ASSESSING THE SATISFACTION LEVEL OF RURAL TOURIST HOUSEHOLDS (RTH) IN SERBIA WITH THE ECONOMIC SUSTAINABILITY DIMENSION

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A B S T R A C T

The aim of the research is to examine the economic efficiency of rural tourist households in the Republic of Serbia engaged in rural tourism at their households. To achieve the research goal, two dependent variables were observed: (1) satisfaction with tourist visits and accommodation capacity occupancy, and (2) satisfaction with earnings from rural tourism and the possibility of investment return in this activity. The non-parametric Kruskal–Wallis test was employed to examine differences between groups. The research revealed no statistically significant difference in the level of satisfaction with tourist visits and capacity occupancy among respondents with different demographic, socio-economic, and business characteristics. Regarding satisfaction with income from rural tourism and the possibility of investment return in rural tourism among respondent groups, the application of the Kruskal–Wallis test detected differences only based on the Age of the respondents and Dominant sources of income in the rural tourist household.

Introduction

Although all the natural, cultural, and social conditions for its development already exist (natural resources, significant agricultural land, a high percentage of agriculturally active population, traditional agricultural practices, lack of soil pollution and the

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potential for the production of "healthy food," good potential for the development of complementary activities like hiking, recreation, hunting, fishing, horseback riding, participation in locals' daily activities, tasting traditional local gastronomic specialties, etc.), Serbia's level of competitiveness in the field of rural and agro-tourism is currently not particularly high.

In many European Union countries, rural tourism is integrated into strategies for the development of regions and rural areas, which helps retain the population in place, create new jobs, and contribute to the socio-economic advancement of underdeveloped areas. (Muhi, 2013). The growth of rural tourism can contribute to the economic development of rural areas, and the industry's synergistic development can be facilitated by objective analysis of rural tourism (Dong, 2022).

The training of rural hosts to participate in this activity is one of the most crucial responsibilities in the development of agrotourism and rural tourism. The study's objective is to determine how satisfied Serbian rural tourist household (RTH) operators are with the financial aspect of sustainable rural tourism on their properties.

This dimension of sustainability is represented through two dependent variables: (1) satisfaction with tourist visits and occupancy rates of accommodation facilities, and (2) satisfaction with income generated from rural tourism and the ability to recoup investments made in this activity. Additionally, the authors investigate whether attitudes regarding the examined variables differ between groups of respondents with different demographic and socio-economic characteristics.

Literature review

Research on sustainable livelihoods in tourism contexts has primarily concentrated on the following areas: analyzing the sustainable livelihoods of rural households in various tourism communities, such as ethnic and heritage tourism sites (Su et al., 2016a; Yajuan et al., 2016); improving and refining the framework for sustainable livelihoods in tourism context (Su et al., 2019; Shen et al., 2008; Su et al., 2016b); analyzing the external effects of rural tourism livelihoods (Nyaupane & Poudel, 2011; Josimović et al., 2024), and quantitatively analyzing the impact of tourism development on the framework's components from social, economic, and human perspectives, especially on livelihood capital (Wang et al., 2021), livelihood strategies (He et al., 2014), and livelihood outcomes (Cui et al., 2017; Lazović et al., 2024).

It is evident from earlier research that the sustainable livelihoods framework has developed into a useful instrument for examining the social and economic circumstances of rural households in rural tourist locations (Hua & Yuxiang, 2020). Through semi-structured interviews and questionnaires, the study of Agustin at all assesses how competitive communities are as tourist destinations (Agustin et al., 2022; Josimović et al., 2024).

Rural tourism development can have indirect effects on the economy in addition to direct ones, like increasing villagers' income levels. It can also raise government tax

revenues, feed the populace through dividends and subsidies, and strengthen farmers' capacity through free vocational training (Scheyvens, 2007; Lapeyre, 2010).

In actuality, additional elements from the destination's stakeholders may have an impact on the sustainability of their means of subsistence (Rodríguez Díaz, Espino Rodríguez, 2016). Agro-tourism provides development opportunities for small businesses that would otherwise be unprofitable in rural communities with low population density.

Additionally, agro-tourism aligns with existing rural enterprises, such as family farms, helping them generate secondary income. (Wilson et al, 2001). Numerous rural households have included tourism into their livelihood plan as a result of changes brought about by economic requirements and efforts to reduce poverty in rural areas (Iorio & Corsale, 2010; Snyder & Sulle, 2011; Wu & Pearce, 2014; Nyaupane & Poudel, 2011).

