REVITALIZATION OF THE SLOVENIAN HERBAL MARKET? A MIXED STUDY APPROACH

REVITALIZACIJA SLOVENSKOG TRŽIŠTA LJEKOVITOG BILJA? ISTRAŽIVANJE PRISTUPOM KOMBINIRANIH METODA

Market-Tržište
Vol. 35, No. 2, 2023, pp. 205-221
UDK 339.13:633.88(497.4)
DOI http://dx.doi.org/10.22598/mt/2023.35.2.205
Preliminary communication

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Abstract

Purpose – The study aims to identify the needs, barriers, and measures relevant for the revitalization of the herbal market in Slovenia.

Design/Methodology/Approach – A mixed-methods approach was used in the study, with a quantitative online survey of Slovenian herbalists (*N* = 217) and in-depth interviews conducted with key Slovenian stakeholders in the field of herbalism (*N* = 18).

Findings and Implications – Most Slovenian herbalists grow herbs as a hobby or as a supplementary farm activity; they have little land for growing herbs and thus also generate a low income. Most of them sell their products directly to consumers, with only one tenth selling herbs to retailers. As many as three quarters of the respondents are not a part of any organization which, along with lower prices, is the main barrier to a market revitalization. The in-depth interviews revealed a lack of interest in collaboration among herbalists because they find the existing situation to be sufficient to a certain extent, as demand is greater than their supply. The results show

Sažetak

Svrha – Cilj je rada identificirati potrebe, prepreke i mjere za revitalizaciju tržišta ljekovitog bilja u Sloveniji.

Metodološki pristup – Korištene su kombinirane metode istraživanja. Provedeno je kvantitativno online anketiranje slovenskih travara (N = 217) i dubinski intervjui s ključnim slovenskim dionicima u području travarstva (N = 18).

Rezultati i implikacije – Većina slovenskih travara uzgaja bilje iz hobija ili kao dopunsku djelatnost poljoprivredi jer imaju malo zemlje za uzgoj ljekovitog bilja i stoga niske prihode. Većina prodaje svoje proizvode izravno potrošačima. Samo jedna desetina prodaje bilje trgovcima na malo. Čak tri četvrtine ispitanika ne pripada nekoj od organizacija, što uz niže cijene predstavlja glavnu prepreku revitalizaciji tržišta. U dubinskim intervjuima pokazalo se da travari nisu zainteresirani za suradnju jer im je postojeće stanje donekle dostatno zbog toga što je potražnja veća od ponude. Rezultati pokazuju da nema dokaza o tržištu ljekovitog bilja kakvo je postojalo prije osamostaljenja Slovenije.

no evidence of an herbal market as it existed before Slovenia's independence.

Limitations – Since there is no census of Slovenian herbalists, the sample is not representative.

Originality – There is a lack of understanding of the barriers to and measures for revitalizing the herbal market, especially in developed countries whose market was well developed decades ago, such as Slovenia.

Keywords – herbs, market, Slovenia, in-depth interviews, online survey, barriers

Ograničenja – Budući da ne postoji popis slovenskih travara, uzorak nije reprezentativan.

Doprinos – Nema dovoljno razumijevanja za prepreke i mjere za revitalizaciju tržišta ljekovitog bilja, posebice u razvijenim zemljama gdje je tržište bilo dobro razvijeno prije nekoliko desetljeća, poput Slovenije.

Ključne riječi – ljekovito bilje, tržište, Slovenija, dubinski intervjui, online anketa, prepreke

1. INTRODUCTION

In recent decades, social and political interest in the growing and commercialization of herbs has increased, as these products are important elements for economic development and a vital factor for job creation in rural areas (Bejarano, Rodrigues, Sánchez, Al-Ghanim & Al-Saidi, 2020; Weiss, Emery, Corradini & Živojinović, 2020). The European Union (EU) promotes the growing of herbs, especially for medicinal and aromatic purposes, in its efforts to support sustainable farming practices and protect biodiversity (Shunko & Vogl, 2018). For example, the Common Agricultural Policy (CAP) includes measures to support sustainable agricultural practices such as organic farming, agroforestry, and crop diversification, which relate to herb production.

