CAN ORGANIC FARMING CONTRIBUTE ON SUSTAINABLE WOMEN ENTREPRENEURSHIP IN RURAL TOURISM? AN NACIONAL PARK EVIDENCE

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Abstract: The research actually represents two very important topics: female entrepreneurship in rural areas and organic production, with the hypothesis (H) that organic production forms the base of sustainable female entrepreneurship. Phase one used the interview technique with women entrepreneurs from the area of the National Park Fruška Gora (Serbia). Phase II of the study constituted a survey of organic product consumers in order to determine the motivational and attitudinal factors underlying their consumption patterns. Results showed that women are very successful concerning rural tourism and entrepreneurship with the motive of producing organic products stands for good practice in how women in the villages can be empowered and become economically independent. On the other hand, the results on organic product consumers indicate that the biggest motivation and attitude groups' factors regarding motives and attitudes of organic product consumers circle around health, emotions, environmental concern, and trend. It can be concluded that organic production has great potential when it comes to rural tourism as a desirable, sustainable way of empowering women.

Keywords: organic farming, sustainability, women entrepreneurship, motives and attitudes, Fruška Gora National Park

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INTRODUCTION

One of the basic human rights is to live in a healthy environment. 'Healthy' means a balance between feeding around 8 billion people on Earth and ecological needs for a healthy environment (Regmi et al., 2023). In other words, free from unhealthy food and pollution (Bergstrand, 2022). According to Pelaracci et al. (2024) food production of goods marks the beginning of a process of development which conserves the environment, protects all resources ensured to future generations, is economically viable and socially just (Tao et al., 2015; Barbosa et al., 2018). Living in a period which is full of tensions, stress has marked itself, people are always on the run to find new ways to reboot and get back to themselves and nature (Arsić et al., 2024; Han et al., 2024). This self-perception of people and the environment (Bojović et al., 2024) results in the dimensions that rural tourism can have at present and that are expected in the future, given the economic materialization of the society (Xu et al., 2024). It is also a force that grows with an attitude towards healthy living and consuming healthy food, without too many toxic chemicals in food (Akther et al., 2024). Healthy living also includes relaxation and entertainment - rural tourism offers that, as well (Addai et al., 2024; Moliterni et al., 2025).

According to Zeng et al. (2024) ecological production process includes Best Ecologic Practice in a way to preserve and protect natural resources and at the same time take all the necessary actions to meet the needs and expectations of consumers by using only natural - degradable ingredients without risk to human and animal health (Macueia et al., 2024). Organic production must ensure a well-preserved and healthy environment— the production of healthy and safe food for people (Fust'e-Forn'e and Jamal, 2020; Deb et al., 2024). The organic production prohibits the use of synthetic and another kind of chemicals; if they use in this process, then only recommended biodegradable, friendly to environment chemicals (Sharma et al., 2019). At the same time, this production shows the regime of sustainable agriculture and fully respects the use of exclusively necessary natural resources, renewable energy sources, and a unique emphasis place on the preservation

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of a clean assortment, safety of biological diversity (Wang et al., 2009; Alhemimah et al., 2024). The main mainstream farming is having the priority in big yield with the problem of putting profit in the foreground (Anjos et al., 2020). Organic farming, on the other hand, tries to find balance between land, plant, animal and human and that means mainstream farming would also include environmental protection (Antoniewicz et al., 2021). Indeed, there are more and more people from all over the world paying attention to the matter of serving health-safe food while preserving natural environment (Schianetz, 2007).

Natural resource management addresses management in relation between how people should interact with natural landscapes (Meybeck et al., 2024). It enables and includes aspects of natural heritage management, land-use planning, water management, bio-diversity conservation in the future sustainability for industries (including agriculture, mining, tourism, fisheries) and forestry (Matthies, 2016). All food systems do require natural resources but the fact is that increasing population growth added wealth-related dietary changes are placing resource systems under tremendous pressure (Li et al., 2024). Changing our food systems will be needed if the resources are to meet future demands (Strippoli et al., 2024).

An increasing number of food items are produced through ecologically sustainable processes without the involvement of hormones, heavy metals, synthetic pesticides, and herbicides (Baker et al., 2002). This path gained immense popularity because of obvious, multiple benefits for the human organism (Bhogal et al., 2016). Nonetheless, such benefits from organic production are still unachieved in Serbia since only 14,360 hectares are covered by agricultural production in this country (Stanojević et al., 2022). The following work attempts to discursively present the potential of organic farming in initiating rural development. Rural tourism meets healthy food, identified with organic production, which gives quality and the gastronomic supply to the tourist is totally determined as "healthy" (Schianetz and Kavanagh, 2008; Getz et al., 2014; Gao and Wu, 2017; Marinello et al., 2019; Firstianto et al., 2024). Women carry the development of tourist influx in rural areas because people come to the village, which is a place of healthy food to consume, and besides, it is also related to rural tourism development (Martínez et al., 2019). Their empowerment is a story for it being highly relevant in this decade. We will have to show the positive aspects of women's entrepreneurial development, and for sure the empowerment (Vujko et al., 2019). We want to present the development of rural tourism in a basic, affirmative context that underlines the problem of organic production - the role of organic production in terms of female entrepreneurship and rural development.

The ultimate aim of the paper is to influence the empowerment of women and make known to the latter the pluses of organic production. First and foremost, the consideration is addressed directly to women, particularly vulnerable women in rural areas. Evidently, it is of the utmost essence to make a difference and expose ways to best make use of available scarce resources towards turning them into tourism products that ensure positive incomes. As for those women who have succeeded in expanding and making their businesses in rural areas more productive, they exemplify the best ones. Additionally, this paper is intended to prove interest in the consumption of organic products by tourists, the latter being guests of a female entrepreneurship that provides food products coming from an environmentally friendly grown and immediate women-related area and that belongs to a Women's Association. The paper's authors believe that it can happen in many other ways, and training and showing examples of best practices with specifics and answers on how and in what way to start one's production are very important. It is also necessary for women to present to women what they can do when it comes to organic products, why it is good for women to "take matters into their own hands", what advantages rural tourism brings them and how they can connect with rural tourism households and restaurants of traditional cuisine. The paper begins by taking an initial hypothesis H: "that organic production represents the basis of sustainable female entrepreneurship". The research was conducted in the territory of the National Park Fruška Gora, situated in Vojvodina, the northern province of Serbia. That is in two directions, an interview with women entrepreneurs but also guests of a restaurant on Fruška Gora that makes homemade healthy food according to the principles of 'slow food' from organic ingredients. Furthermore, with the Women's Association synergy meeting 'Banstolka' agricultural farm focuses on multiplication and synergy between women who produce about 20 different kinds of homemade products from organic ingredients in the way that the material for these products they collect from the observed area which is actually a national park. The oldest national park in Serbia (Bojović et al., 2024).

