Saja KOSANOVIĆ, Alenka FIKFAK and Svetislav G. POPOVIĆ

AGRARIAN LANDSCAPE BETWEEN TRANSITION AND SUSTAINABILITY - GRAČANICA AREA CASE STUDY

ABSTRACT

During the past two decades, the area of Kosovo and Metohija has been subjected to extensive changes which can be studied through various layers of complex transition process and its outcomes. The emergence of new zones of rural settlements accounts for one of the major spatial results of the overall societal transition. In every of these administrative units – Štrpce, Ranilug, Gračanica and others, thorough spatial transformations continuously appear since the beginning of the transition process, to arrive to the point where sustainability of agrarian landscape is brought into question.

By focusing the research on causal relations and on specific case example – the area of Gračanica, this paper studies the evolution of transition and concurrently investigates and defines its impacts on agrarian landscape. Multi-layered space-time analysis has shown that the agrarian landscape of Gračanica currently rests on the borderline between sustainability and unsustainability. Since the beginning of the transition process, Gračanica landscape has been exposed to different physical, ecological, economic and socio-cultural pressures which contravene its value and qualities. The main current threats to the sustainability are found in development plans, erratic constructional and agricultural practice, environmental conditions, overall development, and inflow of capital which stimulates non-agricultural development and simultaneously causes multilayered loss of value of the most fertile agricultural land. Agrarian landscape of Gračanica area, as an absolute natural and cultural heritage, needs systemic preservation measures.

Keywords: agricultural land, Gračanica rural area, spatial transformations, sustainability versus transition, preservation, visual landscape

INTRODUCTION

In rural areas, the land has ultimate ecological, social and cultural value. In agrarian landscape, the need to study nature and culture together is evident (Palang et al. 2006). "The patterns humans impose on the earth, purposefully as well as inadvertently, through land-use change are fundamental determinants of

---

1 Saja Kosanović (corresponding author: saja.kosanovic@pr.ac.rs), University of Priština settled in Kosovska Mitrovica, Faculty of Technical Sciences, Department of Architecture, 7 Kneza Miloša Street, 38220 Kosovska Mitrovica; Alenka Fikfak, University of Ljubljana, Faculty of Architecture, 12 Zoisova Street, 1000 Ljubljana; Svetislav G. Popović, University of Montenegro, Faculty of Architecture, Džordža Vašingtona Street bb, 81000 Podgorica.

Note: The authors declare that they have no conflicts of interest. Authorship Form signed online.
local, regional, and global ecological processes that ultimately influence the sustainability of both biological and cultural landscapes, and thus human quality of life.” (Redman, 2008: 3) The changes in agrarian landscape, that are provoked by major shift in overall circumstances (such as the large-scale social conflicts), at beginning represent an informal response to newly emerged conditions. The first phase of post-conflict spatial transformations is usually followed by unorganised, uncontrolled development, illegal occupation of free agricultural land and its random utilization for construction. In later phases, spatial changes gradually become organised and planned, even though the alterations that were previously introduced often remain forever present, dictating the course of further development and impacting further transformation of the agrarian landscape in physical, ecological, socio-cultural and economic terms.

Over the past two decades, predominantly rural landscape of Kosovo and Metohija underwent significant spatial transformations because of the migratory flows, population displacement, damaged built stock, defeated multiculturalism and numerous economic implications. Major ethnic division caused spatial rebordering and reordering; in overall terms, this referred, inter alia, to the formation of enclaves. Every of these newly emerged rural entities nowadays is faced with various challenges from inside and outside that impact the achievement of sustainability and resilience, with particular regard to agricultural landscape loss, fragmentation, transformation, isolation, vulnerability and pollution.

In the transition process initiated by 'geography of division' and 'demographic shifts' (Murtagh, 1998) and later followed by (sub)urbanisation, the agrarian landscape of Gračanica area in the central part of Kosovo and Metohija has been subjected to different rapid changes and their consequences. By focusing the research on causal relations, this paper studies physical, ecological, economic and socio-cultural impacts of transition on Gračanica agrarian landscape and concurrently evaluates the sustainability of subject rural area.

