The article discusses revitalization potential of Baranya's planned settlements. Their revitalization potential is defined through spatial features, the hierarchy of social relations, function analysis and the specifics of individual settlements' locations. The survey covers the area of the Croatian part of Baranya, while the research timeframe is determined by the origins of described economic and residential communities in the early 19th century, rapid depopulation of the settlements in the mid 20th century and the present situation. Historical and descriptive analysis shows the context of the emergence of these settlements as well as an example of a settlement that is currently going through a social and architectural revival.

Keywords: architectural heritage, Baranya, planned settlements, revitalization, Zlatna Greda

1 Introduction

The article discusses the revitalization potential of planned settlements in the Baranya region, through their physical features, the hierarchy of social relations, the function analysis, the specificities of individual planned settlements' localities and possible network complementarities.

The observed area includes the Croatian part of Baranya, defined by natural river lines, the Drava and the Danube streams, and administrative land border between Croatia and Hungary. The research timeframe is determined by the origin of economic and residential communities in the early 19th century, the rapid depopulation of the settlements in the sixties of the 20th century and focuses on the present situation as well.

The paper seeks to integrate demo-geographical facts and spatial characteristics of the planned settlements - the analysis of the geometry of space, number and size of settlements, with emphasis on starting timelines, peak and stagnation (or disappearance) and the current situation. A historical and descriptive analysis shows the context of the emergence of these settlements while also presenting the example of Zlatna Greda settlement, which is currently experiencing revitalization. Data were collected from statistical and other secondary publications.

2 Natural-geographical determinants of Baranya

The Croatian part of the Baranya area, 1149 km², is defined by natural boundaries: the Danube in the east (with Serbia), the Drava to the south and southwest, and administrative northern and north-western border with Hungary.

Baranya belongs to the Danube (two thirds) and the Drava river basins. Consistency of climate is the result of small differences in elevation within the area where the highest peak is 273 m above sea level and extends diagonally along Baranya Highlands – Bansa Kosa – from southwest to northeast. This relief expressiveness introduces number of elements into the Baranya area to which the space has diversified (binding settlements to the space of lowlands and highlands contact, an area suitable for vineyards, orchards) within a homogeneous plain.

Croatian part of Baranya is a part of a larger historical and geographical unit called Baranya, extending to the north, into Hungary (80 % of Baranya's territory is in Hungary). Dividing the County of Baranya into the Croatian and Hungarian part was determined by the Trianon peace in 1920.

2.1 Population and settlements

According to the 2001 census, 42 633 inhabitants live in Baranya [1]. Administratively-territorially, Baranya is divided into nine local government units: eight municipalities (Bilje, Čemnac, Darda, Draž, Jagodnjak Kneževi Vinogradi, Petlovac and Popovac) and one town (Beli Manastir).

P. Šašlin describes the change in the number and average size of settlements from 1857 to 2001, defining the pace of development of settlements in the Baranya region [2]. Certain significant periods were selected for this study - mid 19th century, 50's and 60's of the 20th century, as well as the data from the 2001 census.

In mid 19th century Baranya's communities were concentrated (56,8 %) in rural areas of the average size of 1001 - 2000 inhabitants. Villages with fewer than 300 residents – considered to be planned settlements – were not even recorded. According to the 1961 census, 39,8 % of
Baranya inhabitants lived in settlements totalling 1001-2000 residents. And the difference in the population tended to "overflow" into villages with 101-300 inhabitants. At that time, ten such villages appeared in the Baranya region forming 4.4% of the population. There was also one settlement with fewer than 100 inhabitants [2]. This process shows the depopulation of rural villages, associated with industrialization and dispersing in the rural area.

Considering the development until 2001, the biggest difference is recorded in the smallest and largest settlements. The number of settlements with 100 people increased to 12; villages with 1001-2000 inhabitants declined in favour of small villages (501-100 people) that increased from the previous 11 to 16. The change in the number of larger settlements (5001-10000 inhabitants) has been visible in the last fifty years when, according to the 2001 census, only two such settlements, Beli Manastir and Darda were reported, while in the 2001-5000 category only one out of six settlements remained. Baranya underwent a depopulation of rural areas and settlements in favour of urban settlements - Beli Manastir and Darda.

The important fact is that in the first two periods, total number of settlements varied - in 1857 there were 30 towns and villages, in 1961 there were 52 of them, while that number remained unchanged in the next fifty years [2].

