

ASPECTS OF AGRICULTURAL LANDSCAPE AS A CULTURAL ASSET IN METROPOLITAN AREAS: CASE STUDY FOR BUCHAREST CITY

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Abstract. Typical for the last decades economical and social processes at metropolitan level induce new models of spatial organization characterized by extensive urban development. These extensive processes configure various components of the cultural landscape in different ways. Such development modifies the rural, agricultural and industrial landscapes and generates new landscape typologies modeled by interaction between urban and rural space. Diverse approaches of urban development have modified the territorial structure and also the way in which the territory visually and dynamically responds to external factors by transforming the main cultural features. In such a context, preservation of common agricultural landscape as a part of cultural landscape is becoming an important issue for the local development policies.

Keywords: urban sprawl, agricultural landscape, landscape transformation, territorial dynamic.

Introduction

Typical for the last decades socio-economical evolution induced in Bucharest city a dynamic spatial development which is affecting the nearby landscape. The study presents the main typologies of agricultural landscape identified in case of Bucharest metropolitan area, their evolution (referring to the transformations induced by different factors) and some potential measures for sustainable management of these transformations.

The study focuses mainly on agricultural landscape considered an important part of cultural landscape (due to its features related to productive activities, traditional practices and customs). Because of the multiple development and conversion pressures the agricultural landscape is considered to be one of the most vulnerable components of the cultural landscape, its existence being conditioned by agricultural practices and their development.

The on-going urbanization process and various models of spatial development (especially in the twentieth century) have extended the agricultural landscape problems to the entire rural territory (as common landscape) which is under pressure and at risk of urbanization. European cities have evolved differently, depending on local conditions and constraints, and intensive development due to geographical or urban constraints (such as hydro-geographical conditions, fortifications) or extensive development when such constraints have been almost nonexistent (Beaujeau-Garnier, Chabot 1963). The main spatial patterns of urban

development have influenced differently (both, qualitatively and quantitatively) the formation of agricultural landscape adjacent to urban centers (Popa 2011b).

Currently in Bucharest city, these models of development are interrelated in accordance with rapidly changing territorial and cultural factors (Popa 2011b). In this specific case, a model of urbanization and use of agricultural space is typical for a certain moment rather than being a typical development model. The final result constitutes the sum of induced changes on the landscape, simultaneously, through temporal and spatial overlap of interventions at different territorial scales (area, parcel, plot, etc.).

Approach to Agricultural Landscape as an Element of Cultural Landscape

Similar to the general landscape concept, the agricultural landscape can be defined in multiple ways, depending on the discipline. Agricultural landscape is related to a few components: it may be considered a productive environment which generates different sub-typologies depending on existing industrial activities within a territory; or the environment in which organisms can live and reproduce; or a cultural image, a medium of representation and symbolization of events through images (Daniels, Cosgrove 1994). The uniqueness of landscape experience for individuals or groups shows that all landscapes are cultural (Cosgrove

1994). Modern definitions of the landscape refer to its cultural sense: the landscape is the synthesis of space used as a collective space (Jackson 1984), or – as an extension of this definition – the space perceived by the population to whom it gives meaning and shape in accordance to their aims and objectives.

By extrapolating these definitions to the practice, it has resulted that agricultural landscape is directly related to the land use, and its approach should include two essential elements: the environmental dimension and symbolic dimension of agricultural landscape. Agricultural landscape concept refers to individuals and groups of individuals who perceive and use the landscape in different ways (production, consumption of landscape) and for various purposes. Any definition of agricultural landscape should refer to its symbols for different groups of individuals.

It is essential to treat the agricultural landscape, both as a main component of the countryside (as rural and cultural landscape system), and as a result of the natural interaction with socio-economic systems.

Systemic approach to agricultural landscape imposes on its research the synergic result of spatial factors (urban sprawl, land use) and non-spatial factors (socio-economic policy, environmental and rural development) materialized in various interventions at different scales (Fig. 1).

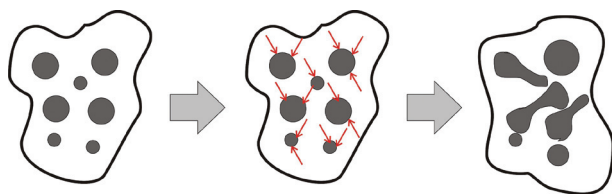


Fig. 1. Dynamic of agricultural landscape is a synergic result of interventions at different scales

In accordance with the definitions bellow agricultural landscape dynamic can be approached and studied as a result of temporal and spatial reorganization of the territory due to social and economic demand.