**MATERIALS AND METHODS**

**Study area**

Until the end of the last century, Gračanica was a single village located 8 km away from the town of Priština, separated from the urban tissue by a sloppy void. In social terms, the village was a city satellite; in administrative, a unit under the governance of the Municipality of Priština; in spatial and agricultural terms, Gračanica was a rural settlement with households active in keeping the livestock or, more often, growing the crops. Because of the arrival of a part of population from Priština and surrounding rural settlements, the relocation of existing public institutions, as well as the establishment of seats of international peacekeeping and non-governmental organisations in nearby Priština, the population of Gračanica started to increase since 1999. During the following years, the settlement has been transformed gradually into the centre for basic need satisfaction (health and administrative service provision, education, culture,
At the same time, spatial conditions in Gračanica surroundings also were changing, to finally get to the present point of deep spatial interfering and blurred edge determinants.

With the administrative reorganisation, Gračanica area became in 2009 the separate municipality, and Gračanica village became centre to 16 cadastre zones: Badovac, Batuse, Čaglavica, Dobrotin, Gračanica, Donja Gušterica, Gornja Gušterica, Laplje Selo, Lepina, Livade, Preoce, Skulanevo, Sušica, Suvi Do, Radevo i Ugljare. The Municipality encompasses the territory of 122.25 km² with about 25,000 inhabitants, and borders with the Municipality of Priština on the north, the Municipality of Lipljan on the south, and with the Municipality of Kosovo Polje on the west. (Figure 1)

Figure 1. Gračanica Municipality: orthophoto image (left) and belonging cadastre zones (right) (Image source: geoportal.rks.gov.net)

The settlements of Gračanica area are rural, with predominant irregular layout and compact form which was kept from the period of their foundation (Urošević, 1965). The largest number of settlements is set on plain terrain, while few are developed on the undulating terrain on the edge of Kosovo Valley. Terrain morphology has allowed for the formation of the typical rectangular shape of agricultural parcels and the typical spatial organisation of the settlements, with the residential part in the centre and the agricultural production part around it (Figures 2a, 2b and 2c).

Gračanica area has favourable climatic conditions and high-quality cultivable soil of the first or second category. The land is mainly used for cultivating crops - wheat, barley, maize and sunflower. Vegetable gardens and orchards are commonly found within residential plots. Livestock breeding is sporadically present, as well as the beekeeping, mushroom farming, and production of spices and herbs.
First mention: demography tracks from XIX century (Urošević, 1965); Pattern: village; Form: cluster; Layout: overall irregular; Development stage: rural; Terrain: plain; Cadastre zone: Badovac; Households: 571; Agrarian landscape: crop fields
GRAČANICA

First mention: 1321; Pattern: central settlement; Form: cluster with linear branch expansion; Layout: irregular; Development stage: suburbanization/urbanization; Terrain: plain; Cadastre zone: Gračanica; Households: 915; Agrarian landscape: crop fields

LAPLJE SELO

First mention: VIIX century (Urošević, 2009); Pattern: village; Form: cluster; Layout: irregular; Development stage: rural + suburbanization; Terrain: plain; Cadastre zone: Laplje Selo; Households: 343; Agrarian landscape: crop fields

LEPINA

First mention: demography track from Middle Ages (Urošević, 1965); Pattern: village; Form: cluster type; Layout: irregular; Development stage: rural; Terrain: plain; Cadastre zone: Lepina; Households: 83; Agrarian landscape: crop fields

LIVADE

First mention: Middle Ages (Πλαδαδε) (Urošević, 2009); Pattern: village; Form: cluster; Layout: regular organization along irregular branched road matrix; Development stage: rural; Terrain: plain; Cadastre zone: Livade; Households: 159; Agrarian landscape: crop fields, meadows

MARIGONA RESIDENCE

First mention: New development (undergoing finalization); Pattern: settlement; Form: elongated grid; Layout: regular; Development stage: urbanization; Terrain: plain; Cadastre zone: Prcanj; Households: n/a; Agrarian landscape: -

NOVI BADOVAC

First mention: 1991 (formed after immersion of village Badovac); Pattern: hamlet; Form: cluster; Layout: regular; Development stage: suburbanization; Terrain: slightly undulating; Cadastre zone: Gračanica/Sušica; Households: n/a; Agrarian landscape: -

