

Village Knez Selo in the Context of Sustainable Development

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ABSTRACT

The paper analyses the present condition of the sustainability elements at the level of a village, and then on the relevant representative sample of the households, according to the parameters of sustainability defined in advance. By definition, such analysis of natural, economic, human and spatial resources provides the scope of the present status, but also defines the sustainability degree, and the capacities and potential directions of development. The obtained results and drawn conclusions served as a platform for the analysis of the future development and transformation of the village and the households' courtyards as spatial manifestation of households in general.

Knez Selo belongs to, by its morphology, compact type of villages, and has been firstly uninhabited since Roman Empire. Position of the higher ground and the excellent view towards Nis's valley has always been interesting place for living. There are rich complexes of forests and pastures, and favourable conditions for livestock keeping, mild climate, as well as many other natural and environmental values in the village locality, which has caused that in XX century a hospital (later clinic) for lungs diseases had been built nearby the settlement. It is situated 10km from the centre of the city of Nis with decent traffic roads and public transport, this settlement took a turn and during 70's and 80's started transformation from rural mostly agricultural village towards a cottage village with substantial number of cottages mainly build by people who live in the city. With steady number of inhabitants a little less than 1000, this settlement belongs to semi-urban areas that have multiple chances for sustainability. Although it is economically weak with no clear developmental discourse, this village have enough natural and human resources for consideration of sustainable future development.

KEYWORDS: village, rural area, rural architecture, rural development, sustainable development

1 INTRODUCTION

We have studied the sustainability of the rural areas in Serbia thorough the case study of village Knez Selo, nearby city of Nis. Sustainable development is today proclaimed as an important principle in

plans, projects and developmental policies. The term was introduced in the 1987 Brundtland report as “development that meets the needs of the present generations without compromising the ability of future ones to meet their own needs” (Brundtland Commission, 1987). As rural area makes more the 85% of the territory of Serbia and 55% of the total population of Serbia is rural population. (Milic, 2011) The development and sustainability of the rural areas is recognized also at European level, but as well it is a part of developmental strategy of Serbia and local strategies. This important part for the country is however very fragile and lags behind compared to urban area. Brown and Kulcsar identify four factors that explain this: 1) many redundant workers who lost their jobs in urban industrial complexes were village residents, 2) foreign investment and new jobs usually target urban enterprises; 3) states reduce their role in the provision of rural health and other essential services; and 4) employment in agriculture has declined and has not been replaced by other jobs (Brown, Kulcsar, 2000). In this context we find that sustainability of the rural areas is mostly based on their inner strengths and capacities that Turnsek defines as sustainability elements (factors) of the village (Turnsek, 2007). Those are population, village area, living conditions and infrastructural facilities and conditions of the buildings’ stock. Our objective in this research is to know and to better understand current conditions of the villages in Serbia and to assess their future transformation potential and developmental courses. The idea is to find and stress the strengths of the village in order to draw attention to the policy makers and other interested group and authorities. The concept of sustainable development of the villages must be relied on their inner capacities; otherwise there is a great chance to ruin most valuable aspects of the rural areas: cultural and natural landscape in the broadest sense.

In the chapters below we briefly made an introduction to historical background of the village, Knez Selo. Then, in next chapters, the data we have collected in this research through field work (research on site), interviews, polls and archive research are given. The data are systematised by sustainability elements mentioned above. Following chapters are used to explain gained results and discussion that led us to the final conclusions.

2 HISTORICAL BACKGROUND

Findings of Roman origin point to the distant population of this rural area. Turkish census 1498 finds the settlement with 44 households, which indicates the existence in the Slovenian feudal period. The village has repeatedly suffered in the wars, from the diseases and the fires. It had the liberation of Serbia from the Turks welcomed as a moderately developed. During this period developed as a crop-livestock and viticulture and orchards village. Agricultural character it retained until after World War II, but from 1965/70 and received characteristics of suburban settlements. Closeness to Nis and good traffic connections encouraged the inhabitants, on one side, to emigration, and on the other, reorientation of population in non-agricultural occupations and mixed economy. During this period it has started to day work and school migration. During ‘70s and ‘80s of the last century due to natural amenities people from Nis were intensively buying plots for cottages. For the same reasons even in 1939 Sanatorium tuberculosis and Clinic for lung disease was built in short distance from the village.

