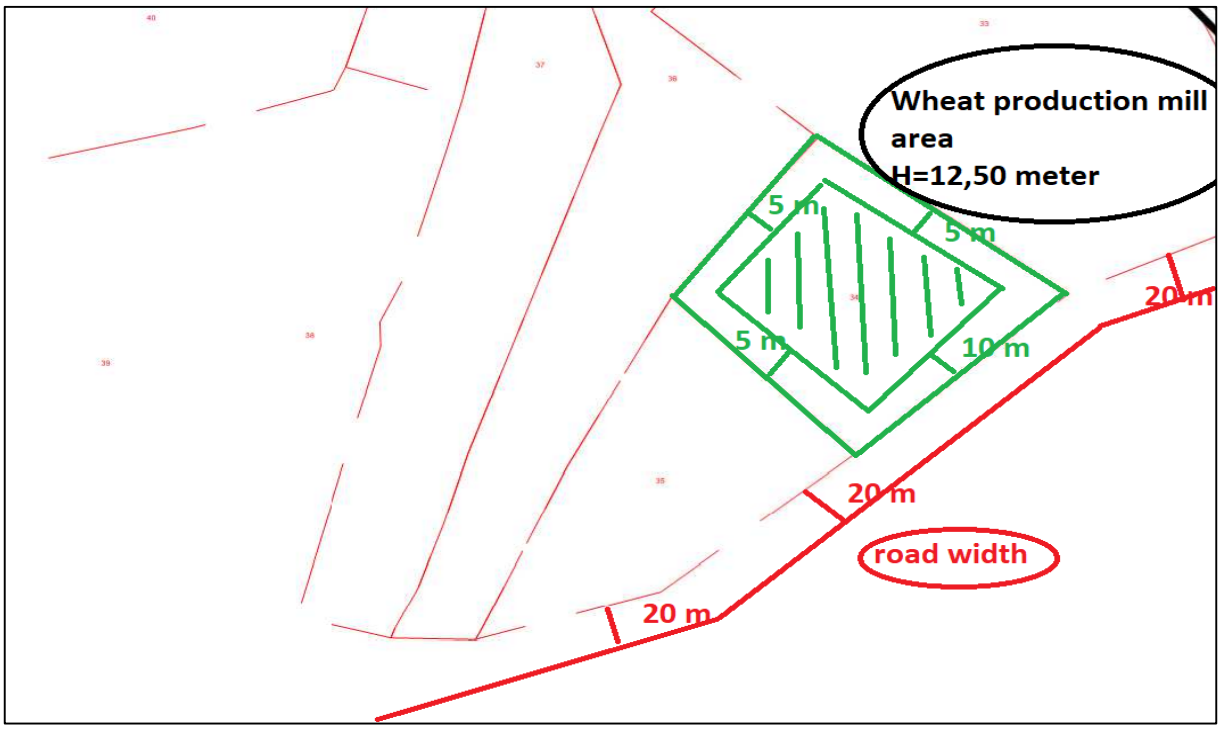

Figure 7. *Wheat Production Facility Parcel Layout Border Display*

Again, there are many cadastral areas in Turkey to meet the wheat need. Areas such as the processing and storage of the produced grains are needed. This time, the relevant area is located at a point that is not adjacent to the zoning boundary, but completely out of the adjacent area. According to the newly arranged regulation, if there is no road, this need for road cannot be met on the condition that it leaves its land. Therefore, the land owner must establish this business facility on a parcel with a cadastral road. Only in facility settlements, 10 meters are drawn. Otherwise, when it is desired to build a house in the nag garden area, this drawing size will be 5 meters. A convex area is formed by pulling 10 meters from the side of the plot facing the road, in the clockwise direction, immediately after the end of the length, by combining the other length initially, by pulling 5 meters from the neighboring plots. The establishment of facilities in this area is realized with the use of 5 percent title deed area based on 15.50 height. Here the method is vectorial. Because the situation plan is obtained by studying the length and angle. It is not scalar.