The studies that follow, which concentrate on how tourism affects household livelihoods, have grown in (Ashley, 2000; Melita & Mendlinger, 2013; Nepal, 1997; Anup & Parajuli, 2014; León, 2007). The desire and need to return to roots and a simpler way of life, devoid of complex organization, stress, and urban environments, is leading to increasing interest in rural areas" (Kastenholz et al., 1999).

The relative technological stagnation of our agricultural production (extensive production methods, low use of mineral fertilizers, reduced pesticide consumption, etc.) could align with the global trend (production and consumption of healthy organic food) and could overnight become a significant competitive advantage and form of differentiation for Serbia's tourism products (Djenadić, 2012).

Jiang suggests that future research should address different avenues for integrating agritourism with agricultural eco-efficiency (Jiang, 2022). Identifying different categories of potential visitors (e.g., families, seniors, young people, active tourists, tourists with special interests, etc.) plays a crucial role in creating an appropriate offering. Each of these visitor categories has different preferences, interests, and requirements, making it necessary to develop diverse offerings and services for each of these segments in agro-tourism (Muhi, 2013).

Materials and methods

To address the research objective, the authors conducted a survey using an online questionnaire managed through Google Forms software. The sample included respondents who are operators of rural tourist households (RTH) in the Republic of Serbia. Questionnaires were sent to all households, and 132 responses were received. Since some respondents did not complete the survey or provide feedback, it is considered a non-random error, specifically an error due to non-response. The questionnaire contained numerous questions related to rural tourism activities on RTHs, but for the purposes of this study, only a subset of these questions was utilized.

To examine the level of satisfaction of respondents with the economic dimension of sustainability in rural tourism activities and to determine if there are differences based on groups of respondents with different demographic and socio-economic characteristics, two dependent variables (DVs) were formed:

1. DV 1: Occupancy rates (satisfaction with tourist visits);

2. DV 2: Income generated and return on investment (satisfaction with income from rural tourism and the ability to recoup investments in rural tourism).

Respondents rated these variables on a Likert scale from 1 to 5 (1: Not satisfied; 2: Slightly satisfied; 3: Moderately satisfied; 4: Satisfied; 5: Extremely satisfied). Simultaneously, as independent variables based on which different groups of respondents were formed, the following variables on a nominal scale were analyzed:

1. Gender of the person/persons most engaged in rural tourism;
2. Age of the respondents most engaged in rural tourism;
3. Education of the person most involved in rural tourism;
4. Experience in rural tourism (years spent in rural tourism);
5. Capacity size (number of individual beds per household);
6. Rural tourism as a type of activity (the only profitable activity on the household or additional/supplementary profitable activity)
7. Tourist content at the rural tourist household;
8. Dominant sources of income in the rural tourist household;
9. Beneficiaries of incentives for the development of rural tourism.

In addition to descriptive statistical analysis, various methods of statistical inference were used. For examining differences between groups in the level of the DV1 variable, as well as in the level of the DV2 variable, the non-parametric Kruskal–Wallis test (an alternative to one-way ANOVA) was employed. The factor under consideration is one of the 9 independent variables listed.

This test is utilized for comparing the medians of three or more independent groups, testing the null hypothesis that k (k>2) independent samples belong to the same underlying population. The null hypothesis (H_0) states that there is no difference in medians among the underlying populations to which the samples belong, while the alternative hypothesis (H_1) states that there is a difference in medians. The statistic for the Kruskal-Wallis test is obtained through the formula (Cohen, J., 1998).

$$H = \left[\frac{12}{n(n+1)} \sum_{i=1}^{k} \frac{T_i^2}{n_i} \right] - 3(n+1) \quad \text{where:}$$

k – is the number of samples or basic groups being analyzed;

n_i – is the number of elements in the i-th sample;

n – is the total number of elements in all samples;

$$T_i - \text{is the sum of ranks in the } i\text{-th sample.}$$

The distribution of the H statistic can be approximated by the chi-square distribution with $k-1$ degrees of freedom. Therefore, practically, the difference in medians between three or more basic groups can be tested using the chi-square test. If the obtained p-value is less than 0.05, the null hypothesis is rejected. In the case of comparing the medians of two basic groups or two groups of respondents, the Mann-Whitney U test was used for inference. The statistic for the Mann-Whitney U test is:

$$U_1 = n_1 n_2 + \frac{n_2(n_2 + 1)}{2} - R_1, U_2 = n_1 n_2 + \frac{n_1(n_1 + 1)}{2} - R_2$$