3 MATERIALS AND METHODS

Our research is based on most importantly data collected through field work and official statistical measuring and monitoring. Two of the five sustainability factors, population and characteristic of the village district were taken from official publications of Statistical Office of the Republic of Serbia, about 2011 Census and annual statistical book of local administration - Statistical Yearbook of the City of Nis. In this way we obtained to gather data of total population number, number of households and families, population trends, and other given in Figure 1. Other material necessary for estimation of other sustainability factor is taken by the authors directly on field. We have visited the village, interviewed inhabitants, and as a result of the research it is elaborated 15 out of 309 households. The analysed

households are processed via structured interviews¹of their owners and members. Also, we took photographs of the houses, their gardens and farm facilities (if there was some), measured them,made drawings and sketches. The investigated households were randomly chosen. In this way we believe that were able to collect relevant information necessary to evaluate condition of the building stock in the village, but as well the condition of infrastructure and the quality of their performance and services. The interviews were also substantial to collect data about the living conditions, but as well we used observation and comparison as one of applicable methods. The data regarding infrastructural facilities and equipment were also collected from local public services that are in charge for their performance and maintenance.

4 RESULTS

The results of our research are given below systematised by previously mentioned sustainability factors by which the chapters' titles are given.

4.1 Population

Population in the village Knez Selo is constantly decreasing. Census in 2011 showed that village is inhabited by 865 people and their average age is 48 years. The data from the census are given in Table 1. Significant number is also average size of family, here 2.8 per household.From total number of families around 60% is with children from which is less the 15% a single parent family.

Table 1 Village Knez Selo – Population statistic based on 2011 Census

	<i>total number</i>	<i>0-9</i>	<i>10-19</i>	<i>20-29</i>	<i>30-39</i>	<i>40-49</i>	<i>50-59</i>	<i>60-69</i>	<i>70-79</i>	<i>>80</i>	<i>Average age</i>
total	865	58	75	96	95	85	138	145	124	49	48,0
male	432	30	44	43	58	42	66	71	54	24	46,6
female	433	28	31	53	37	43	72	74	70	25	49,4
<i>total number of households</i>											
		<i>household with 1 member</i>		2	3	4	5	>6	<i>average number</i>		
309		67		97	57	43	22	23	2,8		
Village Knez Selo	<i>total number</i>	<i>couples without children</i>		<i>couples with children</i>		<i>single parent with children</i>					
number of families (households)	269	105		133		21					
total population by categories	748	210		468		45					

¹form and questions in the interviews and surveys are available from the authors on request

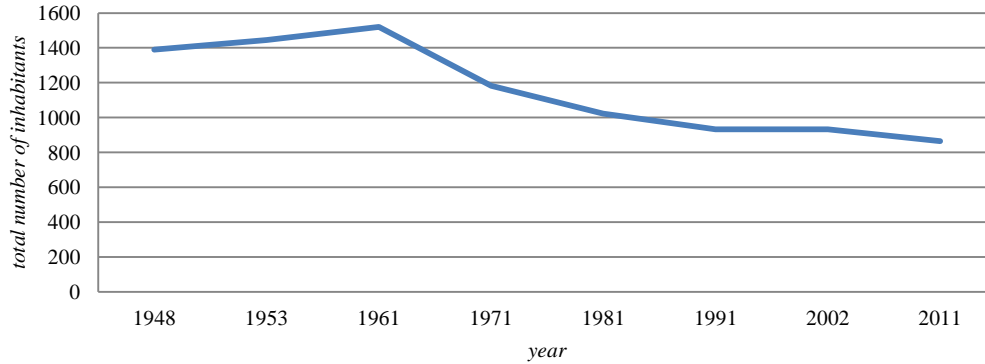


Figure 1 Population flow from 1948-2011 - Village Knez Selo

4.2 Village district

Size of the village district is 10.45km² and by Spatial plan of Serbia it is counted as large village by area size. Form of the area of the village is irregular, elongated with the ratio of the sides 1:3 and the coefficient K_{kfa} (1) of 6.63 (ideally are 4) reflects this inconvenient physical characteristic of the village district. The distances of village borders from the centre is 3.6 km, it is a bit longer than 3 km which is considered to be favourable in our conditions, from the point of view of good connections among the private land within the village area and the economical profit (Figure 2). Furthermore, in Table below it is visible the structure of the land in the village by the way of use, where altogether dominates arable lands.