Europe has a long tradition of gathering wild plants. In particular, herbs such as chamomile, peppermint, valerian, fennel, and saffron, used in the cosmetic and botanical industries, are collected from natural habitats (EIP-A Plant-based medicinal and cosmetic products, 2020). From a marketing perspective, domestication and cultivation of herbs offer unique new opportunities, notably an increase in authentic and botanically reliable products; a guaranteed permanent source of raw materials; better relationships between growers and wholesalers; controlled post-harvest handling and thus strict quality control; opportunities to adapt product standards to regulations and consumer preferences; and product certification (Pierce & Laird, 2003).

The cultivation of herbs is widespread in Europe, with each country having its own unique herbs and production methods. Herbs are grown on more than 200,000 ha, with the largest areas located in France (52,000 ha), Poland (30,000 ha), Spain (27,800 ha), Bulgaria (16,800 ha), Germany (13,000 ha), Croatia (8,500 ha), the Czech Republic (7,225 ha), Italy (7,191 ha), Greece (6,800 ha), and Austria (4,136 ha) (EIP-A Plant-based medicinal and cosmetic products, 2020). According to a report by ResearchAndMarkets.com (2023), the European herbal market is a growing industry, which is expected to reach 10.35 billion euros in revenue by 2025, growing at a CAGR of 6.7% from 2020 to 2025. The increasing demand for natural products, coupled with the rising prevalence of chronic diseases, is driving growth of that market. In addition, the COVID-19 pandemic has led to a surge in demand for herbal remedies, as consumers look for ways to boost their immunity (Soleymani, Naghizadeh & Karimi, 2022).

Although the herbal market in Europe is growing and is expected to expand further in the coming years, the share of herb production in the overall production of crop continues to be very limited. In general, small-scale growing practiced by individuals or families, usually in-home gardens or at small farms, often with a focus on growing herbs for personal consumption or for sale in local markets, predominates over commercial cultivation, where herbs are grown on a large scale for the commercial market (Bareetseng, 2022). The fact that most dried plant material for the market and industry comes from wild-growing plants and/or imports from outside the EU provides arguments for bolstering sustainable herb production and processing within Europe as a process offering new opportunities to both herbalists and herb traders, as well as providing for heightened controls and greater adherence to standards to ensure that herb products are of better quality and more suited to consumer preferences, and that they can ultimately be certified.

In Slovenia, the herbal market is likewise unorganized, although prior to the country's independence the gathering, growing, and organized purchase of herbs for the pharmaceutical industry were well developed (Gornik & Potočnik Slavič, 2020). For example, in the 1970s and 1980s, Slovenian growers cultivated ryegrass (about 3,000 ha), mint and chamomile (about 50 ha), and valerian and American sedge (about 20 ha) (Smernice razvoja lokalne oskrbe z zelišči za obdobje 2016–2021, 2016). Changes in the technology for the extraction of active substances of plant origin as well as globalization of the market, enabling access to cheaper herbs from South-Eastern European countries and China, put a stop to organized purchasing in the newly independent state and in turn left its herb growing poorly organized, as a result of which the market up. While herbs were grown on only about 20 ha in 1994, the area grew to about 75 ha in recent years (Smernice razvoja lokalne oskrbe z zelišči za obdobje 2016–2021, 2016).

Given the lack of understanding of the barriers to revitalizing the herbal market and measures to do so, especially in developed countries whose market was well developed decades earlier, such as in Slovenia in which, according to EU and national documents (Common Agricultural Policy 2023–27, 2021; Strateški načrt skupne kmetijske politike 2021–2027, 2020), herbalism can be an important niche sector with an innovative approach that may increase farmers' income, support sustainable agricultural practices, and protect biodiversity, a research question arises as to the needs, main barriers, and measures relevant to the revitalization of the Slovenian herbal market. The aim of the study with a mixed-methods approach is therefore to identify in depth the needs, barriers, and measures for the revitalization of the herbal market in Slovenia.