The potential of the organic sector in Serbia can give a significant contribution to increased employment of the rural population and narrowing the gap that exists at present between the living standards in the cities and villages and securing long-run sustainability to the population of these areas. Results stated that women engaged in producing organic products were very satisfied with their work. In the first place, this proves that they can make a decent living producing these materials. They are ready to share their examples with other women, and members of their association, or other similar associations. On the other hand, results obtained from the motives and attitudes of organic consumers-tourists-are grouped around four factors regarding health, emotion, and environmental concern, including trend.

"Green Revolution" Movement

Movement for organic cultivation known as "Green Revolution" began during the 1940s as a response to agriculture industrialization (Huang, 2024). It was an interest group opposed to the industrial lobby that was initiating revolutionary changes in the practices of agriculture (Lucas and Kebreab, 2021). This is because, according to the powerful lobbies, an alternative means of production cannot possibly cater to the increasing contributors to the population all over the world. On the contrary, only organic food production can actually meet the growing needs of humanity since it is more resistant to droughts and does not even pollute the natural ambiance as opposed to industrial land treatment (Costantini et al., 2021; Šambronská et al., 2024). They have adopted a holistic view that national health is based on good agriculture, which is based in turn on long-term soil fertility. It was thought that soil health and strength are based on humus, its surface layer (Davies, 2003; Wang et al., 2007). On this concept, there emerged a land management system known as "humus farming" since its sustainability in agriculture production depended on how well soil fertility was conserved (Wan et al., 2021).

The development of the organic movement over the last seventy years can be schematized in three principal stages: phase of emergence (1924-1970), phase of expansion (1970-1990) and phase of growth (post-1990) (Lucas and Kebreab, 2021). In the 1920s, modern organic agriculture started developing in Europe and immediately collided with a powerful chemical lobby (Davies, 2003). During this time, organic agriculture was predominantly termed as biodynamic farming. As such, at its development, it encountered various challenges. The period before World War II Germany has been underlined as a very favorable country for the development of biodynamic farming (Lucas and Kebreab, 2021).

Phase of expansion was during the 1970s and 1980s when the major principles and indications of organic agriculture were developed (Davies, 2003). Increasing consumer awareness as well as a surge in retail outlets offering organic products characterized the final two decades of the twentieth century, as agricultural products in new brave west countries achieved a persistent surplus (Lucas and Kebreab, 2021). Out of the blue concern for the welfare of the earth led to a greater appreciation for organic production. The market relationship between supply and demand is positive for organic products and this has made it possible to increase hectares under certified organic production. After an expansion phase for the infrastructure of organic agriculture, there came a growth phase of this production. In this stage, total areas in organic agriculture kept growing, which further increased the market value of organic products (Davies, 2003).

According to data published by Eurostat (Nourallah et al., 2024), the area used for organic agricultural production in the European Union kept on increasing and reached 16.9 million hectares in 2022, up from 15.9 million in 2021 and 14.7 million hectares in 2020. It was in 2022 that the area used for organic agriculture represented up to 10.5 percent of the total UAA in the EU. Data of Eurostat prove that between 2012 and 2022, almost in all the EU countries, the area used for organic agriculture was expanding. The highest rates of growth in this period were recorded in Croatia (+306%), Portugal (278%), and Bulgaria (182%). The highest share of areas for organic farming in total UAA was recorded in Austria (27%), Estonia (23%) and Sweden (20%). While in 2022 the share of organic farming was under five percent in five EU countries, with the smallest share registered in Malta — under one percent, Bulgaria and Ireland sharing two percent. In the other countries, the share ranges from eight percent to 18 percent.

MATERIALS AND METHODS

In the field research using the techniques of the interview and survey research, we started from the initial hypothesis H: "that organic production represents the basis of sustainable female entrepreneurship". The research was carried out continuously between January 2022 and August 2024. Two surveys were conducted with women producers of organic products (honey, wine, brandy and Sremac dishes manufactured according to the prescriptions of traditional cuisine and cosmetics and teas made from organic raw materials) and with tourist consumers of these products. The first, exploratory research, was carried out by an interview to examining the motives and satisfaction on one hand, and on the other, the "examples of good practice" for setting the basics of the future projects of women's empowerment in the villages. Within the area of the Fruška Gora National Park, women entrepreneurs produce and market organic products. They were part of the interview. These women are also members of women's associations. In this way, they share their experiences with other members. Both their own and other women's associations come from the area of the National Park Fruška Fora (Serbia).

To verify this initial hypothesis, it was decided to survey users/tourists of such products. U istraživanju je učestvovalo 448 ispitanika, gosta restorana "Banstolka" na Banstolu (Fruška Gora). Gosti su, pored gostiju iz Srbije, bili iz još 7 evropskih država I iz Irana. For this purpose, a questionnaire was constructed, including 26 attitudes/variables, which the respondents evaluated on a five-point Likert's scale, from total disagreement to total agreement with the statement. Then a factor analysis was made, which separated 4 characteristic factors. The goal of this research was to find the answer to the question, "For what reasons do tourists choose to use organic products?" This question is the basis for formulating 4 sub-hypotheses:

- h1 reason for using organic products is health;
- h2 this reason for using organic products has a personal, emotional meaning for consumers;
- h3 reason for using organic products is environmental protection;
- h4 the reason for using organic products is poultry farming.