$$K_{kfa} = O_{km} / I \sqrt{P_{km^2}} = 21.435 / \sqrt{10.45} = 6.63 \quad (1)$$

Table 2 The size of areas (in *ha*) in the village Knez Selo area by the way of use

	<i>total area (with settlement) (ha)</i>	<i>plough land and gardens (ha)</i>	<i>orchard (ha)</i>	<i>vineyards (ha)</i>	<i>meadows (ha)</i>	<i>pastures (ha)</i>	<i>woods (ha)</i>	<i>barren land (ha)</i>	<i>arable land (ha) (1-4)</i>	<i>agricultural land (ha) (1-7)</i>	<i>whole area (ha) (1-8)</i>
	1	2	3	4	5	6	7	8	9	10	11
Knez Selo	1045	265	30	156	30	54	68	40	481	535	643

The village is situated at the edge of the Nis's valley. Gentle southwest-orientated slope of the terrain of the village makes it very pleasant and bright plot for the settlement and agriculture. With the altitude of 422m (centre of the village) it is situated on a higher ground of the overlooking Nis's valley. Distance from the city of Nis is less than 10km.



Figure 2: The Map of the village Knez Selo district

4.3 Living conditions

Table 3: Social infrastructure in the village Knez Selo (☼ - developed, satisfying, © - exist, but insufficient, -- - lacks, ■ - significant problem)

Table 3 shows the data that we collected regarding the social infrastructure in the village

	<i>Elementary school</i>	<i>Local offices</i>	<i>Cultural house&clubs</i>	<i>Ballpark / Sport club</i>	<i>Kindergarten</i>	<i>Hotel/hostel/inn</i>	<i>Post office</i>	<i>Ambulance</i>	<i>Pharmacy</i>	<i>Market place</i>	<i>Purchase station</i>	<i>Business/Industry/Crafts/Warehouse</i>	<i>Shops</i>	<i>Bus connections, departures frequency</i>	<i>Church/Monastery</i>	<i>Cemetery</i>	<i>Road conditions</i>
Knez selo	☼	☼	☼	☼	☼	--	--	--	--	--	☼	☼	☼	©	☼	--	©

As it is shown, most basic social services are present in the village, such as school, kindergarten, local administration office, but unfortunately it lacks of ambulance, pharmacy post office etc. The presence of these elements of social infrastructure is directly related to the living condition in the village, the lack of the important elements such as healthcare services particularly affects vulnerable categories like elderly people and children. Beside these basic services, the quality of life is conditioned also by the quality of leisure time, and the offer they have socialisation and entertaining. Here we found a cultural house, a sport club, a church.

4.4 Infrastructural facilities

Table 4 Communal infrastructure in the village Knez Selo (☼ - developed, satisfying, © - exist, but insufficient, -- - lacks, ■ - significant problem)

<i>Households with:</i>	<i>water supply (%)</i>	<i>electricity (%)</i>	<i>equipped bathroom</i>	<i>toilette (%)</i>	<i>sewerage system</i>	<i>solid waste</i>	<i>television</i>	<i>cable TV</i>	<i>satellite TV</i>	<i>telephone</i>	<i>computer & internet</i>
Knez selo	87	98	51	41	©	■	☼	--	--	☼	--

Our research on field showed unremarkable condition of the infrastructural systems and services in the village. While majority of the households do have installed clean water facilities and electricity, such situation is not present regarding bathroom and toilette facilities. Namely, number of households with such level of equipping is halved. Also major problem is found regarding sewage, although it is present, the system is not developed enough. Even bigger problem represent disposal of the communal waste that is not organized at any level.