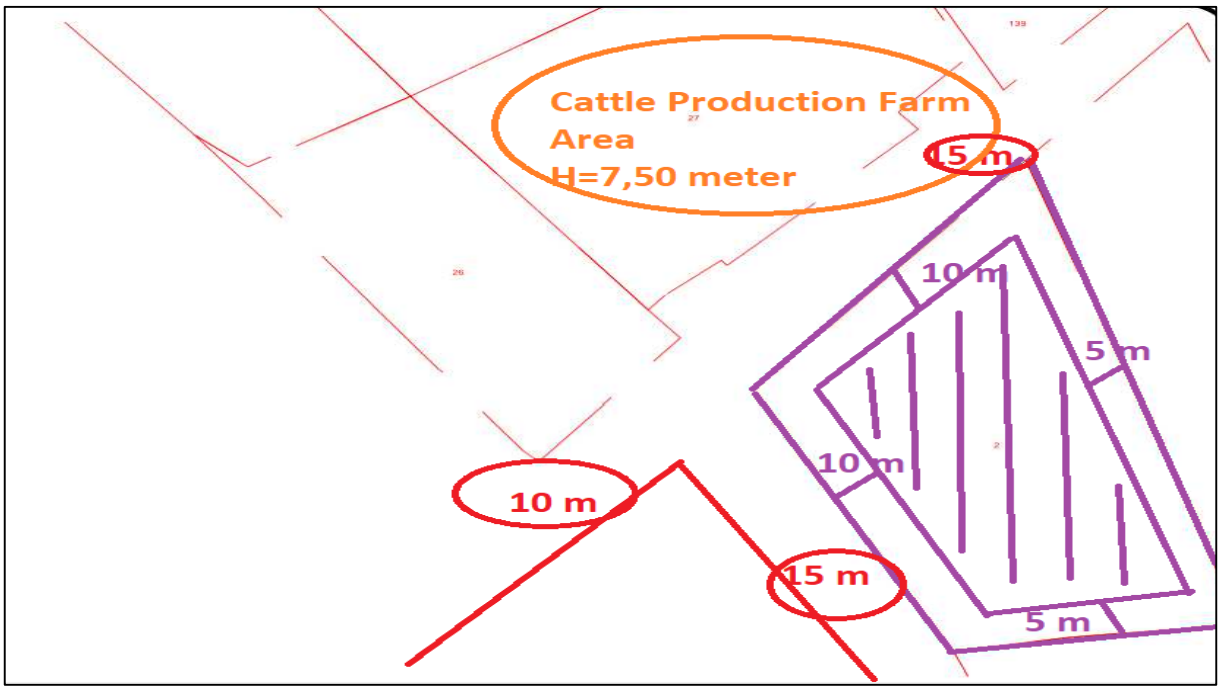

Figure 8. *Wheat Production Facility Parcel Layout Border Display*

In the plot display, the integrated facility area session, which will be established for cattle and beef cattle breeding, is shown by pulling 5 meters from the other neighboring plots at the speed of pulling from the parts facing the road 10 meters due to two roads on the double-sided parcel, that is, facing the cadastral road on both sides. Regardless of the width of the roads, the amount to be drawn from the front is the same. In addition, the facility height, which is shown as 7.50 meters, can be doubled according to the regulation with the application. Logically, the total length amount of the directions vectorally gives the final length amount.