The Mann-Whitney U test is a non-parametric test in which the data in each group are first ordered from lowest to highest. Values in the entire data set, from both the control and treated groups, are then ranked, with the average rank being assigned to tied values as it is for the Wilcoxon rank-sum test. The ranks are then summed for each group, and U is determined:

where n_1, n_2 are the sample size for control and treated groups, respectively; R_1, R_2 are the sum of ranks for the control and treated groups; and U_1, U_2 are the Mann-Whitney statistic for both groups. In the research, we combined both samples and ranked the data. The test statistic is the smaller sum between the sum of ranks of one sample and the sum of ranks of the other sample.

For the application of tests (Kruskal-Wallis and Mann-Whitney U test), basic assumptions were met (random, independent samples belong to continuous populations; data are available in the form of ranks, i.e., on an ordinal measurement scale). The choice of these tests was conditioned by the nature of the research. Namely, for assessing the level of satisfaction of respondents with various dimensions of the economic sustainability of rural tourism, given the data available at the ordinal and nominal measurement scales, the application of non-parametric methods proved to be the most suitable.

Results and Discussion

The sample consists of 132 respondents, operators of rural tourist households (RTH) in Serbia. Although formally and legally, the provision of accommodation and hospitality services at RTH can be conducted by a company, another legal entity, an entrepreneur, and/or an individual, all respondents except one identified themselves as individuals engaged in rural tourism. Only one respondent was based in the Belgrade region, 10 in the Vojvodina region, 78 in the Šumadija and Western Serbia region, and 43 in the Southern and Eastern Serbia region. This sample structure territorially corresponds to the distribution of RTH in Serbia.

The structure of respondents according to nominal variables is presented in Table 1.

Table 1. Structure of the sample

| Sample characteristics	No	Structure (%)
I Region		
– Beogradski region	1	0.8
– Region Vojvodina	10	7.6
– Šumadija i Zapadna Srbija	78	59.1
– Južna i Istočna Srbija	43	32.6
Total	**132**	**100.0**
II Gender of person/persons most engaged in rural tourism	77	
– Female	36	58.3
– Male	19	27.3
– Both (male and female are included in business)		14.4
Total	**132**	**100.0**
III Age range of the respondents		
– Young (≤40)	25	19.7
– Middle aged (41-64)	77	60.6
– Older (≥65)	25	19.7
Total	**127**	**100.0**
IV Education of the person who is most involved in rural tourism	11	8.3
– Primary school	75	56.8
– High school	46	34.8
– Higher school, faculty, master's degree, doctorate		
Total	**132**	**100.0**
V Experience in rural tourism (years spent in rural tourism)		
– Beginners and less experienced (<5)	41	31.1
– Middle experienced (5-14)	56	42.4
– Very experienced (≥15)	35	26.5
Total	**132**	**100.0**
VI Capacity size (number of individual beds per household)		
– Small size capacity (1-4 beds)	30	22.7
– Middle size capacity (5-9 beds)	62	47.0
– Large size capacity (10 and more beds)	40	30.3
Total	**132**	**100.0**
VII Rural tourism from the perspective of sources of household income		
– Basic activity (the only profitable activity on the household)	32	24.2
– Additional (supplementary) profitable activity	100	75.8
Total	**132**	**100.0**
VIII Tourist content		
– Accommodation only	42	31.8
– Full board (accommodation with food and beverage servise)	49	37.1
– Full board and other activities (organization of excursions, bicycle rental/quad rental; use of the swimming pool and etc.)	41	31.1
Total	132	100.0
IX Dominant sources of income in the rural tourist household		

Sample characteristics	No	Structure (%)
– Exclusively salary from the employment relationship		
– Pension only	28	21.2
– Exclusively income from rural tourism	18	13.6
– Other sources of income (remittances from abroad,	24	18.2
agricultural production, etc.)	18	13.6
– Combination of different previously mentioned sources of	44	33.3
income		
Total	**132**	**100.0**
X Beneficiaries of incentives for the development of rural tourism		
– Beneficiaries of incentives	70	53.0
– Not beneficiaries of incentives	62	47.0
Total	**132**	**100.0**

Source: Author's presentation based on the survey

All respondents (132 of them) provided ratings for the dependent variables on the Likert scale, and Figure 1 shows the response scale. A total of 70.5% of respondents are either satisfied or extremely satisfied with tourist visits and occupancy rates (42.4% are satisfied, with 28.1% of them being extremely satisfied).