The achievements of the modern era, television, telephone here is present in a form of satisfactory, although there are services that still lacks. (Table 4)

4.5 Condition of households and building

Gathered data regarding the households are given in Table 5. We analysed the households regarding the size and performance of their plot, organisation of the open space on the parcel, the content, equipment, but also performance of the building(s) and their size and materialisation. We examined also their economic profile. Our concern was to find here whether those families are orientated towards agricultural economy or they depend on the jobs they have in the city or other.

Table 5 Village Knez Selo – Basic urban indicators of the analysed households

Household No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
size of the plot (in ar.) –SL	3.3	5.6	3.2	3.1	3.3	2.3	3.1	3.0	3.0	6.6	7.2	2.4	5.2	5.4	5.0
gross building area (in ar.) -A	2.8	2.8	1.1	3.7	2.3	1.2	3.1	1.6	1.3	4.1	2.3	2.4	4.2	3.1	2.6
occupied area on the plot (in ar.)-B	1.7	1.8	1.1	2.2	2.3	0.7	2.3	1.6	1.3	2.3	2.3	1.4	3.3	2.2	1.5
construction index =A/SL	0.85	0.50	0.34	1.20	0.70	0.52	1.00	0.53	0.43	0.62	0.32	1.00	0.80	0.57	0.52
occupancy index =B/SL	0.51	0.32	0.34	0.70	0.70	0.30	0.74	0.53	0.43	0.35	0.32	0.58	0.63	0.41	0.30
shape of the plot	close to regular	close to regular	irregular	close to regular	regular	close to regular	irregular	close to regular	irregular	close to regular	close to regular	irregular	close to regular	close to regular	close to regular
zones (house+farm+garden)	1+1+1	1+1+1	1+1+1	1+0+0	0+1+0	1+0+0	1+1+0	1+1+1	1+1+0	1+1+1	1+0+1	1+0+0	1+1+0	1+1+1	1+1+1
zones differentiated	no	no	no	yes	yes	yes	no	no	no	no	no	yes	no	yes	no
materialisation :	traditional	•	•					•		•	•				
	solid material	•*	•*	•*	•	•	•	•*	•	•*	•*	•	•	•	•
number of family members	6	2	4	7	2	1	7	1	2	7	4	2	6	6	2
live & work in village**	•	•	•	•	•	•	•	-	•	•	•	•	•	•	•
live in the village, works in the city	•	-	•	•	-	-	•	•	-	•	•	-	•	•	-

* buildings are not finalised; ** multiple answers indicated the different status of family (household) members

We found that the size of parcels, orientation and their forms do not constitute any obstacles for sustenance of the households and villages. Mostly irregular forms of the plots are an inherited situation due to the unplanned development of the village through the whole history. Although it makes some troubles, it can be said that it is fairly compensated with the size of the plots. The occupancy index spans from 0.3 to 0.74 that makes those plots in accordance with regulations and expected values. However this must be taken with reservations, because the households didn't showed greater level of functional differentiation. Just 3 of 15 examined households had only residential function on the plot, while the

others included some kind of farming and gardening that affects the quality of living conditions if there is no zoning as it is the case here. (Figure 4)



Figure 3: Houses in Household 11 (left) and in Household 12 (right)

Examining the quality of built structures we found that majority of the households are consist of the buildings of modern era (meaning built from the 60's onwards). Built with solid blocks and similar materials those building if finalised are decent homes (Figure 3 - right). But the old, traditional houses (built of mud, straws and woods)are present in some plots, although still in function, those ones are usually in very bad condition (Figure 3 - left).