Main Driving Forces in Agricultural Landscape Dynamic

Main factors that influence and induce the dynamic of agricultural landscape are accessibility, globalization, urbanization, natural disasters (Antrop 2005), socio-cultural factors and development of existing administrative and political context. The study focuses mainly on urbanization and increased accessibility issues, by taking into account also that these two are influenced by the local legislation

and regulations, economical development and existing development policies (for each specific situation).

Increased urbanization is closely linked to increased territorial mobility (Antrop 2004) generating new modes of transportation and new development patterns. These two processes have decisively influenced the way in which the city developed and consumed the adjacent agricultural landscape. Continuous extension and diverse spatial development of European cities (and their metropolitan areas) extends agricultural landscape problems (seen as a part of cultural landscape) not just to the immediate area of interference between urban and rural space, but also at the territorial level, extra- and inter-urban.

The increased accessibility of some rural areas also accelerates the urbanization process and, thereby, the profound transformation of agricultural landscape. For example, the appearance of new urban areas scattered in the territory and without any functional relations with the core city, consumes and induces disappearance of agricultural landscape (for instance appearance of urban poles in rural areas due to communication corridors, hotels, commercial centers, productive areas, residential piles).

These new development tendencies of agricultural landscape (as a part of common cultural landscape) induce reduction of its historic features, economic, social and cultural value, thus generating loss of its identity and peculiarity.

Differences Between Rural and Metropolitan Agricultural Landscape. Features of the Case Study Area

In relation to location of agricultural landscape – in the areas eminently rural or nearby major cities, in the areas liable to urbanization – the dynamic differs depending on the degree of urbanization and human interventions, and opportunity to practice intensive production and intensity of existing relations between a polarizing center and adjacent territories.

If the main pressures of agricultural landscape in rural areas are materialized by changing its productive function (transformation of traditional crops, transformation of traditional plot as a result of intensive production), in cases of agricultural landscape adjacent to cities, its dynamic is mainly influenced by the degree of urbanization of the territory (communications, green-field development, urban sprawl). In this situation, the agricultural landscape is changed gradually (by fragmentation and reduction) representing a loss of rural, agricultural and cultural quality of this territory (Fig. 2).

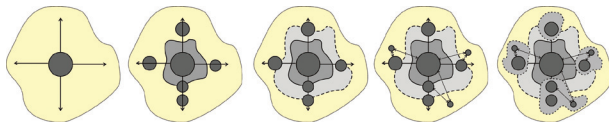


Fig. 2. Agricultural landscape dynamic in relation to urban development. 1-differentiation between urban and rural space; 2-suburbanization; 3-rurbanization; 4-polycentric development; 5-urban functional areas

In such transition area from urban to rural (metropolitan territory), agricultural landscape is exposed to more urban development pressures, thus is becoming fragmented and gradually loses its characteristics. In case of Romania, this transition territory is less regulated than the urban core (usually it is not under the city's jurisdiction, but is clearly affected by its existence). At the national level, agricultural landscape adjacent to cities have not changed its profile in the last two decades, but it is characterized by abandonment and decreased productivity (Fig. 3).

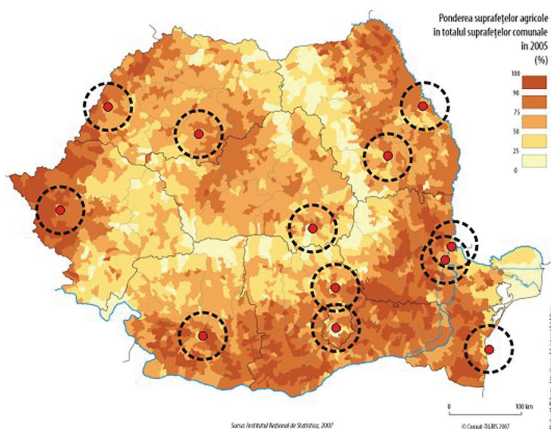


Fig. 3. Potential national metropolitan areas (30 km radius in accordance with the national legislation) with high percentage of agricultural land (2005), including the case of Bucharest (50%). As compared to 1990, the land use has not changed substantially, but the main differences consist in abandonment and decreased productivity

In accordance with the analysis concerning the territorial polarization for rural space, at this stage of development, only Bucharest and its metropolitan are subject to higher risk of transformation of agricultural landscape (Figs. 4 and 5).