At the same time, satisfaction with the earning potential in rural tourism and the rate of return on investment in this business activity is slightly lower. With this economic dimension of engaging in rural tourism, the highest percentage of respondents (45.5%) is only moderately satisfied (Figure 1).

Figure 1. Assessment of the economic sustainability of rural tourism engagement, respondents' response scale, %.
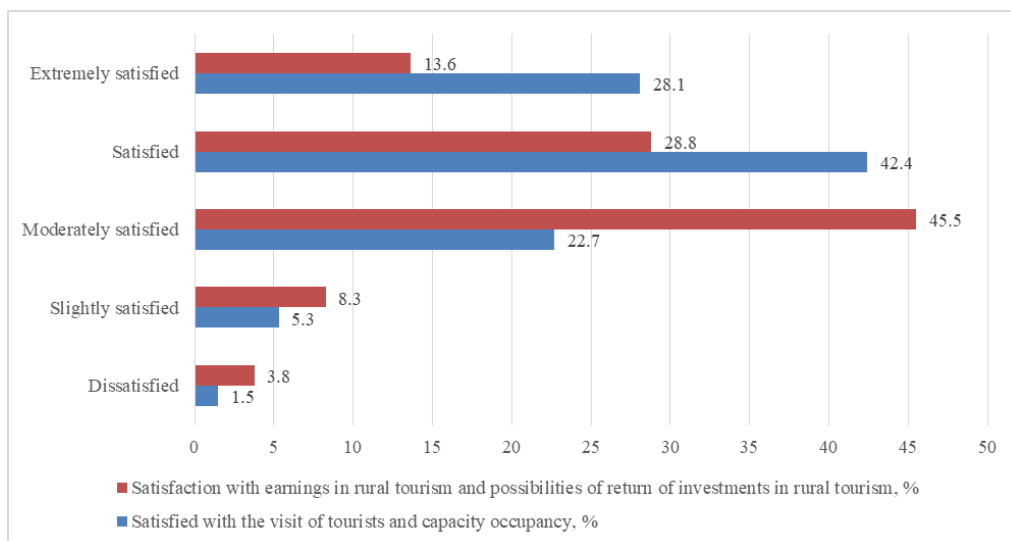
Source: Authors' calculation

The average rating of the first dependent variable (Occupancy rates, i.e., satisfaction with tourist visits) is 3.9, with the Median and Mode having the same value (4). The Interquartile Range (IQR) is 2, indicating that 50% of respondents' central responses ranged from a rating of 3 to the maximum rating of 5.

The second variable exhibits slightly less favorable values, indicating a lower level of satisfaction among respondents with this dimension of economic sustainability in rural tourism activities or engagement in rural tourism. Specifically, the average rating of the second dependent variable is 3.4, with the Median and Mode having a lower value (3), and the IQR is 1, indicating that 50% of respondents' central responses ranged from a rating of 3 to 4. Below are the results of testing the hypothesis whether the medians of the observed dependent variables differ between groups of respondents with different demographic and socio-economic characteristics using the Kruskal–Wallis test and Mann-Whitney U test (Table 2).

Table 2. Testing differences in the values of dependent variables between groups of respondents

Independent/ predictive variables	Dependent variable 1	Dependent variable 2
Gender of the person/persons most engaged in the tasks of running a rural tourist household	Gp1, n=77: Female; Gp2, n=36: Male; Gp3, n=19: Female & male; c^2 (2, n=132)=1.543, p=0.462 No statistical significance*	Gp1, n=77: Female; Gp2, n=36: Male; Gp3, n=19: Female & male; c^2 (2, n=132)=3.418, p=0.181 No statistical significance*
Age of the respondents	Gp1, n=25: Young (≤40); Gp2, n=77: Middle aged (41-64); Gp3, n=25: Older (≥65) c^2 (2, n=127)=0.698, p=0.706 No statistical significance*	Gp1, n=25: Young (≤40); Mean rank=79.12; Md=4.0; Gp2, n=77: Middle aged (41-64); Mean rank=63.24; Md=3.0; Gp3, n=25: Older (≥65); Mean rank=51.22; Md=3.0; c^2 (2, n=127)=8.328, ***p*=0.016** **Statistical significance***
Education of the person/persons who are most engaged in the tasks of running a rural tourist household	Gp1, n=11: Primary school; Gp2, n=75: High school; Gp3, n=46: Higher school, faculty, master's degree, doctorate; c^2 (2, n=132)=1.276, p=0.528 No statistical significance*	Gp1, n=11: Primary school; Gp2, n=75: High school; Gp3, n=46: Higher school, faculty, master's degree, doctorate; c^2 (2, n=132)=1.934, p=0.380 No statistical significance*
Experience (years of dealing in rural tourism)	Gp1, n=41: Beginners and less experienced (<5 years); Gp2, n=56: Middle experienced (5-14 years); Gp3, n=35: Very experienced (≥ 15 years); c^2 (2, n=132)=3.991, p=0.136 No statistical significance*	Gp1, n=41: Beginners and less experienced (<5 years); Gp2, n=56: Middle experienced (5-14 years); Gp3, n=35: Very experienced (≥ 15 years); c^2 (2, n=132)=0.925, p=0.630 No statistical significance*