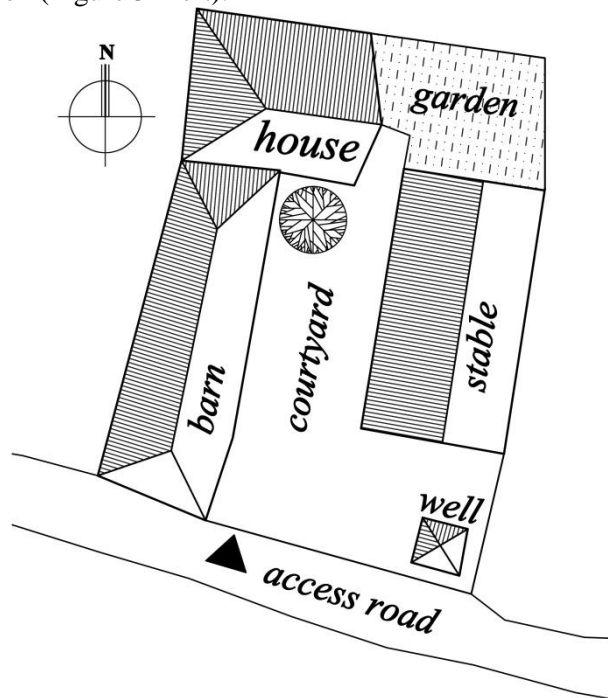


Figure 4: The site plan of the Household 8

5 DISCUSSION- SUSTAINABILITY AND DEVELOPMENT OPPORTUNITIES

The village is not in vulnerable category by its population. Total number of the population can be a good basis for the future of the village. Although the population is decreasing, this trend is not so strong in last two decades. Average size of family is more like in urban settlements that can be one of indicators that way of life in the village is now closer to the urban settings. Also numbers regarding population

showed us the average age of 48 years is not that much away from the average at the national level (42.2 yrs.). So to say human resource as a factor of sustainability is sufficient in this village.

Potential for sustainability is also indicated by the proximity of the city, geographical location, and shape of terrain, good climate and the presence of natural resources: arable and fertile land and vineyards. Furthermore the elements of infrastructure considered here for living conditions do have lacks, especially regarding the road conditions and traffic infrastructure, but also public facilities in the village as element of social infrastructure, must be strengthened and improved in order to village be attractive for living for both old and young people.

Prerequisite for the sustenance and prosperity of any settlement is the economic strength of the inhabitants. Here we indicated economic situation of the village through the analysis of individual households. Our findings show that the families in Knez Selo have multiple career courses and financial sources that complement one another. The agriculture is still great economic deal, but there are also substantial families that are related to the city and the jobs they have there. The major drawback found here is the situation that farming and land cultivating is on a primitive level. There are no big farms, buildings for animals are inadequate, and great potential in this can be seen only with major investments. The plots, on the other side are not adequate, most importantly by size, to accept potential farm buildings. On the other side, land has great potential for cultivation, but lacks greater level of mechanization. Overall impression on the households is that they reflect economic situation in Serbian villages and the whole country as well. Years of crises influenced that maintenance and new investments at any level have not been present for long time. We found that lot of buildings were not been properly maintained or even built. The yards are overbuilt with temporary structures that are used as stables and chicken coops using recycled materials, family houses are built in phases without built plans and using cheap building material.

This liveable village is characteristic by the fact that it well connected with the city also by its population. In the examined households, there is a balance between the members that are by their work connected with the city (they work or go to school) and those one that work in village on own farms. The fact that they did not emigrate from the village because of professional orientation contributes to the richness and diversity of village's society and makes it more sustainable.

6 CONCLUSION

The village Knez Selo do have the potential and prospects for further sustainable development. These potentials are based on its inner strength. The population makes the most important resource but also prerequisite for development of the village in the future. Second important value for the village sustainability is the natural resources - the size and quality of arable land. Further, the proximity to the city is also great advantage, but the traffic infrastructure has to be improved. So, came to the conclusion that there is a need for strengthening the capacities that lead to the improvement of the infrastructural systems, all of kind. Those ones that do exist need to be improved, modernized, and those that do not, have to be introduced to the village. This would lead to the improvement of the living condition that is very important for the future of the village. Comfortable and dignified life has to be ensured for the villagers and therefore there is a need for improvement of the households also. One of suggestions is that the existing conditions may be improved if the professional help from architects and civil engineers is available for the villages. Although this kind of services may be unaffordable because of the limited budgets, there must be some form of the knowledge exchange such as seminars, workshops etc. that can be useful. All this needs calls for a kind of institutional help, outside help that's has to be recognized by authorities from higher level, the city or the even country, but also it may be possible to achieve through local (village) associations and NGOs that has to be focused on strengthening local capacities. Development of the local specificities also leads to building-up a local identity and sense of the strong community between villagers which is the crucial for the sustainable development.

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