The relevant context of the emerging planned settlement can be seen in the changing of social regime resulting in the most complex social restructuring in this area. The end of the limited feudatory-serf relationship and resulting in the most complex social restructuring in this area. The end of the limited feudatory-serf relationship and the beginning of the capitalist regime, led to a new social class - hired mercenaries important to feudal lords wishing to maintain the necessary intensity of exploiting their property. The emergence of labour markets resulted in the processes of urbanization and ruralization of these areas.

This formed new relationships for two large Baranya estates, Darda and Belje, which at that time (around 1850) both entered a new, competitive situation, not only regarding products but also in manpower and numbers. Landowners had to provide new conditions to attract and retain workforce. The atmosphere of uncertainty, but also enthusiasm about the concept of human freedom, has created an environment in which new settlements arose, for hirelings and mercenaries who arrived in this area.

In the mid-19th century, a time of industry and trade development, the population of Baranya was oriented to agriculture. Industrial production occurred in the form of rural crafts and agricultural plants. K.T. Merey describes the significant progress of modern industry in Baranya, which is "in the ratios above the industrial development of the administrative units in which it is."[3]. This is the context related to the emergence of planned settlements representing new, vibrant points in space, that, for a while, positively contributed to Baranya's development.

2.2 Isochrones and the network of the Belje agricultural railroad

Establishing a network of planned settlements was associated with a transport corridor of the Belje agricultural railway. Copies and originals of maps depicting the railway tracks and bridges are available in the State Archives in Osijek [4], testifying about the time of design of railway tracks parallel with the establishment of planned settlements, and complete maps of railway networks with settlements, dating from 1925. A map shows an organized and planned network of the agricultural state property Belje with hierarchically marked railway stations. On the map station categories are visible: the emperor's waiting room stations, stations with a telephone switchboard, and the final station - the navigable station Kazuk. We can conclude that these networks significantly influenced the development of intensive and advanced communications taking over the space (Fig. 7).

In order to present the Baranya area as a regional entity, the isochrones map was made, according to the method by A. Marinovic-Uzelac [5]. The chosen period for the migration distance totals 35 minutes taking into account two centres of migration - Osijek and Beli Manastir, which are in the Spatial Plan of the Osijek-Baranja County [6] defined by the following categories: Osijek as a macro-regional (large-scale development) centre and Beli Manastir as a regional centre with stronger development.

The towns are time-distanced within the 35 minutes interval, which can be achieved by car and by train. The 35 minutes isochrones area gives an insight into possible daily migration of the population and the availability of areas, with regard to the fact that road network in the Osijek-Baranja County is the least frequent in Croatia [7].

Isochrones are made on the cartographic representation of the infrastructure systems, on a map called Road traffic, railway, waterway and air transport [6]. From the map of isochrones it is visible that Baranja is covered with a 30 minutes isochrone, along with the whole area of the daily migration from Osijek and Beli Manastir.

3 Planned settlements

Pustare

Facts about the emerging of planned settlements can be found in scientific texts by D. Jeličić from the Belje monograph, 1986 [8]. He cites the names of thirteen planned settlements and positions them according to the chronological order of occurrence. Developments of planned settlements are directly linked to advances in technology thus outlining their primary character of production settlements.

In the text of the same source by Z. Zivkovic and M. Horvat [9], a detailed analysis of the social relations and
physical phenomena within these settlements is given. The authors based their findings on data obtained by oral narration, since there were no written sources. They quote: "At the end of the first and during the second half of the 19th century, in the time and conditions of modern capitalist agricultural production, a new spatial organization was made.

Next to Knežev, a new administrative and production centre of Belje, fifteen new production settlements were built, so called - planned settlements. They were built according to the plan, zoning systems, but not according to a matrix that could not be multiplied, repeated, but that was rather adaptable to the individual situation.

From the mid-19th century until the past few decades, life on the plains of Belje was very different from that in Baranya villages. A planned settlement was subjected to work or production; people worked day and night, and lived frugally, without any fun, spiritual and cultural life. Belje planned settlements represent a unique architectural complex in Croatia and Yugoslavia, and for its urban and rural organization, and preservation of architectural excellence, they are the most evident proof of the material conditions of life and work of the Belje estate at the time of the capitalist epoch."[9].

Henri Mendras explains the classification of rural communities and defines three models of villages; the autarchic unit without external connections, a network of interconnected villages centred on the poles of the global society (aristocratic castles, abbeys and towns-marketplaces) as well as a peasant republic or Mediterranean rural town that cannot function without a surrounding zone[10].