Capacity size (number of individual beds per household)	Gp1, n=30: Small size capacity (1-4 beds); Gp2, n=62: Middle size capacity (5-9 beds); Gp3, n=40: Large size capacity (≥ 10 beds) c^2 (2, n=132)=2.535, p=0.282 No statistical significance*	Gp1, n=30: Small size capacity (1-4 beds); Gp2, n=62: Middle size capacity (5-9 beds); Gp3, n=40: Large size capacity (≥ 10 beds) c^2 (2, n=132)=3.126, p=0.210 No statistical significance*
Rural tourism as a type of activity	Group 1, n=32: Basic activity (the only profitable activity on the household); Group 2, n=100: Additional (supplementary) profitable activity U=1376.0, z= -1.261, p=0.207 No statistical significance*	Group 1, n=32: Basic activity (the only profitable activity on the household); Group 2, n=100: Additional (supplementary) profitable activity U=1417.5, z= -1.034, p=0.301 No statistical significance*
Tourist content	Gp1, n=42: Accommodation only; Gp2, n=49: Full board (accommodation with food and beverage servise); Gp3, n=41: Full board and other activities c^2 (2, n=132)=0.735, p=0.692 No statistical significance*	Gp1, n=42: Accommodation only; Gp2, n=49: Full board (accommodation with food and beverage servise); Gp3, n=41: Full board and other activities c^2 (2, n=132)=0.958, p=0.619 No statistical significance*
Dominant sources of income in the rural tourist household	Gp1, n=28: Exclusively and only salary; Gp2, n=18: Pension only; Gp3, n=24: Exclusively and only income from rural tourism; Gp4, n=18: Other (remittances from abroad, agricultural production, other); Gp5, n=44: Combination of different previously mentioned sources of income; c^2 (4, n=132)=4.552, p=0.336 No statistical significance*	Gp1, n=28: Exclusively and only salary, Mean rank=72.91, Md=3.5; Gp2, n=18: Pension only, Mean rank=46.33, Md=3.0; Gp3, n=24: Exclusively and only income from rural tourism, Mean rank=76.46, Md=4.0; Gp4, n=18: Other (remittances from abroad, agricultural production, other), Mean rank=55.61, Md=3.0; Gp5, n=44: Combination of different previously mentioned sources of income, Mean rank=69.69, Md=3.0; c^2 (4, n=132)=10.445, **p=0.034** **Statistical significance***
Beneficiaries of incentives for the development of rural tourism	Group 1, n=70: Beneficiaries of incentives; Group 2, n=62: Not beneficiaries of incentives; U=1984.5, z=-0.897, p=0.370 No statistical significance*	Gp 1, n=70: Beneficiaries of incentives; Gp 2, n=62: Not beneficiaries of incentives; U=2132.5, z=-0.182, p=0.855 No statistical significance*

Source: Author's presentation. *

* Significance level of 0.05.

In Table 2, the results of the Kruskal–Wallis and Mann-Whitney U tests for testing differences between different groups in the levels of the first and second dependent variables are presented.

In the second column of Table 2, the results for DV1 are provided.

If Gender of the person/persons most engaged in the tasks of running a rural tourist

household is considered as a factor, with levels (treatments) being: Male, Female, it is concluded that this factor does not affect the variability of the observed phenomenon, i.e., occupancy rates, because the p-value is >0.05.

1. If Age of the respondents is considered as a factor, with levels (treatments) being: Young, Middle aged, Older, it is concluded that this factor does not affect the variability of the observed phenomenon, i.e., occupancy rates, because the p-value is >0.05.