The initial factor analysis yielded a model that comprised four factors which categorized the respondents' responses into 4 dimensions:

Factor 1. Health: H1 I feel more energetic and that my immunity is better since I use organic products, H2 My skin is cleaner and I don't feel bloated from organic food

Factor 2. Emotions: E1 Organic products are made traditionally and it reminds me of my childhood, E2 I feel what I consume is made with love and meant just for me.

Factor 3. Environmental protection: EP1 Participating in environmental protection in that what I consume is ecologically acceptable and sustainable, EP2 Products are friendly and take care of animals.

Factor 4. Trend: G1 It's something that everyone talks about and it's very trendy nowadays, that's why I use organic products, G2 I want to be trendy, that's why I choose organic products

The effects of the single factors were evaluated through Structural Equation Modeling. SEM (Structural Equation Modeling) is a multivariate method used for building a structural model of relationships among variables, indicating causality. It shows the relationship to dependent data via path coefficients which indicates the strength of these relationships. Being a powerful technique SEM can solve the problem of multicollinearity, which occurs in the case when more than two variables have high correlation. Models are developed and revised based on theory. One common misuse in Structural Equation Modeling is trivial: one simply standardizes the data for an adequate SEM and then expands his/her theory completely from the results of analysis.

Fruška Gora National Park

The Fruška Gora National Park is located in Vojvodina, Serbia, near Novi Sad town (Figure 1). Its peaks are Red Cot (538 m), Orlovac (512 m) and Iriški Venac (490 m), the mountain resort. It stretches alongside the right bank of the 80 km long and 15 km wide River Danube. The status of National Park was awarded to Fruška-Gora back in 1960. It includes parts of the territory belonging to the city of Novi Sad - the municipality of Petrovaradin, the city of Sremska Mitrovica, the municipalities of Bačka Palanka, Beočin, Inđija, Irig, Sremski Karlovci, and Šid, within a total of 45 cadastral municipalities. The National Park Directorate is based in Sremska Kamenica. The park covers a total area of 26.672 ha, with 19.308 ha being state-owned, while the remaining 7.364 ha are privately and otherwise publicly owned. The first level of protection covers 3% of the total area, the second level of protection 67%, and the third level of protection 30% (Bojović et al., 2024).



Figure 1. Restaurant Banstolka inside the National Park Fruška Gora (Source: www.google.com)

RESULTS AND DISCUSSION

Orgaic farming at National Park Fruška Gora

The very favorable geographical position of lush mountainous Fruška Gora National Park, great meadow and forest vegetation, as well as the land structure that is favorable to viticulture and cultivation of other fruit species create a number of opportunities for those who would like to deal with a certain agricultural activity (Šarac et al., 2024). From former island in the Pannonian sea, to national park today, Fruška gora counts over 1,500 plant species, 220 bird species, 60 mammal species and 23 amphibian and reptile species Among them, tertiary relicts are designated as relict species: *Laurel Daphne (Daphne laureola), Kitaibelia vitifolia, Campanula lingulata, Cheilanthes marantae chaff.* The Pannonian endemics and subendemics are also relicts from xerothermic communities compared with species of the steppe origin and relicts of steppescented in some parts: *Crambe tataria, Pulsatilla vulgaris subsp* (Mikić et al., 2011). These include *Adonis vernalis, Anemone vitiana, Scilla drunensis,* which, in terms of physiognomy and phytosociological factors, are related to the forests and flowery grasslands of the protected area (Jovanović, 2012). The special feature of the flora is completed by over 30 species of *Orchidacea orchids*, of which 18 are of international importance. Since 2005, Fruška gora has been included in the IPA - Important Plant Areas of Central and Eastern Europe (Mikić et al., 2011).

Acorus calamus is without doubt one of the most valuable species of Fruška Gora. This aromatic meadown plant blooms from May to August and reaches a height of up to 1 meter. The inflorescence is lateral, elongated-cylindrical, rather dense and yellow-green. The rootstock is oblique, with a long main horizontal bulging lateral root, which is much branched, with long lanceolate leaves at the end. Traditional healers recommend taking the root in case of general weakness of the body, stomach and intestinal flatulence, and spasms. It also acts as a purgative for a sluggish stomach and intestines and in glandular diseases and gout. For slow metabolism, anemia, kidney diseases, it was also recommended. Idirot tea should also be drunk by extremely emaciated persons because it excites appetite and is also an excellent means for cleansing the body. Because of its aroma, which reminds of cinnamon, Acorus calamus is used to make an expensive essential oil for cosmetics and perfumes. Powder prepared with ijirot and strong grape brandy is used for various ulcers, gout and colic pain. Speaking of flora, it can praise the highest concentration of lime trees in Europe, which opened the door to developed apiculture. The Fruška Gora lime-tree honey contains more than 60% of lime-tree sag, hence no wonder the geographical origin of this product is protected. Fruška gora is good to keep bees for a couple of reasons.

This mountain range is very appropriate to apiculturists because it is located very near the two biggest Serbian cities— Belgrade and Novi Sad. Also, Fruška Gora is ideally situated with the Danube River passing along its entire length, therefore, there is a diverse and rich vegetation source that can provide blooms in early spring and again in late summer and acts positively on the development of bee colonies. Furthermore, plants provide pollens, the resin of the plants which bees may collect in the forest and thus produce high-quality propolis. Apart from rich flora and fauna, the mountain of Fruška Gora can also boast of a rich world of mushrooms -there are registered over 1,400 species of mushrooms, over 200 of which are medicinal, edible, or conditionally edible. Furthermore, it is also suitable for growing vines and producing wines due to numerous sunny days and high terrains. Since the land composition is extremely favorable, only on this mountain do all varieties of white vines grow. Wines from Fruška gora have long been known for their quality, due to the favorable conditions that this mountain offers to winegrowers (Vuković et al., 2020).