In Romania, the management of agricultural areas adjacent to cities differentiate in accordance with the national legislation and administration of the territory: if the adjacent territory is administered by the neighboring villages (communes), lack of cooperation and inexistence of common development objectives can lead to increased fragmentation of agricultural land and even their disappearance

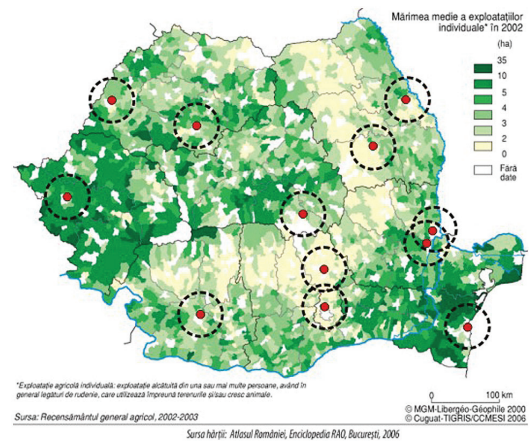


Fig. 4. Potential national metropolitan areas. Rural territory polarization is lower in most of the cities (except Bucharest)

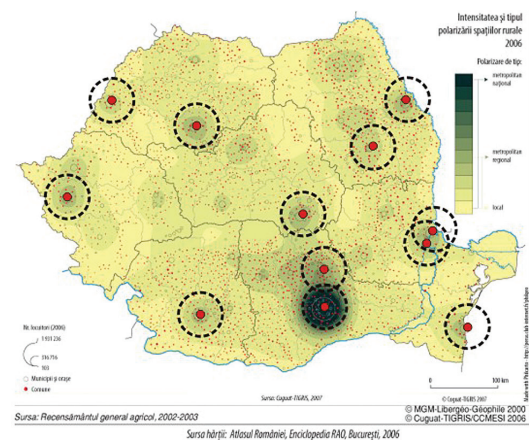


Fig. 5. Potential national metropolitan areas. The average farm size (2002). Especially on the Bucharest-Ploiesti axis, this size is less than 2 acres / farm - it indicates the increased conversion risk / associated loss of agricultural landscape (due to poor economic viability of these structures) and negative dynamic trends (fragmentation, disappearance and conversion of the agricultural landscape)

ance due to urban sprawl (in most cases characterized by scattered development); in cases where a part of this territory is administered by the neighboring villages and a part – by the city, lack of cooperation in the development policies can generate an alternation of rural (agricultural) areas into urbanized ones (this tendency leads to the spatial discontinuity of agricultural landscape); and, finally, if the adjacent territory is administered by the city, it can generate excessive urbanization (total disappearance of adjacent agricultural land).

At the national level, sustainable management of agricultural land adjacent to urban centers, through cooperation and common development policies, can provide opportunities for the cities to re-establish the territorial balance by preservation of land for agricultural- natural or recreational uses.

Agricultural Landscape Typologies in Bucharest Metropolitan Area

Due to existence of different urbanization patterns (Brunn, Williams 1983) in Bucharest city, agricultural landscape transformation is different in accordance with urban development type (linear, by area, satellite). The manner in which the urban space evolves influences the transformation of adjacent agri-cultural landscape: gradually and spatially balanced due to homogeneous development pressures; axial, due to linear development; or by area, associated to satellite development (Popa 2011b).

Within the last decades, in accordance with the Corine Land Cover, the Bucharest metropolitan area may be characterized by the obvious appearance of continuous urban areas resulting mostly in agricultural landscape consumption and fragmentation (Fig. 6).

Spatial transformations of (agricultural) landscape can be classified by five types: perforation (Fig. 7), division, fragmentation (Fig. 7), reduction and elimination as shown in Figure 8 (Forman 2006; Paolinelli 2004). These are defined in compliance with the severity of changes undergone by the landscape. These types are discussed as temporary states of landscape (past, successive), all leading to general fragmentation, as the extended concept indicating the degree of transformation of a landscape (agricultural).