2. If Education of the person/persons who are most engaged in the tasks of running a rural tourist household is considered as a factor, with levels (treatments) being: Primary school, High school, Higher school, faculty, master's degree, doctorate, it is concluded that this factor does not affect the variability of the observed phenomenon, i.e., occupancy rates, because the p-value is >0.05.

3. If Experience (years of dealing in rural tourism) is considered as a factor, with levels (treatments) being: Beginners and less experienced, Middle experienced, Very experienced, it is concluded that this factor does not affect the variability of the observed phenomenon, i.e., occupancy rates, because the p-value is >0.05.

4. If Capacity size (number of individual beds per household) is considered as a factor, with levels (treatments) being: Small size capacity, Middle size capacity, Large size capacity, it is concluded that this factor does not affect the variability of the observed phenomenon, i.e., occupancy rates, because the p-value is >0.05.

5. If Rural tourism as a type of activity is considered as a factor, with levels (treatments) being: Basic activity (the only profitable activity on the household), Additional (supplementary) profitable activity, it is concluded that this factor does not affect the variability of the observed phenomenon, i.e., occupancy rates, because the p-value is >0.05.

6. If Tourist content is considered as a factor, with levels (treatments) being: Accommodation only, Full board (accommodation with food and beverage service), Full board and other activities, it is concluded that this factor does not affect the variability of the observed phenomenon, i.e., occupancy rates, because the p-value is >0.05.

7. If Dominant sources of income in the rural tourist household is considered as a factor, with levels (treatments) being: Exclusively and only salary, Pension only, Exclusively and only income from rural tourism, Other (remittances from abroad, agricultural production, other), Combination of different previously mentioned sources of income, it is concluded that this factor does not affect the variability of the observed phenomenon, i.e., occupancy rates, because the p-value is >0.05.

8. If Beneficiaries of incentives for the development of rural tourism is considered as a factor, with levels (treatments) being: Beneficiaries of incentives, Not beneficiaries of incentives, it is concluded that this factor does not affect the variability of the observed phenomenon, i.e., occupancy rates, because the p-value is >0.05.

It is concluded that there is no statistically significant difference in the values of the first dependent variable (DV1), i.e., the level of satisfaction with the visit of tourists and capacity occupancy, between groups of respondents with different demographic, socio-economic, and business characteristics.

Currently, the findings indicate that people view tourism's benefits favorably, seeing it as a means of obtaining work and elevating their standard of living. Because of the benefits that they personally derive from socio-cultural aspects (the advancement of arts and crafts, the enhancement of social life and amenities), a sizable portion of the rural population is willing to support the development of sustainable tourism.

The local population is open to supporting the growth of sustainable tourism as long as the perceived benefits are significant. The local community is more supportive of developing future tourist initiatives when perceived economic, sociocultural, and infrastructure benefits are strong.

In the second column of Table 2, the results for DV2 are provided.

1. If the factor observed is the Gender of the person/persons most engaged in the tasks of running a rural tourist household, with levels (treatments) being Male and Female, it is concluded that this factor does not affect the variability of the observed phenomenon, i.e., the earned income and return on investment, as the p-value > 0.05.
2. If the factor observed is the Age of the respondents, with levels (treatments) being Young, Middle aged, and Older, it is concluded that this factor affects the variability of the observed phenomenon, i.e., the earned income and return on investment, as the p-value < 0.05.
3. If the factor observed is the Education of the person/persons most engaged in the tasks of running a rural tourist household, with levels (treatments) being Primary school, High school, Higher school, faculty, master's degree, and doctorate, it is concluded that this factor does not affect the variability of the observed phenomenon, i.e., the earned income and return on investment, as the p-value > 0.05.
4. If the factor observed is the Experience (years of dealing in rural tourism), with levels (treatments) being Beginners and less experienced, Middle experienced, and Very experienced, it is concluded that this factor does not affect the variability of the observed phenomenon, i.e., the earned income and return on investment, as the p-value > 0.05.
5. If the factor observed is the Capacity size (number of individual beds per household), with levels (treatments) being Small size capacity, Middle size capacity, and Large size capacity, it is concluded that this factor does not affect the variability of the observed phenomenon, i.e., the earned income and return on investment, as the p-value > 0.05.
6. If the factor observed is the Rural tourism as a type of activity, with levels (treatments) being Basic activity (the only profitable activity on the household)

and Additional (supplementary) profitable activity, it is concluded that this factor does not affect the variability of the observed phenomenon, i.e., the earned income and return on investment, as the p-value > 0.05.