Figure 2b. The characteristics of Gračanica settlements: Gračanica, Laplje Selo, Lepina, Livade, Marigona Residence and Novi Badovac
Figure 2c. The characteristics of Gračanica settlements: Preoce, Radevo, Skulanovo, Sušica, Suvi Do and Ugjlare
The area of Gračanica contains abundant built heritage, displaying different layers of history and carrying significant cultural value (Figure 3):
- archaeological site of Roman cultural and administrative centre Municipum Ulpiana Splendissima, i.e. the renewed Byzantine town Iustiniana Secunda, from the 6th century AD;
- Gračanica Monastery, built in 1321 on foundations of the Byzantine basilica from the 6th century AD as the last of 42 endowments of King Milutin. Ever since, the monastery represented an important educational, religious and cultural centre in the region and kept this role until the present day. The monastery church and the overall complex, with its paramount architectural value, are inscribed in UNESCO List of World Heritage in Danger in 2006;
- sacral architectural objects: Church of Sveti Dimitrije in Dobrotin (1855); Church of Sveta Nedelja in Batuse (1864); Church of Knez Lazar in Donja Gušterica (1905); Church of Sveti Grigorije Bogoslov in Livade (1935); Church of Sveta Petka in Laplje Selo (1938), and others;
- traditional housing units from the 19th and the early 20th centuries;
- monuments and memorial houses from the First (WWI) and the Second World War (WWII);
- newly built monuments, churches and art installations with cultural value.
The agrarian landscape of Gračanica, distinguishing by its visual uninterruptedness and spatial continuity, represents the outmost natural and cultural value of the area. (Figure 4)

Figure 4. Agrarian landscape of Gračanica: Suvi Do Cadastre zone (top left); Laplje Selo cadastre zone (top right); Batuse cadastre zone (bottom left); Gračanica cadastre zone (bottom right)

Research methodology

Redman (2008: 15) wrote that, in order "to understand the richness, diversity, and complexity of agrarian landscapes and their transformations, we must monitor them at varying spatial and temporal scales, and place them in a context of former cycles of change, human perception of the land and lifeways, and the emergence of institutions associated with natural resources."

The first step of the research - identification of research problem, subject and study area is based on in-situ detection of a significant spatial phenomenon that previously hasn't been studied scientifically (to-date, Vöckler [2008] remains as the only author who profoundly investigated transition-related spatial transformations in the region, although from the urban growth aspect). Detailed description of the case study area, necessary for the understanding of its traditional characteristics, value, current undergoing changes and their reflective implications, is the result of the analysis of all cadastre zones and included settlements. The settlements in Gračanica area (Figures 2a, 2b and 2c) were investigated based on their pattern, form, layout, development stage, location in space, and agrarian landscape (Fikfak, Popović and Kosanović, 2015). The core research work relates to the study of space-time transformations of Gračanica agrarian landscape, by implementing the following research methods:
- analysis, comparison and interpretation of recent historical and actual remote sensed data (satellite imagery, aerial photography and orthophoto);
- field visits and photographing - sensing in-situ, with the legitimate use of “holistic ability of human perception to recognize patterns” (Antrop and Van Eetvelde, 2000: 47) and of “linguistic models for interpreting landscapes” (Claval, 2005: 9);
- overview and analysis of statistical data, regulatory/development plans and policies, ecological studies and impacts, and relevant international published literature.

RESULTS AND DISCUSSION

The study has shown that transition process had and still has significant impacts on the agricultural landscape of Gračanica area. According to the sustainability aspects, these impacts can be classified as: physical, ecological, economic and socio-cultural.

Physical impact

The analysis of spatial transformations occurring since the beginning of the present century shows that there is a growing pressure on Gračanica spatial boundaries and its belonging agricultural land, because of the expansion of surrounding urban and suburban areas of Priština, Kosovo Polje and partially Lipljan municipalities.

Cadastre zones Gračanica (Figure 5), Čaglavica (Figure 5) and Ugljare (Figure 6) to-date have been significantly affected by urban growth and formation of urban-rural fringe.

Figure 5. Spatial transformations on triple boundary between Priština, Gračanica and Čaglavica – state on 09.05.2003. (left) and 22.03.2014. (right) (Image source: Google Earth)
On the other hand, the conversion of agricultural land into residential or business purposes also occurs in the inner part of Gračanica zone (Figures 7 and 8). These new spatial formations (such as Marigona Residence development, Figures 7 and 8) - isolated urbanised areas developed in the middle of agrarian landscape, can be classified as a less frequent type of remote urban-rural fringe sections lying in deeper rural hinterlands of Gračanica zone and actually belonging to the central city of Priština.