Female Organic Entrepreneurship at Fruška Gora National Park

Having in mind all the mentioned above it is no wonder that some women decided to deal with organic production. The first part of the research is the research of the field, using an interview technique with women who are engaged in collecting, production, and selling organic products. For some, it started as a hobby and then turned into the main source of income.Some are included in the production of soaps, creams and shampoos made from medicinal herbs from Fruška Gora. One of the participants in the research is the owner of the company "Freshka gora". She herself picks all the ingredients for her organic products on the mountain. As he says, this kind of production is very profitable.

Another young woman is one to like experiment and to offer a new product to the market. Namely, at the recent events throughout Serbia she introduced her new program of spreads based on the rapeeseed honey, in four flavors: cream honey with cranberry, chokeberry, raisins and chocolate honey which in a very short period was created a real hit among the little ones. They are tasty and do not contain artificial additives and are an ideal substitution for similar creams which can be found in markets all over the country. She is the inventor of a strong refreshing drink made of honey, brandy with the addition of lime - Medolin, quite tasty in combination with schweps. All products are first tested by family, then by friends, and only after their judgment is passed, the product is ready for the market. She is a member of Beehive Cooperative "Košnica", Grabovo (Beočin), the first cooperative at the honey Fruška Gora (largest linden forest concentration in Europe) which described 17 members, founded among other things for more easily accessing and placing the product on the market.

The sustainable development of apiculture this lady said is an efficient method of initiating successful honey production. Beekeeping is a vocation that can be quickly learned; investments are relatively low and quickly returned. It can be practiced by people without an age limit and disabled persons, of different levels of knowledge, of both sexes, within their household. One group of respondents collects mushrooms. They said that edible mushrooms are frequently used in food. Since we can't always have fresh mushrooms, they are dried, blanched, then frozen, marinated, cooked with mushrooms so they can be eaten all year round. Namely, an increasing number of women decide to deal with wine production at Fruška Gora. One of these is the Vrkatić sisters' cellar. According to the entrepreneurs, their cellar has a short but very interesting portfolio, in which Istrian Malvasia is a great place- a total curiosity from one, and only vineyard on Fruška Gora with that variety. The autochthonous white pea, from which the Vrkatić sisters make authentic white wine, stands out. Practically ideal for their peas white fish, large seashells, asparagus, or delicate pasta with white sauces are in the 2019 vintage; this is juicy and vibrant, extremely fresh, expressing aromas of melon, citrus, and small white flowers.

In Serbia Tanja Đuričić is a well-known name among oenologists. She signs the series of successful wines and is the flag bearer of several cellars. Years ago, at Erdevik winery, she managed to make a streak of great wines, some of which are now world acclaims. One of them happens to be the 2016 Shiraz "Stifler's Mom," opulent in every way, bearing flavor and character-just like the character of Stifler's mom in the movie "American Pie" that the wine is equated to. Fleshy, liqueur-like, literally bursting with sweet fruit notes and an accentuated character of smoke, tar, licorice and a little vanilla: Stifler's Mom 2016 is this. A full-bodied breed heavyweight, the right wine for an aged rump steak from the grill or just a cube of very good dark chocolate. Mirjana Hemun is the owner of rural tourist household Banstolka. He resides and works in Banstol. Mirjana is the president of the Women's Association "Banstolka" and the Association "Czech Sermon of Srem". She is engaged in the preservation of cultural and spiritual heritage in Banstol and Fruška Gora, as well as rural surroundings.

Mirjana Hemun is recognized for a very specific product "Fruškogorski skočko", which was awarded several medals and recognitions, of which we can especially emphasize the large gold medal at the International Agricultural Fair in Novi Sad. It is honey with stone fruit and dried fruit as an approdisiac. Among other products of Mirjana Hemun, white cherry sweet won 1 prize at the Ethno food and drink fair in Belgrade in the fruit products category, while plum brandy won the first prize in commodity group One. Rural tourist household "Banstolka" and Banstolka Women's Association as of January 23, 2020. are the holders of the first HALAL certificate in Serbia. The winner of many prizes for product quality, Mirjana can often be seen with her products at various events in the country. Women's Association "Banstolka" is a very good cooperation with the local self-government and, most frequently, the products from the association and from Mirjana Hemu's rural household are part of the official gift of the Municipality of Inđija, designed as the "Sweet Basket" from Banstol. All of the products coming from this association have the prescribed documentation that they are healthy and safe products, and they can be bought by those who wish at the association's headquarters in Banstol or in the "Our Heritage" Gallery in Novi Sad. This woman also has her own restaurant in which she greets people from all over the world traditionally. Only home-made traditional food cooked with love is served here. The kitchen is full of home-made-production, and they offer to the guests six sorts of brandy: honey brandy, apricot brandy, peach brandy, pear brandy, plum brandy, and walnut brandy. Distil pure homemade, without any additives. She stated that this Women's Association had organized a series of trainings in the field of agricultural production, certification with special emphasis given to organic food production.

Motives and attitudes of organic products users/tourists

The second part of the research was survey research. There were 448 respondents who were guests of the restaurant "Banstolka." In the respect of the gender of the respondents, 200 were male respondents while 248 were female respondents. Out of the total respondents, 374 of them claimed that they were from cities and the remaining were from villages— most of them were guests from Serbia (259), others from other countries also being nearly equal in number: Sweden (30), Portugal (26), the Czech Republic (26), Spain (25), North Macedonia (23), Norway (21), Iran (20), and Ukraine (18).