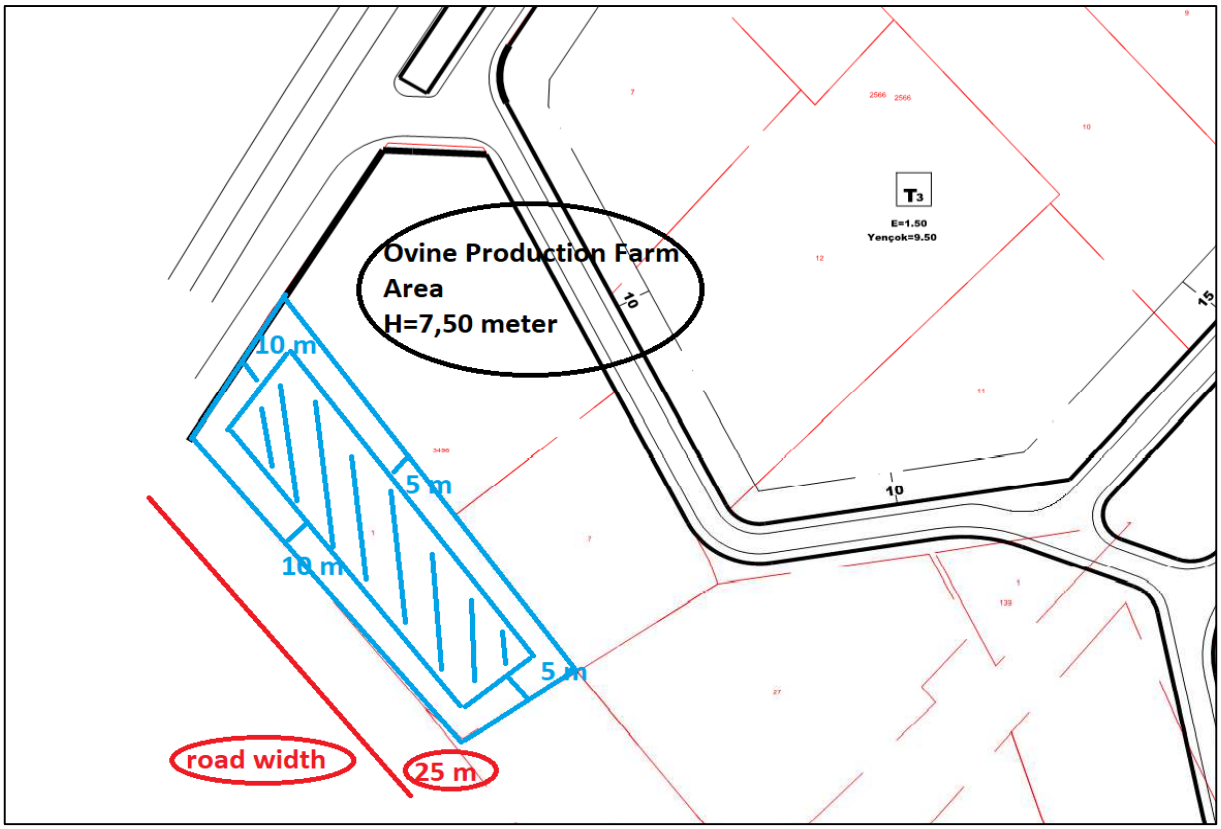

Figure 9*. Wheat Production Facility Parcel Layout Border Display*

The relevant parcel is a contiguous parcel. It is recognized from the image of a parcel close to a point with a development plan that this is contiguous. The facade, directed as a cadastral road from a parcel with a 25-meter road front, also takes its direction from the zoned road on the other hand. For this reason, the parcel residence area is removed by drawing 10 meters from the neighboring parcels in non-zoning areas by drawing 5 meters each. Considering the plot feature, it is understood that a small cattle facility will be established around 7.50 meters.

Table 1. *Ground sitting distance display of integrated facility production structures inside and outside the adjacent*

Fields	Front distance (m)	Side distance (m)	Rear distance (m)
Contiguous	10	5	5
Out of contiguous	10	5	5
Village Resident	5	3	Up to H
Outside the village	10	5	5
Vineyard garden area	5	3	3

In the table, while the integrated production facilities are determined in the vector, the minimum distance required to be drawn as the garden, that is, the approach limit, is shown. As can be seen from the examples, these approach measurements are generally taken as a basis in the animal and agricultural production facilities (Unplanned Area Zoning Regulation, 2021).

4. CONCLUSION AND RECOMMENDATION

One of the most effective factors in the development of a country is to provide continuity by supporting agricultural and animal production. Therefore, the most effective way to ensure this continuity is to determine the lands where the maximum yield will be obtained. It is very important to make these lands useful according to taxonomic classification with certain criteria. As we mentioned in the examples, if the number of people in an area is high, it is necessary to protect and create areas that will meet the nutritional needs of the people living in that area while making it zoned. With various survey evaluations, fertile lands should be protected for agricultural and animal production, and unqualified lands should be determined as zoned areas with infrastructure and superstructure works. In Türkiye, the areas located right next to the zoned areas are named contiguous on the basis of regulation. All of the mentioned production facilities are generally tried to be built on the lands at the zoned point so that transportation is convenient and time-cost effective. How and according to which criteria the facilities are built in these parcels are classified according to their classes. For the effective use of parcels in this way in sustainable agricultural and animal production, certain criteria have been brought to the separation or withdrawal distances, especially at points where there is no consolidation. In the study, it was examined how and in what way the gravity measurements would be added end-to-end with the vector method, and as a suggestion, in order to add end-to-end especially in parcels with no roads, in addition to the regulation, it should be included as an item to ensure the use of the land at points where land consolidation by leaving the parcel is not possible. stated to be true.

5. AUTHOR CONTRIBUTIONS

The related article belongs to Selim TAŞKAYA, responsible for all writing and data analysis.

6. CONFLICT OF INTEREST

There is no conflict of interest between the persons and institutions related to the publication.

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