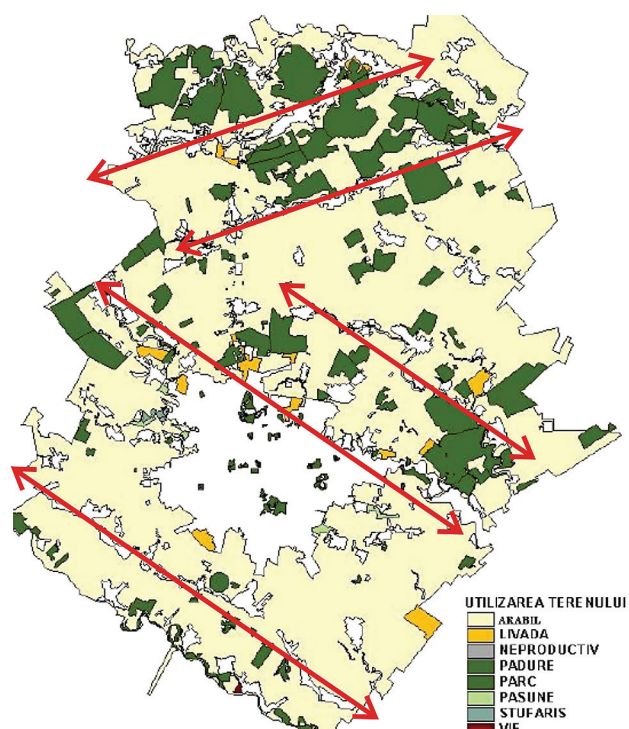


Fig. 6. Land use in Bucharest, the Ilfov area, according to Corine Land Cover. Trends for development of continuous urban areas and agricultural landscape fragmentation



Fig. 7. Landscape fragmentation and perforation nearby Bucharest



Fig. 8. Examples of reduction (interruptions of agricultural system) and elimination (profound urbanization) of agricultural landscape nearby Bucharest

Besides the segmentation of connections, the fragmentation of agricultural landscape represents the loss of territorial continuity. Thus, we can refer to two types of landscape fragmentation depending on the scale: a territory fragmented by dissolution (modification and segmentation of its features), and fragmentation by discontinuity (disruption of the agricultural landscape system, for instance, the appearance of urban elements without modifying the characteristic relations). This state of fragmentation through discontinuity can be a step towards becoming a generally fragmented agricultural landscape (de-structured) (Popa 2011b).

By extension of postmodernist discontinuity theories to the temporal approach of the process, we can identify certain states of landscape discontinuity over time. For example, the insignificant scale interventions such as change of local agricultural roads can generate a temporal discontinuity (temporal fragmentation) by reducing the historical features of the territory. Due to disappearance of representative and symbolic elements, this agricultural landscape can become unrecognizable from one historical stage to another. In general, such territory is threatened to lose its cultural features.

In the particular case of Bucharest area, the dynamic of nearby agricultural landscape is diverse, mainly influenced by development of communication corridors, urbanization pressures, territorial cooperation and relations established between administrative units (for example the development axis created between Bucharest and nearby smaller cities).

Homogeneous linear development is characterized by predominance of a certain type of urban function, densely developed, in which agricultural plots are merged (Fig. 9). The urbanized territory and the rural one are obviously different by scale and typology (this type of transformation is characteristic for large urban buildings: commercial boxes, industrial areas, recreational areas).

Heterogeneous linear development represents insertion of urban functions inside the agricultural landscape by mixing the two land uses (industrial activities, dwelling), which are developed mainly along a communication cor-

ridor (Fig. 9). In this case, agricultural landscape is totally changed, and a new (cultural or not) landscape appears. The urbanized area is in particular distinguished as a fragmentation element of the agricultural landscape.

Area development defines urban extension in spots with distinct functions; in this case the agricultural pattern is totally changed in the urbanized area (Fig. 9). The territory adjacent to this type of development is still perceived as predominantly agricultural, with punctual urban interventions.

Homogeneous dispersion is characterized by extended territorial development of mixed urban functions by inserting vast agricultural land (Fig. 9). Agricultural landscape is totally changed, with remaining agricultural parcels that are perceived as urban free (green) spaces. This state represents a total reduction of agricultural landscape and also creation of new landscape.

Territorial diffusion through territorial extension is characterized by a scattered urban development and continuity of systemic elements (for instance traditional communications and agricultural plots), as shown in Figure 9.

It is essential that these typical changes of landscape adjacent to Bucharest city would be considered and addressed as transient, continuously evolving under the impulse of urban elements. The degree of human intervention in a territory reflects the degree of landscape change and by overlapping with forecast patterns of urbanization, future states of the urban-agricultural system can be predicted.

Taking into account that landscape system in general (and agricultural system as its element) is an open dynamic system under the influence of various external forces, a viable preservation and valuation policy should be applicable (through various strategic instruments and options) to the unpredicted urbanization trends. For example, in accordance with the territory development tendencies (sprawl, scattered, axial, abandonment, etc.) the financial and landscape quality goals (preservation, re-qualification, valuation, re-utilization etc.) should be adapted for every situation that can appear (as temporary stage of development at different scales and locations).