	Initial Eigenvalues		Extraction Sums		Rotation Sums of				Factor					
Factor			of Squared Loadings		Squared Loadings			1	2	3	4			
Factor	Total	% of	Cumulative	Total	% of	Cumulative	Total	% of	Cumulative	v1	.894	399	005	015
	Total	Variance	%	Total	Variance	%	Totai	Variance	%	v2	886	- 367	063	044
1	3.167	26.392	26.392	2.881	24.011	24.011	2.358	19.653	19.653	• 2	.000	.507	201	122
2	2.211	18.425	44.817	1.739	14.489	38.500	2.145	17.876	37.528	V3	.039	.085	201	.155
3	1.605	13.376	58.193	1.254	10.448	48.948	1.335	11.126	48.654	v4	.590	.774	026	020
4	1.276	10.637	68.830	.963	8.024	56.972	.998	8.317	56.972	v5	.538	.783	.008	.009
5	.929	7.740	76.570							vб	.251	.288	.288	.402
6	.866	7.213	83.783							v7	048	.144	.728	.114
7	.563	4.694	88.477							v8	017	.263	.285	.060
8	.500	4.169	92.646							vQ	- 145	115	669	- 057
9	.391	3.256	95.902								200	120	140	.057
10	.369	3.078	98.980							V10	288	.130	.148	.015
11	.070	.581	99.561							v11	037	.138	168	.570
12	.053	.439	100							v12	233	064	129	.660

Tuble 1. Total Vallance Explained (Extraction Method. Maximum Encomod)
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Table 2. Factor Matrix^a

Tables 1 and 2 present the results of the factor analysis. In this manner, a model was obtained that groups the variables into four factors explaining a total of 68.830% of the variance. They are named as follows:

Factor 1. Health: In most cases, organics contain more antioxidants, vitamins, and minerals. For example, since organic fruits and vegetables contain considerably higher levels of vitamin C and other antioxidants, they can support the immune response and have anti-disease effects. The most fundamental concept in organic production is to cautiously reduce or fully avoid applicability of synthetic pesticides, herbicides, and inorganic fertilizers that directly affect risks of chemicals generally imposed in conventional agriculture to consumers. Several researchers have reported that risks associated with exposure to pesticide residues could be linked with the development of various health complications such as cancer; disorders within the endocrine systems, and neurological diseases. By providing an alternative with its products, organic agriculture contributes to a reduction of this risk, which is especially important with children and during pregnancy, wherein organisms are generally more sensitive to toxic substances. Hence, most responses from the respondents were clustered around the factor "health." People mind what they feed into their bodies. It makes them feel better, more energetic; their skin becomes pretty and bright, and they do not feel bloated. In the overall view, the health factor recorded the highest factor loading among the respondents, and it happened to be the most motive of all.

Factor 2. Emotions: This factor was combinated with answers that referred to different evoked memories. The respondents associated organic food with love, happiness, good memories of childhood, and food that was served in the villages, at the grandmother's house. Others chose organic products because of a feeling of intimacy with the product itself, that it was something meant only for them. Emotions are a great motivation. Nostalgic memories can be related to so many ways, from food prepared with love, such as foods made for special pizzas, to the herb picking for the homemade jams and compotes, which reminded users of some dishes, up to the production of soaps or creams with medicinal herbs. The smells, the taste, and the view of the product awaken the consumers' memories of how they decide to buy the products. The second most mentioned factor was emotions.

Factor 3. Environmental protection: Organic production involves not only the effort to ensure a more nutritious and healthy diet for individuals but also to ensure harm to the environment is minimal. Long term sustainable management of agricultural lands leads to the maintenance and enhancement of soil fertility, enhanced bio-diversity, and rather minimized all forms pollution. Organic production is the entire farming and food production management system which enables the adoption of best ecological practices, combined with high ever levels of biological diversity and conservation of natural resources, and also provides the highest standards of animal welfare. The aim of the production is to comply with the desire of a particular consumer to buy products that are produced according to nature which is reached on the basis of natural processes. A growing number of people understand the issues of sustainability and all the principles of sustainable development. Sustainability is one of the main complicatedly essential issues in the business area for future developments. The site of preservation of the environment is also reflected in those respondents choosing organic products specifically because of the preservation of the environment. This factor is the third largest in the sample.

Factor 4. Trend: To a much lesser extent, compared to the other three, but still present among the respondents, there was a factor that grouped motives and attitudes related to the trend. The trend in the world is to be trendy. Today more than ever we talk about health, healthy food, healthy lifestyle. Individuals following the trends they see on the Internet and social networks probably unknowingly become consumers of organic products.

Structural Equation Modeling (SEM), as illustrated by the representative graph (Figure 2), reveals the interdependence of the identified factors, both in relation to one another and with distinct isolated attitudes. The results in Table 3 show that certain variables influence motives and attitudes toward consumers of organic products. Specifically, trend, as a motive for consuming organic products, inflicts, in fact, ultimate long-term negativity on the choice in organic products. This is because a trend is prone to change and, hence, those consumers motivated by the trend do not etch motivators for the consumption of organic products on their stone. Motivator "environmental protection" for consuming organic products also indicates some negativity and goes with consumers' decision to place themselves in the green establishment. Since attitudes are apt to change, such motives do not exhibit permanence. More concretely, the non-uniformity in responses also depicts the background of where the consumers are from. This is assumed to be the reason that people in the city have definitely

higher exposure to stress and other such health-related problems; therefore, awareness comes automatically for healthy as well as organic food and products. Contrary to this, people in the village section basically live healthy and consume organic products, so they do not even think about such products. In the case of buying organic products, gender does not influence the choice in any way. Finally, it can be concluded that both males and females understand healthy food to an equal extent.

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Figure 2. Structural Equation Modeling (SEM)(Source:Authors, 2024)

CONCLUSION

The share of organic agriculture in Vojvodina (Serbia) is continuously growing, although it is still rather scant—in the total volume of agricultural output, this figure currently accounts for just 1%. In Vojvodina, the best-developed agrarian region of the country, organic production is increasing. A study conducted several years ago proved that as much as 60% of the overall production is aligned with organic (Grujić et al., 2021). Such figures are, however, not pivotal. Interest in this field is ever-expanding from both the production and consumption sides in Serbia and Vojvodina. Several initiatives, education campaigns and public support in terms of subsidies to induce producers into applying organic production methods certainly fuel this expansion. There is, moreover, a growing number of consumers who are aware of the benefits of these products for their health and the environment; thus the offer cannot satisfy the demand. There have been identified some essential factors owing to which interest in organic agriculture keeps on (Knežević et al., 2024).