Planned settlements can be placed in the second category, since the mansions in Bilje, or the administration in Knežev, formed a pole of the global society in which every planned element was part of the network within the estate (or regions), of the Belje or Darda estate historically and of Belje and the entire Baranya today.

Thus we can describe pustara as a planned village with a primary production function, which, due to limited production technology and the social composition of the population-workers (contractors and mercenaries, people without any land property, and part-time workers), implied the need for the provision of housing functions. Fixed determinants of a planned settlement are structural and architectural characteristics and hierarchies within the community which are reflected in architectural guidelines (size, ornaments, etc.)

Differences between planned settlements occurred within the category of dimension and a character of the production (primary production function). Thus, they varied in size - the number of people (often expressed by the number of families), the number and size of buildings and the prevailing production function. As the time passed by, these differences grew and began to differentiate in additional cultural and sporting functions (some of them developed, some did not).

Within the term way of life we will present the main features of the analyzed planned settlements that can be sublimated from these texts by placing them into several categories. The categories are taken from the criteria for the town definition which define a settlement as opposed to a rural agglomeration.

This is one of the initial hypotheses of this study which does not seek to show that planned settlements are urban units but only limited and isolated urban elements in Baranya.

The criteria are as follows: numerical-statistical criteria (population, population density or development level), appearance, and legal status. Analyses also consist of some added elements describing features that have evolved within the planned settlement.

Standardized definitions of urban settlement are represented by the model of separation of urban settlements in the Republic of Croatia in 1991, stating the following: According to analyses, an urban settlement in Croatia can be any settlement having 2 000 or more inhabitants, but at the same time satisfying other criteria - the share of agricultural population in such a settlement must be below the Croatian average, below 10 %, and at least 50 % of its active population has to work in the settlement. These variables with certain parameters ensure the minimal compactness of the settlement, followed by predominance of urban lifestyles of its population, and specific functional independence. The fourth variable is an indirect indicator of certain summary characteristics of the settlement[11].
Zlatna Greda will be descriptively analyzed through the prism of this model.

3.1. Zlatna Greda

The planned settlement Zlatna Greda is an outstanding example of a process that has taken place and is still going on in the Baranya area; its population is declining and the disappearance of the village – as the ultimate phenomenon – is in sight. Zlatna Greda is a type of a planned settlement that is based on the exploitation of forests and fish farming.

Since Zlatna Greda belongs to the Bilje municipality, and the census data from 1991 are reported by municipalities, the share of agricultural population can be presented for the Bilje municipality as a whole – 9.3% [1]. Given the described character of the settlement one can assume that most of the people worked in it.

3.1.1 Population

Broj stanovnika

Although not yet registered in the official census, J. Foldvari [12] describes Zlatna Greda as a central economy and documents one person employed in the service of guards in 1881. According to the number of inhabitants in Zlatna Greda, in the Chapter -Brief overview of the history of Baranya settlements until 1914 by György Timaru, we find the data noting 151 residents in Zlatna Greda in 1914. Zlatna Greda had 671 inhabitants in 1948, 443 inhabitants in 1953, 434 in 1961, 346 in 1971, 46 in 1991, and only 12 inhabitants in 2001. The maximum number of inhabitants of Zlatna Greda reached 671 inhabitants in 1948 – which still does not meet the criterion of at least 2,000 people for an urban area.

3.1.2 The building density

Gustoća izgrađenosti

As a former planned settlement, Zlatna Greda was built in the late 19th century and has, due to the need for housing and production facilities, expanded in the period after the Second World War. Planned construction is reflected in the orthogonal arrangement of objects that are positioned in zones according to the purpose and subdivided by trees and parks.

3.1.3 The architectural and functional characteristics

Graditeljska i funkcionalna obilježja

Z. Zivkovic and M. Horvat [9] describe in detail the architectural elements of the planned settlement, from which we can interpret the structure of Zlatna Greda.

"The basic unit of any urban settlement is the production unit, the farmyard, with basic facilities - barns for dairy cows ... as a part of the farm yard, and sometimes beyond, the warehouse is located, the largest and most monumental building on the plains ... the residential buildings were always grouped together, at a hundred meters at the most from the farm yard... a little isolated, surrounded by a small park was the administration building ... ... a single storey school building with one classroom and a flat for a teacher ..." [9].

The buildings are mainly single-storey, built in baked bricks, and those buildings which are used in the continuity by Croatian Forests and Forestry Tikveš maintained a good condition. The Administration Building, a single storey unit, surrounded by the park, was restored and is in service of Eco-centre as a part of the Ecological Society Green Osijek in Osijek. A reconstruction of the roof was made, landscaping arrangement and smaller interior changes.