Traffic infrastructure development (highway, bypasses and other roads) in past years has attracted new content, again on account of agricultural land. With the new road net, the fragmentation of rural landscape deepens (Figures 6 and 7), ecological flows are disrupted, transport journeys maximise and car dependence enlarges, all of which, as Raco (2007) notes, represent the features of unsustainable communities.

Figure 6. Spatial transformations on the boundary between Kosovo Polje and Ugljare – state on 09.05.2003. (left) and 30.01.2016. (right) (Image source: Google Earth)

Figure 7. Boundary between Laplje Selo and Preoce cadastre zones on 09.05.2003. (left), 19.08.2010. (middle) and 30.01.2016. (right), with the emergence of Marigona Residence development (Image source: Google Earth)
Ecological impact

Almost two decades long transition neglected environmental quality; instead, the priority has been given to the conversion of agricultural land into developed purposes, urbanisation and suburbanisation, all of which are ecologically aggressive processes. The inability to support growing demands with the municipal systems, inadequate wastewater and solid waste management, the lack of public transportation, as well as the uncontrolled use of the pesticides in agricultural production resulted with the pollution and degradation of agricultural land. Wastewater generated throughout the Municipality ends either in permeable septic tanks and further in underground water flows, or in streams and rivers, without any prior filtering or purification. Inadequate (and mainly illegal) municipal landfills for unseparated waste disposal and the two tailing ponds of the mines that worked in the past (in Gračanica and Badovac cadastre zones) pollute in sequence all three natural elements – water, air and soil. Even though the area of Gračanica has abundant water resources, their pollution is high; rivers Gračanka, Sitnica, Prištevka, Janjevka and Žegovka with their seriously compromised ecological quality carry high risks to surrounding agricultural soil pollution, especially in the periods of abundant rainfall leading to agricultural land flooding.

Economic impact

Agricultural soil pollution and loss, outdated methods of crops growing and aggravated access to agricultural products market (Rikalo, 2011) lead to the decrease in production competitiveness and, taking into consideration long-
lasting presence of restricted factors, carry the risk to agricultural production abandonment.

**Socio-cultural impact**

Imposed changes bring to the forefront the question on how people perceive Gračanica agrarian landscape in transition. With the insertion of new materialised artefacts, such as buildings, developments, roads, and other (Figures 5-8), the wholeness of the visual landscape has been disrupted and new scenery with universal visual patterns has been introduced (such as ribbon-building along the roads, industrial corridors, inner and outer urban-rural fringe and other), causing the difficulties in landscape reading and the loss of its authentic value — continual plain crop fields and compact villages with low rise unobtrusive structures. Gračanica's cultural heritage is fused with the agrarian landscape; because of the introduced spatial changes, its significance is impacted.

**Discussion**

Redman (2008) conceptualised the cycle of agrarian transformation affecting landscapes, of altered landscapes affecting ecological processes, of both influencing the ways in which humans monitor and respond to their surroundings, and of human responses endangering further cycles of change. For Antrop and Van Eetvelde (2000: 45), landscape is dynamic and in continuous transition, not only by natural processes, but also by changing economical needs and cultural values. However, major social conflict and its outcome have led to the emergence of the 'surprise' (Redman, 2008) in the cycle of agrarian transformation, i.e. to the initiation of accelerated shifts in Gračanica agrarian landscape.

The study has shown that the threats to sustainability of agricultural landscape of Gračanica area are laid in development plans, erratic construction and agricultural practice, weak environmental conditions, poor overall development, and capital inflows, which stimulates non-agricultural development and simultaneously causes multilayered loss of value of the most fertile agricultural land.

According to the adopted development plan for the period 2014-2029, Gračanica Municipality is located in the 'Blue Zone' intended for economic growth of Priština. The plan foresees significant future transformation, i.e. the urbanization of Gračanica rural zone on account of valuable and high-quality agricultural land, which is primarily reflected through the development of new transportation networks/corridors and splitting of agricultural entirety into smaller segments by inserting business and industrial intermediate zones, to the point where edge cadastre zones - Suvi Do, Skulanevo, Lepina, Batuse and Radevo are under the risk of being cut-off from the rest of Gračanica agricultural entirety. It is very likely that these changes will trigger new ecosystems disruption and boost the pollution brought by urbanization. The Development Plan for Gračanica (2013) carries the risk of future agricultural land fragmentation also because it foresees the development for larger than realistic population size. At the same time, this document omits smart land use and
precious agricultural land preservation, even that it offers a series of measures for agricultural production enhancement.