Support from the government and other forms of financial aid highly feasible for those willing to switch to organic production. Further, consumer education as well as technological guidance and skills is also part of the setting. At this point, apart from these levels of education to the consumers, there are increasing education campaigns through media, as well as social networks that trigger the demand further from organic products. This automatically takes the demand for organic produce to another level; with health trends, going green, and sustainable development, the market base is maintained. Meanwhile, most modern producers today specialize in organic production, which fulfills all the conditions of modernity and sustainability in terms of environmental health. Aside from that, organic agriculture is environmentally friendly since the sector deters the use of various chemical substances, including synthetic pesticides and inorganic fertilizers. It also aims at conserving the biodiversity of soil and enhancing soil quality. Modern-day producers love this because it resonates with their principles. Organic agriculture accounts for a relatively small share, though the trends are of steady growth and increasing interest. If the support and promotion are continued, then organic agriculture has every reason to advance and develop in the next few years, enhancing the health, sustainability and economic well-being of agricultural communities in Serbia and Vojvodina. This research has shown that consumers' motives and attitudes play a significant role, from Serbia or around the world, in determining that "the motive of health" is the most significant one when choosing healthy, organic food. All the other factors are much less represented. Health is the most important motive and the most current need of mankind. Organic food is a condition of healthy nutrition. In the same way, the empowerment of women is a condition of healthy society development. Therefore, the interconnection of the aforementioned preconditions creates a supportive environment for sustainable women entrepreneurship through Rural Tourism.

The results confirmed hypothesis H: "that organic production represents the basis of sustainable female entrepreneurship.". We saw that organic production and organic food are needed. We have also seen that this is a good development opportunity in rural areas. Women saw this and started to notice their potential. And one more thing—the biggest limit is the problem women face every day. A patriarchal society in which male-domination wants to limit as many women as they can to forbear from making the decision to engage in entrepreneurship within the sphere of organic production. Research generally should liberate even more women. Economic independence brings emancipation, and from all points of view, organic production is the best development chance for both women and rural areas; therefore it's a great win in this light.

Limitations and future research directions

The research depicted two brighter sides of organic production in rural areas-firstly, a strong demand for consuming organic products and, secondly, ample potential for women to undertake organic production. Despite certain constraining factors, it is quite evident that women in patriarchal societies, such as Vojvodina (Serbia), still live under the shadows of

Table 3.	Standardized Regression	
eights: (Gro	up number 1 - Default model)

weights. (Group humber 1 - Default model)							
			Estimate				
F1	<	F4	065				
F1	<	F2	.235				
F1	<	F3	033				
F1	<	Gender	.184				
F1	<	Place	056				
H1	<	F1	.960				
H2	<	F1	.977				
E1	<	F2	1.075				
E2	<	F2	.859				
EP1	<	F3	2.927				
EP2	<	F3	.167				
G1	<	F4	.344				
G2	<	F4	1.169				

their fathers and husbands. Living in shadow is a condition for the extremely sensitive and unprotected category of village women. These women are very sensitive and vulnerable sections. Most of them are actually quite clever and hard-working, brimming with ideas and a lot of pent-up energy in trying to assert themselves and show what they are capable of doing. But what they lack is support, which is the single most important thing for success. It is like everybody needs the push - up effect, and support can be from many sides. The authors feel that the Women's Association is extremely important, and such agencies can help a lot in empowering women. Especially the workshops and educations that can be organized.

Much research, projects, and empowerment have to be done to reach them and be aware that they are important, that they are valuable and form a pillar of any successful society. A strong empowered woman is a happy woman and a happy woman is a driving force that if properly directed and used can do wonders and contribute significantly to national economies building up. There are quite a few Women's Associations but it is not enough yet. Still, there exist women who are ignorant about the possibilities and potentials of the rural destinations where they live. Thus, in our opinion, research of that kind should be the one initiated and financed by decision-makers at the very highest levels. But the very first steps have been taken. Only continuity and stubbornly moving forward give a guarantee of success.