7. If the factor observed is the Tourist content, with levels (treatments) being Accommodation only, Full board (accommodation with food and beverage service), and Full board and other activities, it is concluded that this factor does not affect the variability of the observed phenomenon, i.e., the earned income and return on investment, as the p-value > 0.05.

8. If the factor observed is the Dominant sources of income in the rural tourist household, with levels (treatments) being Exclusively and only salary, Pension only, Exclusively and only income from rural tourism, Other (remittances from abroad, agricultural production, other), and Combination of different previously mentioned sources of income, it is concluded that this factor affects the variability of the observed phenomenon, i.e., the earned income and return on investment, as the p-value < 0.05.

9. If the factor observed is the Beneficiaries of incentives for the development of rural tourism, with levels (treatments) being Beneficiaries of incentives and Not beneficiaries of incentives, it is concluded that this factor does not affect the variability of the observed phenomenon, i.e., the earned income and return on investment, as the p-value > 0.05.

The Kruskal-Wallis test revealed differences in the degree of satisfaction with income from rural tourism and the possibility of investment return in rural tourism between groups of respondents based on two nominal variables (Table 2):

➢ Age of the respondents (p=0.016) and

➢ Dominant sources of income in the rural tourist household (p=0.034).

It is concluded that the Age of the respondents and Dominant sources of income in the rural tourist household influence the variability of the variable Income earned and return on investment.

Figure 2. Box plot - The influence of the age of the respondents on the grades of DV 2
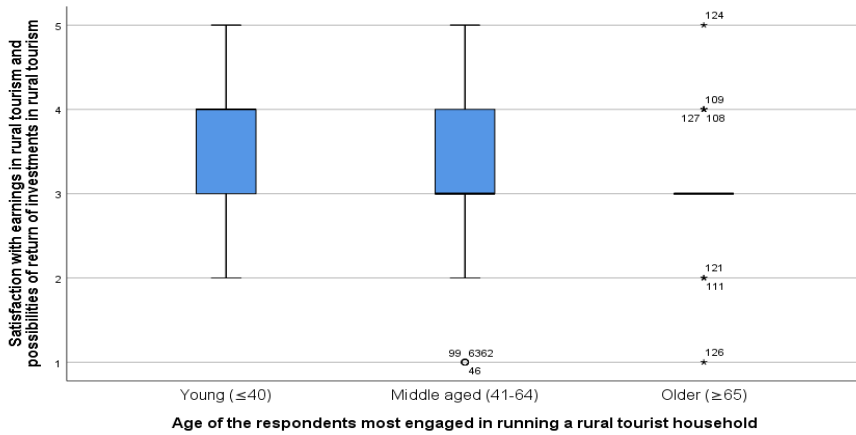
Source: Authors' calculation

Such a result can be explained by assuming that older individuals may lack the capacity, competencies, or various resources to enhance activities related to rural tourism, thereby increasing their income from this activity. Meanwhile, younger individuals possess greater enthusiasm, capacities, knowledge, as well as numerous and diverse competencies required in managing rural tourist households, leading to a higher level of satisfaction with income from this activity. Improving the economic efficiency of rural tourist households involves significant financial resources that can be obtained in various ways. Well-designed projects in tourism and tourist infrastructure would yield significant economic benefits and justify the investment of funds from the European Union.

Figure 3. Box plot-Influence of dominant sources of income on the household on ratings of DV 2.
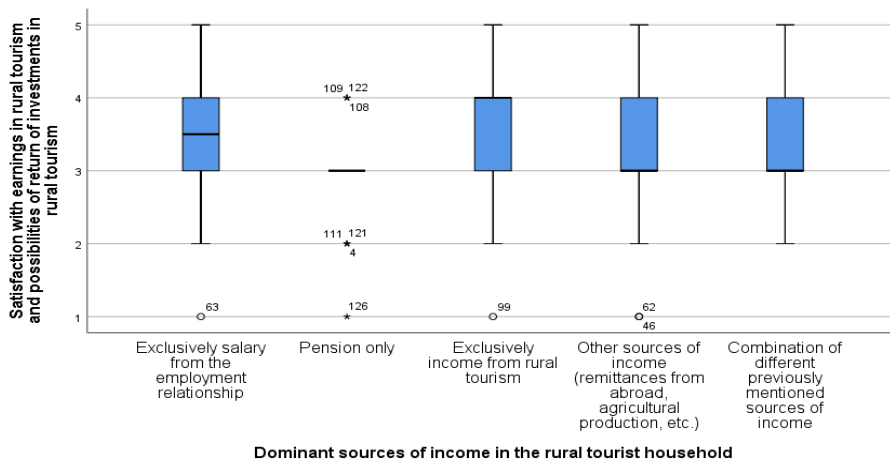
Source: Authors' calculation