Fig. 9. Typologies of agricultural land consumption in Bucharest's metropolitan area

Conclusions

1. Even understood as a common productive territory or a land resource for development, the agricultural landscape, due to its features, historical presence and evolution, represents a large part of cultural landscape attesting to the territory formation, as it is perceived and used by population.
2. The impact of urban development can be ecological, visual and socio-cultural, also inducing certain changes in traditional occupations, territorial mobility, perception and significance of agricultural landscape, as well as by extension the cultural landscape itself. Urbanization (including all related processes) is affecting not only common agricultural landscape by its consumption and transformation, but also cultural landscape (due to its impact on local agricultural features and productive traditions).
3. The typologies of urban sprawl in Bucharest metropolitan area influence differently the formation of agricultural landscape: a gradual and balanced space due to uniform development pressure; linear transformations due to the rise of elements generating linear development, area development associated to polycentric development (Popa 2011a). All these types of resulting landscape constitute temporary states of the landscape system (Popa 2011b). At metropolitan level, all these features tend to become homogenous, materialized in urbanization corridors, in which landscape is totally transformed, past heritage of agricultural landscape being overlapped with an urban pattern.
4. Due to the mixed evolution of urban development patterns, agricultural landscape metamorphosis is unequal and can be perceived as a result of different temporary and spatial transformations. This evolution modifies different cultural features of the territory by mixing urban characteristics with rural traditions and practices (Popa 2011a).
5. Agricultural landscape dynamics can be addressed as a synergic result of extensive and punctual territorial interventions, which are manifested at different scales of landscape (Popa 2011b). The effect of punctual interventions has noticeable effect only after some time on the macro-scale landscape and thus can be interpreted as non-structural action in the territory, while on the mid- or micro-landscape scale these interventions can have immediate effects, systemic and perceptive, thus interpreted as structural measures (as shown in the Bucharest area in case of punctual landscape transformation, which is materialized through urbanized corridors with mixed agricultural and urban pattern in territorial profile).
6. Landscape impact assessment should also take into account the disturbance caused to the local systems (agricultural, environmental, etc.) as elements of cultural landscape system. For instance, the impact on agricultural landscape (micro- or macro-scale) results in combining elements related to the type of such interventions, such as scale, gravity, extension, repeatability, and their expression (scalar, temporal, spatial, functional, etc.) all affecting the cultural features of a territory.
7. Spatial morphology can be interpreted in correlation with socio-economic indicators, in order to assess and forecast the dynamic of agricultural landscape, and by extension of certain components of cultural landscape.
8. Measures and instruments proposed to preserve and value a territory (cultural, rural or agricultural) should be applicable to its development by taking into account collective perception, socio-economic demands and their role and vocation within the urban- rural system.
9. In Romanian case, the sustainable management of agricultural land adjacent to urban centers implemented through cooperation and common development objectives can provide opportunities for cities to reestablish the territorial balance and enhance their cultural features by preservation of common landscape (land for agricultural, natural or recreational uses (Gallent *et al.* 2006).

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AGROKULTŪRINIO KRAŠTOVAIZDŽIO KAIP DIDMIESČIO KULTŪRINIO TURTO ASPEKTAI: BUKAREŠTO MIESTO STUDIJA

A. Popa

Santrauka

Pastaraisiais dešimtmečiais didmiesčiuose vykstantys ekonominiai ir socialiniai procesai skatina naujus erdvių planavimo modelius, būdingus ekstensyviai urbanistinei plėtrai. Su plėtra susiję procesai skirtingais būdais konfigūruoja įvairius kultūrinio kraštovaizdžio komponentus. Ši plėtra keičia kaimo, agrokultūrinį ar produktyvųjį kraštovaizdį ir sukuria naujus kraštovaizdžio tipus, modeliuojamus esant kaimo ir miesto erdvių sąveikai. Įvairūs požiūriai į urbanistinę plėtrą pakeitė teritorinę struktūrą, vizualią ir dinamišką teritorijos reakciją į išorės veiksnį pagal pasikeitusius esminius kultūros požymius. Šiame kontekste įprasto agrokultūrinio kraštovaizdžio kaip dalies kultūrinio kraštovaizdžio išsaugojimas tampa opiu vietinės plėtros politikos klausimu.

Reikšminiai žodžiai: urbanistinė plėtra, agrokultūrinis kraštovaizdis, kraštovaizdžio pokyčiai, teritorijų dinamiškumas.