A gazebo was built in the administration yard for the purposes of the school in nature's program.

Figure 3 Structure of the settlement in the 70s of the 20th century and today

Slika 3. Struktura naselja 70-tih godina 20. stoljeća i danas

Figure 4 Administration Building in Zlatna Greda

Slika 4. Upravna zgrada u Zlatnoj Gredi
Production facilities at the entrance to the village are in a good condition and are used for storage. The former function was much more differentiated and a word of mouth is that there were stables, reed craft (for the Building Industry) and a hemp-spinning mill. Today, the Tikveš Forestry breeds hunting game within the area of Zlatna Greda.

Service facilities along the road to Hrvatske vode (Croatian Waters) Pumping station are in a very poor condition. Years of non-use have caused deterioration of buildings that were formerly used for utility crafts – wheelwright, carpenter and blacksmith, then the inn and the infirmary. On the ground floor of a building by the road, there was a school for lower grades. The building is in a poor condition. The former bakery and shop are no longer operational so the building houses a building construction trade and serves as a residential area.

The warehouse, which dominates the village when exiting the area towards the pumping station, is prominent for its height and solid construction and good maintenance. It is still in operation.

Residential buildings are located in the village into two zones – when entering the village and south of the school, they are hidden from view by thick forests. Facilities at the entrance are partially still in use; there are 6 residents, with permanent or temporary residence in the houses: These buildings are in better shape than buildings on the south side of the town. Soil paths lead to the last two residential buildings (out of eight). Others were demolished and the materials were used to build other buildings. One so called "flat" is still in use.

Zlatna Greda was just a small village within the area of Kneževi Vinogradi until 23rd November 1990. Since that day it has been granted the status of a rural village and is located in the administrative scope of the municipality Bilje. The economic foundation of Zlatna Greda is farming, livestock breeding, forestry, hunting and ecotourism. Hunting tourism is being developed within the Croatian Forests Levite Danube – Podravlje and a hunting lodge "Zlatna Greda".

After 2000, the village was again revived thanks to the work of the mentioned Eco-centre working with Ecological Association Green Osijek in Osijek that converted the former administration building into an eco-centre. Formerly, there was a football club "Deer" in Zlatna Greda, which in 1979/80 integrated with the football club from Bilje and moved to Bilje as well. Two years later, another football club "Tikveš" from Tikveš started to use the playground in Zlatna Greda. Today, all the functions related to the permanent population have been extinguished and the regime of the settlement depends on the daily migration of workers employed in the Forestry and Eco-centre. Permanent residents, due to their age, are not able to perform physical tasks or perform them only occasionally.

Elements of secondary urbanization in Zlatna Greda, for which the evidence was gathered by word of mouth or from secondary publications, are related to functions in the settlement. Zlatna Greda has never crossed the figure of 2 000 inhabitants, but its looks and functions qualified it for a settlement with elements of a well organized and developed village. The ratio of the total population and service functions was high. The evidence for its social development can be seen in the following facts: in 1932, passenger traffic started in narrow-gauge railway (with the phone at the station since 1952), the place had its own generator since 1958, electrical energy was supplied to the village from hydro electric power plant in 1959, public bathrooms were established in 1960, elementary school was founded in 1960, a bus was bought and owned by the football club "Deer" from Zlatna Greda in 1961.

Permanent service functions on village territory were schools, shops, bakery, hospital, theatre and crafts (wheelwright, blacksmith and carpenter).

4 Potential of planned settlements
Potencijal pustara

According to both the 1991 and the 2001 census, one third of the settlements in the Baranja area lost a third of the population in the last 10 years. The trend of polarization and the urbanization of the central, traffic-developed area is ongoing, there is no indication of a reverse process and the area faces rapid population decline, deagrarization and polarization.
"... Many studies have shown that the economic relationship between a village and a town can provide mutual benefit if it rests on the deliberate division of labour and if it is wholesome. The latter is of great importance because in practice the complementary relationship between a town and a country can prosper only if the village, besides material benefits, develops both the social, cultural and community life." [13].

Since the Baranya region suffered a transformation, the area centre is no longer a castle in Bilje or Administration in Kneževo, but it is located in Beli Manastir and Osijek. Rural environments have transformed as well. What happens when "Bilje" undergoes an economic transformation, and economic units do not experience the economic and technological transformation, but only ownership change? Municipalities were given the territory of planned settlements with objects that have remained in the ownership of the privatized, formerly socially-owned enterprises (Bilje) and public companies like Hrvatske šume (Croatian Forests), Hrvatske vode (Croatian Waters) etc. Municipality investments are not related to planned settlements but are planned for village needs – reconstruction of schools, building roads ....