Although Priština tends to extend, it does not tend to explode, even if the two phenomena, as Dickinson (1967) explained, go together in different geographical settings. Hence, justification of the penetration of the city into agriculture land is weak, which is adding credibility to agricultural land preservation. The formation of the so-called 'urban-rural fringe' (Pryor, 1969) on the boundaries between Gračanica and adjacent municipalities will likely lead to new spatial transformations, as "an important issue in the urban-rural fringe is the rapid pace of change" (Weaver and Lawton, 2001: 440). "The landscapes created by the transformation of the countryside around urban centres // are considered highly dynamic, but remain poorly understood." (Antrop and Van Eetvelde, 2000: 45) Despite the scenario of centric growth of existing settlements in Gračanica area, foreseen by the Development plan of Gračanica Municipality 2014-2029, it is also possible, according to present trends, that easily accessible greenfield areas will become locations for housing construction and for people in active liberal professions, and others, so that "distinctly urban programmes and forms of built patterns also move to rural areas" (Fikfak, Popović and Kosanović, 2015: 320).

Any future development without adequate infrastructural support and environmental protection measures implementation unavoidably will raise new threats to agricultural land sustainability.

Murtagh (1998) noted that the size of the community is vital in its ability to sustain itself in highly contested space. To preserve the agricultural landscape of Gračanica area means to secure the survival of its inhabitants, which, for the region with high unemployment rate and low income, accounts for the highest priority. "...A sustainable place is one in which employment, mixed housing and social facilities are co-present and available to a range of socio-economic groups. It is populated by sustainable citizens who are politically, socially and economically active and self-reliant. They are 'nondependent' on the state, and provide for themselves through private-sector (market) provision." (Raco, 2007: 306-307) "...Under the precarious conditions that characterise rural survival in many low income countries, diversification has positive attributes for livelihood security that outweigh negative connotations it may possess. Policy should facilitate rather than inhibit diversity. Diverse rural livelihoods are less vulnerable than undiversified ones." (Ellis, 2000: 289) In wider sense, "the linkages between community relations, conflict resolution and area planning is a major agenda for exploration in the formulation of relevant and genuinely sustainable local development strategies" (Murtagh, 1998: 230).

The preservation of rural landscape "fits in the framework of the protection of cultural and natural heritage" (Antrop, 2006: 188). Palang et al. observe landscape is an instrument, "because even today people have more of an emotional attachment to it than they have to a formal region or to nature as such" (Palang et al. 2006: 354). The sense of self, created by adopting ready-made
identities through historical association and tradition (Saar and Palang, 2009), is impacted with altered narratives of the place. When the bond between the individual and the place in transformed cultural circumstances is weakened, it potentially impacts identity-feeling and attachment to the place, and puts into question social sustainability of the area, especially when taking into account the fact that Gračanica's spatial changes, for the most part, occur without the involvement of local population. The struggle between a landscape that signifies possibilities for better economic wealth for the insiders, and a landscape that provides possibilities for amenities and power play for the outsiders, described by Palang et al. (2006), thus is valid for Gračanica area as well.

Future research
Research results pave the road to future detailed investigation of the impact of transition process on the most jeopardized cadastre zones of the Municipality of Gračanica, in terms of agrarian landscape loss, fragmentation, pollution and degradation and the transformation of its meaning, as well as of the possibilities for agricultural landscape preservation from the current standpoint.

CONCLUSIONS
The research has shown that the transition process caused major changes in the agrarian landscape of Gračanica area by impacting all dimensions of its sustainability - physical, ecological, economical and socio-cultural. The analyses of transition trends and of current state indicate that the changes in agrarian landscape of Gračanica are still taking effects, and that their outcome is uncertain to the point of doubt that Gračanica area is capable to sustain itself as autonomous rural unit. Clearly, the agrarian landscape of Gračanica area, as an absolute natural and cultural heritage, needs systemic preservation measures.

REFERENCES


The Portal of Gračanica Municipality (available at kk.rks-gov.net/gracanice)