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REFERENCES

- Addai, G., Suh, J., Bardsley, D., Robinson, G., & Guodaar, L. (2024). Exploring sustainable development within rural regions in Ghana: A rural web approach. *Sustainable Development*. https://doi.org/10.1002/sd.2887
- Akther, T., Selim, I. M. M., Hossain, S. M., & Kibria, G. M. (2024). Synergistic role of agriculture production, fertilizer use, tourism, and renewable energy on CO2 emissions in South Asia: A static and dynamic analysis. *Energy Nexus*, 14, 100287. https://doi.org/10.1016/j.nexus.2024.100287
- Anjos, R., Cosme, F., Gonçalves, A., Nunes, F. M., Vilela, A., & Pinto, T. (2020). Effect of agricultural practices, conventional vs organic, on the phytochemical composition of "Kweli" and "Tulameen" raspberries (Rubus idaeus L.). Food Chem. https://doi.org/10.1016/j.foodchem.2020.126833
- Antoniewicz, J., Jakubczyk, K., Kupnicka, P., Bosiacki, M., Chlubek, D., & Janda, K. (2021). Analysis of selected minerals in homemade grape vinegars obtained by spontaneous fermentation. *Biol. Trace Elem.* Res. https://doi.org/10.1007/s12011-021-02671-9
- Arsić, M., Vujko, A., & Knežević, M. (2024). Development Perspectives of Wellness and Spa Tourism in the context of the tourism business sustainability. (M22), Sustainability, 16(20), 8760. https://doi.org/10.3390/su16208760
- Alhemimah, A., Baquero, A., Al-Romeedy, B. S., & Khairy, H. A. (2024). Green organizational learning and sustainable work behavior in tourism and hotel enterprises: leveraging green intrinsic motivation and green training. *Geojournal of Tourism and Geosites*, 55(3), 1134–1147. https://doi.org/10.30892/gtg.55314-1286
- Baker, B. P., Benbrook, C. M., Groth III, E., Benbrook, K. L. (2002). Pesticide residues in conventional, integrated pest management (IPM)grown and organic foods: insights from three US data sets. Food Addit. Contam. 19, 427–446. https://doi.org/10.1080/02652030110113799
- Barbosa, F. S., Scavarda, A. J., Sellitto, M. A., & Lopes Marques, D. I. (2018). Sustainability in the winemaking industry: an analysis of Southern Brazilian companies based on a literature review. J. Clean. Prod. 192, 80–87. https://doi.org/10.1016/j.jclepro.2018.04.253.
- Bergstrand, K. J. (2022). Organic fertilizers in greenhouse production systems a review. *Sci. Hortic-Amsterdam*. 295. https://doi.org/10. 1016/j.scienta.2021.110855
- Bhogal, A., Williams, J. R., Nicholson, F. A., Chadwick, D. R., Chambers, K. H., & Chambers, B. J. (2016). Mineralization of organic nitrogen from farm manure applications. *Soil Use Manag.* 32, 32–43. https://doi.org/10.1111/sum.12263
- Bojović, P., Vujko, A., Knežević, M., & Bojović, R. (2024). Sustainable approach to the development of the tourism sector in the conditions of global challenges. (M22) Sustainability, 16(5), 2098. https://doi.org/10.3390/su16052098
- Costantini, M., Ferrante, V., Guarino, M., & Bacenetti, J. (2021). Environmental sustainability assessment of poultry productions through life cycle approaches: a critical review. *Trends Food Sci. Technol.* 110, 201–212. https://doi.org/10.1016/j.tifs.2021.01.086
- Davies, W. P. (2003). An historical perspective from the green revolution to the gene revolution. *Nutr. Rev.* 61 (6), S124–S134. https://doi.org/10.1301/nr.2003.jun.S124-S134
- Deb, S. K., Rahman, M. S. U., & Nafi, S. M. (2024). Promoting handicraft family business through digital marketing towards sustainable performance. *Geojournal of Tourism and Geosites*, 55(3), 1402–1413. https://doi.org/10.30892/gtg.55340-1312
- Fust'e-Forn'e, F., & Jamal, T. (2020). Slow food tourism: An ethical microtrend for the anthropocene. *Journal of Tourism Futures*, 6(3), 227–232. https://doi.org/10.1108/JTF-10-2019-0120
- Firstianto, V., Tyas, W. P., & Damayanti, M. (2024). Rurality and popularity of village tourism relation on sumenep village tourism -Indonesia. *Geojournal of Tourism and Geosites*, 55(3), 1018–1027. https://doi.org/10.30892/gtg.55304-1276
- Gao, J., & Wu, B. (2017). Revitalizing traditional villages through rural tourism: A case study of Yuanjia Village, Shaanxi province, China. *Tourism Management*, 63, 223–233.
- Getz, D., Robinson, R., Andersson, T., & Vujicic, S. (2014). Foodies & food tourism. Oxford: Goodfellow Publishers, Ltd.