Table 3. The Interquartile Range (IQR) for DV 2 by the independent variable Dominant sources of income in the rural tourist household

	IQR	Percentiles (25, 75)
Gp1, n=28: Exclusively and only salary	1	3.0-4.0
Gp2, n=18: Pension only	0	2.75-3.0
Gp3, n=24: Exclusively and only income from rural tourism	1	3.0-4.0
Gp4, n=18: Other (remittances from abroad, agricultural production, other)	1	2.75-4.0
Gp5, n=44: Combination of different previously mentioned sources of income	1	3.0-4.0

Source: Authors' calculation

The result indicates that rural tourist household operators whose income is predominantly and solely from pensions rate their satisfaction with earnings from rural tourism and the possibility of investment return the least favorably. This can be attributed to various factors, starting from the high probability that the pension may not provide a satisfactory standard of living and the ability to invest in activities related to rural tourism, to the fact that these individuals are older and may not have the capacity to enhance activities related to rural tourism, thus affecting their earnings from this activity.

Conclusions

Local specificity and resource availability pose challenges in creating a universal model for the development of products and destinations in rural tourism (Mathieson & Vall, 1982). According to the Master Plan for Sustainable Development of Rural Tourism in Serbia (2011, p. 104), both villages and farms will require the following support framework:

- Definition of the concept and establishment of minimum criteria to be met to obtain official certification.
- Application process for certification or minimum characteristics required for participation in the support program to meet minimum standards.
- Awareness, training, and technical assistance to candidates for support schemes and for final certification.
- Subsidy scheme for villages and farms.
- Review and certification process.
- Promotion and commercialization process.

Taking into account the expressed economic and other functions of tourism, as well as diverse and highly valuable potentials, the opportunity and appropriate significance for the development of this sector are provided by the spatial plan of the Republic of Serbia and its economic policies. In addition, the Tourism Development Strategy in Serbia has established a selective approach, treating rural tourism as a priority among the forms of tourism related to special interests.

The ability of rural communities to reap financial rewards from the growth of tourism-related activities is referred to as rural tourism's economic efficiency. This sector

of tourism promotes the allure of rural locations for tourists while assisting in the sustainability of nearby populations and ecosystems. The following are some crucial elements of rural tourism's economic effectiveness:

1. Economic diversification: The local economy can become more varied thanks to rural tourism. Communities can rely on tourism as a source of revenue rather than just traditional sectors like agriculture.

2. Increasing household income: By offering lodging, food, tour services, and the chance to sell locally made goods and mementos, tourism gives locals a way to make money.

3. Job creation: As tourism grows in rural regions, jobs in the hotel and restaurant, tour guide, and artistic industries, among others, may be generated.

4. Raising Investment: Infrastructure, including roads, lodging facilities, dining establishments, and other tourist attractions, can draw investment from the tourism industry.

5. Preservation of cultural heritage: Rural tourism may support the upkeep of regional customs, traditions, and handicrafts, all of which enhance the appeal of the area to tourists.

6.Improving infrastructure: Local governments frequently need to make infrastructural improvements to fulfill the needs of tourists, which can also benefit the local populace.

7. Contribution to local consumption: When tourists stay in rural regions, they spend money on activities, food, souvenirs, and lodging, which helps the local

8. Reduction of seasonal unemployment: By creating jobs throughout the travel season, tourism can contribute to the reduction of seasonal unemployment.

9. Developing an identifiable destination: Fruitful rural tourism can help create a destination that draws new tourists and continues to boost economic growth.

However, it is important to emphasize that the economic efficiency of rural tourism requires a balance between economic benefits and the preservation of natural and cultural resources. A sustainable approach to tourism development in rural areas should be focused on the long-term preservation of resources and support for local communities.

The importance of non-agricultural parts of sustainable rural development is highlighted by developed countries' experience with the demographic and economic issues of rural areas. These include processing industries, local product commerce, indigenous crafts, and, most importantly, rural tourism.

The level of development of rural tourism in a country certainly depends on the overall socio-economic development. Therefore, the total income generated by rural tourism operators in our country is small and inadequate, but still significant from the perspective of individual rural households. A significant effect of rural tourism development can be the substantial involvement of female labor force in this type of activity.

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Conflict of interests

The authors declare no conflict of interest.

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