Planned settlements therefore became places of no interest. Their social structure does not have a relationship with the village since the community was founded on the work function. Planned settlements were a by-product of the new, capitalist way of doing business, changes that came from a centre – the village did not found the settlement; it was a decision of the centre.

A planned settlement is still undergoing a social transformation – deagrarization, urbanization and polarization. Can we plan, in today's changing world, the revitalization of settlements that are disappearing, as a part of preserving our cultural landscape? A. Šundalić describes Croatian transitional reality with these words: "... inherited poverty and underdeveloped relationship of responsibility to ownership, low levels of technological infrastructure and the market of education, as well as the poor functioning of democratic institutions" [14]. As the whole Bilje estate was once founded as an exemplary unit, its planned settlements could, as a system, assume a new role in the life of farm plants. Ideas should be sought in the domain of detected problems in this area as well as technological backwardness, illiteracy of the population above the Croatian average, [15] or maintaining the primary function of agricultural and economic activities (experimental farms, agricultural institutes, laboratories, economic zones, etc.).

Planned settlements make desirable focal points in the Baranya area, but they are not adequately connected. A narrow-gauge railway was constructed simultaneously with the establishment of planned settlements. The Management of Bilje secured in that way the connection from west to east (from Baranjsko Petrovo Selo to Kazuk – shipping port on the Danube). The route of the railroad was abolished in 1968 and is now used only as a path for tractors and agricultural machinery.

Planned settlements in Baranya should be seen as a marginal phenomenon of the village and the marginal effects of the city; phenomena that could take the role that H. Mendras called brokers [10]. And, as in the past, they need mercenaries, people motivated by their own needs or ideas. The actual function of these communities should be determined individually, much in the way the settlements were established"... not by the same matrix that would be multiplied, repeated, but adapted to the individual situation" [9]. Further applications of the new functions should deal with issues of integrity of the system (e.g. only education – school), the adjustment of competition and services (integrated education, hospitality, sport, culture in the household-schoo,ls, restaurants, museum-based organizations-farm, etc.).
Rural and urban areas, villages and towns, once clearly differed - in a variety of symbols and associations, in the various elements that defined the status and position in the society. Status symbols existed on the same value scale and richness was defined by a larger number of cattle or a new car model, but both rarely appeared in the same context. Today we face the process of adopting status symbols and their alternating appearance in rural and urban areas. Rural values of the past are erased, but new rural symbols are emerging, such as wine and food culture, hunting, tourism and others. This process can be connected to the right of citizenship of rural surroundings and can be viewed positively. However, evaluation of existing village values should not be excluded from this process. One of these values is the site of the settlement because one will never come across a village situated on the most fertile land in the most unfavourable climatic area.

M. Houellebecq, in conversation with S. Audriere, answers the question about contemporary poets, which is a criticism of rural areas from an urban position, in which the writer says: "I'm fascinated by the latest global phenomena where do they live, in the countryside?"[17].

The future of Baranya, even with taking into account current trends of depopulation, cannot be viewed as a natural process. Losing and surrendering sites of rural industrial heritage to oblivion is not in line with sustainable landscape planning[18].

The process of industrialization in this area is long late, but still attainable. A future can be foreseen where village authorities will seek to develop economic zones within their territory, as a positive phenomenon, linked to rural prosperity. But do we really need to occupy yet another piece of land? Do we want the emergence of the globalization in the form of industrial assembly halls? Or can rural architectural heritage look forward to adaptation and revitalization?

A network of Baranya's planned settlements, founded 150 years ago, its best days long gone, presents such a renewal opportunity. A precisely and carefully planned system, an existing, well-positioned architectural shell consisting of buildings, roads and (forgotten) railway tracks is waiting to be discovered, protected and put to use again.

6 Literature


Authors’ addresses

Adresi autora
Dina Stober, dipl. ing. arh.
Doc. dr. sc. Sanja Lončar-Vicković, dipl. ing. arh.
Prof. dr. sc. Željko Koški, dipl. ing. arh.
Sveučilište Josipa Jurja Strossmayera u Osijeku
Gradjevinski fakultet Osijek
Drinska 21 a, 31 000 Osijek, Croatia
tel.: 091 224 0702
e-mail: sloncar@gfos.hr