- Grujić, G., Vasin, J., & Belić, M. (2021). Soil salinisation in Vojvodina the Republic of Serbia. Current Opinion in Environmental Sustainability, 50, 149-158, https://doi.org/10.1016/j.cosust.2021.03.015
- Han, Z., Wei, Y., Bouckaert, F., Johnston, K., & Head, B. (2024). Stakeholder engagement in natural resources management: Where go from here? *Journal of Cleaner Production*, 435, 140521. https://doi.org/10.1016/j.jclepro.2023.140521
- Huang, K. (2024). The Green Revolution, grain imports, and income divergence in the developing world. *European Economic Review*, 166, 104772. https://doi.org/10.1016/j.euroecorev.2024.104772
- Jovanović, M. (2012). Slope processes of Srem Loess Plateau (N Serbia) Geologic versus Geoinformatic dataset. *Quaternary* International, 279–280, 227-228. https://doi.org/10.1016/j.quaint.2012.08.486
- Knežević, M., Pindžo, R., Ćulić, M., Kovačić, S., Dunjić, M., & Vujko, A. (2024). Sustainable (re)development of tourism destinations as a pledge for the future – a case study from the Western Balkans. *Geojournal of Tourism and Geosites*, 56(4), 1564–1575. https://doi.org/10.30892/gtg.56413-1327
- Li, Z., Li, L., & Hui, M. (2024). Fostering green economic growth through sustainable management of natural resources. *Resources Policy*, 91, 104867. https://doi.org/10.1016/j.resourpol.2024.104867.
- Lucas, R. G. K., & Kebreab, E. (2021). Retrospective analysis of the main feedstocks for animal feed in the world: How the green revolution has affected their environmental performance over the last 60 years, from 1961 to 2021. Science of The Total Environment, 926, 171882. https://doi.org/10.1016/j.scitotenv.2024.171882
- Macueia, F. B. E. D., dos Santos Hackbart, C. H., de Brito Leal, A., Crizel, L. R., Gomes, G. C., & Rombaldi, V. C. (2024). Grape (Vitis labrusca L.) juices, cv. Bordô, from vineyards in organic production systems and conventional production: Similarities and differences. *Scientia Horticulturae*, 336, 113252. https://doi.org/10.1016/j.scienta.2024.113252
- Marinello, S., Butturi, M. A., Gamberini, R., & Martini, U. (2023). Indicators for sustainable touristic destinations: A critical review. *Journal of Environmental Planning and Management*. https://doi.org/10.1080/09640568.2021.1978407
- Martínez, J. L., Martín, J., Fernandez, J. M. G., & Mogorron-Guerrero, H. (2019). An analysis of the stability of rural tourism as a desired condition for sustainable tourism. *Journal of Business Research*, 100, 165–174. https://doi.org/10.1016/j.jbusres.2019.03.033
- Matthies, B. D., D'Amato, D., Berghall, S., Ekholm, T., Hoen, H. F., Holopainen, J., & Yousefpour, R. (2016). An ecosystem servicedominant logic?-integrating the ecosystem service approach and the service-dominant logic. *Journal of Cleaner Production*, 124, 51–64. https://doi.org/10.1016/j.jclepro.2016.02.109
- Meybeck, A., Cintori, L., Cavatassi, R., Gitz, V., Gordes, A., Albinelli, I., Opio, K., Bahri, T., Berrahmouni, N., Li, Y., & Boscolo, M. (2024). Natural resources management for resilient inclusive rural transformation. *Global Food Security*, 42, 100794. https://doi.org/10.1016/j.gfs.2024.100794
- Mikić, A., Mihailović, V., Ćupina, B., Đurić, B., Krstić, Đ., Vasić, M., Vasiljević, S., Karagić, Đ., & Đorđević, V. (2011). Towards the re-introduction of grass pea (Lathyrus sativus) in the West Balkan Countries: The case of Serbia and Srpska (Bosnia and Herzegovina). Food and Chemical Toxicology, 49(3), 650-654. https://doi.org/10.1016/j.fct.2010.07.052
- Moliterni, S., Zulauf, K., & Wagner, R. (2025). A taste of rural: Exploring the uncaptured value of tourism in Basilicata. *Tourism Management*, 107, 105069. https://doi.org/10.1016/j.tourman.2024.105069
- Nourallah, M., Öhman, P., & Hamati, S. (2024). Financial technology and financial capability: Study of the European Union. *Global Finance Journal*, 62, 101008. https://doi.org/10.1016/j.gfj.2024.101008
- Pelaracci, S., Paolotti, L., Rocchi, L., Boggia, A., & Castellini, C. (2024). Life cycle assessment of organic and conventional egg production: A case study in northern Italy. *Cleaner Environmental Systems*, 15, 100226. https://doi.org/10.1016/j.cesys.2024.100226
- Regmi, R., Zhang, Z., & Zhang, H. (2023). Entrepreneurship strategy, natural resources management and sustainable performance: A study of an emerging market. *Resources Policy*, 86(Part B), 104202. https://doi.org/10.1016/j.resourpol.2023.104202
- Šarac, P. D., Torović, L., Orčić, D., Mimica-Dukić, N., Đorđević, T., & Lesjak, M. (2024). Comprehensive study of phenolic profile and biochemical activity of monovarietal red and white wines from Fruška Gora region, Serbia. *Food Chemistry*, 448, 139099. https://doi.org/10.1016/j.foodchem.2024.139099
- Schianetz, K., & Kavanagh, L. (2008). Sustainability indicators for tourism destinations: A complex adaptive systems approach using systemic indicator systems. *Journal of Sustainable Tourism*, 16(6), 601–628. https://doi.org/10.2167/jost766.0
- Schianetz, K., Kavanagh, L., & Lockington, D. (2007). Concepts and tools for comprehensive sustainability assessments for tourism destinations: A comparative review. *Journal of Sustainable Tourism*, 15(4), 369–389. https://doi.org/10.2167/jost659.0
- Sharma, B., Vaish, B., Monika, Singh, U. K., Singh, P., & Singh, R. P. (2019). Recycling of organic wastes in agriculture: an environmental perspective. *Int. J. Environ. Res.* 13 (2), 409–429. https://doi.org/10.1007/s41742-019-00175-y
- Stanojević, P. S., Pešić, M. M., Milinčić, D. D., Kostić, Ž. A., Pešić, B. M. (2022). Nutritional behavior and motives of college students for the choice of traditional food in the Republic of Serbia. *Heliyon*, 8(10), e11002. https://doi.org/10.1016/j.heliyon.2022.e11002
- Strippoli, R., Gallucci, T., & Ingrao, C. (2024). Circular economy and sustainable development in the tourism sector An overview of the truly-effective strategies and related benefits. *Heliyon*, 10(17), e36801. https://doi.org/10.1016/j.heliyon.2024.e36801
- Šambronská, K., Šenková, A., Kolesárová, S., & Kormaníková, E. (2024). Motivational factors and financial support for entering sustainable ecological destinations as impulses for sustainable tourism and environmental protection: a case study on the example of national parks. *Geojournal of Tourism and Geosites*, 53(2), 480–488. https://doi.org/10.30892/gtg.53211-1223
- Tao, R., Liang, Y. C., Wakelin, S. A., & Chu, G. X. (2015). Supplementing chemical fertilizer with an organic component increases soil biological function and quality. Appl. Soil Ecol. 96, 42–51. https://doi.org/10.1016/j.apsoil.2015.07.009
- Vujko, A., Tretiakova, N. T., Petrović, M., Radovanović, M., Gajić, T., & Vuković, D. (2019). Women's empowerment through selfemployment in tourism. Annals of tourism research, 76(May 2019), 328-330 https://doi.org/10.1016/j.annals.2018.09.004
- Vuković, D., Vujko, A., Maiti, M., & Riad, S. (2020). Residents' perceptions of wine tourism on the rural destinations development. British Food Journal, 122(8), 2739-2753. https://doi.org/10.1108/BFJ-04-2019-0291
- Wan, L. J., Tian, Y., He, M., Zheng, Y. Q., Lyu, Q., Xie, R. J., Ma, Y. Y., Deng, L., & Yi, S. L. (2021). Effects of chemical fertilizer combined with organic fertilizer application on soil properties, citrus growth physiology, and yield. *Agriculture*-Basel 11 (12). https://doi.org/10.3390/agriculture11121207
- Wang, W. X., Xu, P. J. (2009). Research Progress in precipitation chemistry in China. Prog. Chem. 21 (2-3), 266-281.
- Wang, Y. T., Huang, S. W., Liu, R. L., Jin, J. Y. (2007). Effects of nitrogen application on flavor compounds of cherry tomato fruits. J. Plant. Nutr. Soil Sci. 170 (4), 461–468. https://doi.org/10.1002/jpln.200700011
- Xu, T., Hordofa, T. T., Kaur, P., Dongsheng, C., & Muda, I. (2024). Natural resources management efficiency: The role of green innovation for digital government. *Resources Policy*, 95, 105119. https://doi.org/10.1016/j.resourpol.2024.105119
- Zeng, Q., Li, C., & Magazzino, C. (2024). Impact of green energy production for sustainable economic growth and green economic recovery. *Heliyon*, 10(17), e36643. https://doi.org/10.1016/j.heliyon.2024.e36643

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