2. LITERATURE REVIEW

Studies on the herbal market are very scarce and have mostly focused on the analysis of trade flows (Asl Roosta, Moghaddasi & Hosseini, 2017). All countries of Eastern and South-Eastern Europe represent cheap sources of herbs. They are rich in medicinal and aromatic plants for traditional domestic use but also export these mainly to European countries such as Germany, Italy, and France. Extant Studies from Mediterranean countries, including Croatia, France, Greece, Spain, and Tunisia (e.g., Posavec, Brenko & Beljan, 2021; Taghouti et al., 2022), have highlighted important challenges for the market that are primarily related to an unorganized or poorly organized market, certification and labeling, research development, and processing of herbs. To overcome these challenges, producer networking and joint marketing strategies are crucial for ensuring better horizontal cooperation among small herbalists and better vertical integration. New marketing approaches are needed to meet consumer expectations (e.g., in terms of design, packaging, and new distribution channels). Process innovation is an asset when it comes to the introduction of new methods to reduce costs and improve product quality, promote new uses for herbs, raise consumer awareness, and obtain financial support from the government/EU for individuals and companies trading in the products.

Research among European farmers has shown that growing herbs is more profitable than growing traditional crops (EIP-A Plant-based medicinal and cosmetic products, 2020). Polish farmers claim that herbs are economically attractive plants under the condition of guaranteed purchase and favorable prices. Therefore, herbalists in that country are well organized, the market for herbal raw materials is stable, and most business is done in the form of long-term contracts with the pharmaceutical industry and herbalists (Spychalski, 2014). On the other side, a study on Slovenian herbal entrepreneurs (Gornik & Potočnik Slavič, 2020) has shown that, due to the workload involved, no expansion of herbal production is to be expected as their existing business model does not yet allow a (decent) income for one person or an expansion of activities.

Numerous studies from different parts of the world have pointed to the success of replanting herbs as a rural revitalization strategy. Promoting the cultivation of herbs encourages the restoration of traditional food value chains and has the potential to benefit farmers by bringing both environmental and economic improvements over conventional farming practices. Examples from China, India, and Western Ukraine show how the re-cultivation of herbs has not only revitalized the countryside but improved biocultural diversity as well. The current growth of herbs has also revived the reservoir of local ecological knowledge. These herbs are grown and distributed using a combination of traditional techniques enhanced and expanded with the application of digital technologies and new agronomic approaches (Mishra & Nambiar, 2018; Stryamets et al., 2021; Rao, 2022; Lu & Je, 2023). A European pilot study and expert opinion show that herbs can also contribute to integrated agro-industrial pathways by providing plant-based raw materials and intermediate products that are of significant economic value to various industrial sectors outside agriculture (EIP-A Plant-based medicinal and cosmetic products, 2020). The cultivation of herbs creates opportunities for diversification in rural areas through sustainable social innovations, such as increasing territorial capital through landscape diversification, biodiversity conservation, cross-sectoral and territorial integration, and synergy with other sectors such as bioeconomy and agro-tourism. In this respect, herbs can be considered a suitable tool for the multifunctional development of agricultural activity. Moreover, the cultivation of herbs opens up more opportunities for women, young people, and local populations to participate in innovative processes involving the herb value chain (EIP-A Plant-based medicinal and cosmetic products, 2020).

Reviving the development of the herbal market requires a change in the behavior of key actors, hence it is important to take this perspective in examining the perceived barriers to and measures for its implementation. It provides categories that can more comprehensively capture the potential range of factors with an impact on implementation outcomes while also allowing researchers to better understand policy implementation (Nilsen, 2015). Despite the enormous potential for building entrepreneurship in the herbal sector, few studies have focused on the barriers to growth by pointing to the gap between herbalists and traders due to lower or fluctuating prices, the quality and quantity of herbs, the poorly organized market, certification and labeling, lack of research, the processing of herbs, and the development of the sector itself (Kala, 2015; Posavec et al., 2021; Taghouti et al., 2022). In the absence of research studies examining the barriers and measures relevant to the revitalization of the herbal market, especially in developed countries where the market was well developed decades ago, the present study attempts to fill this research gap.

3. METHODS

A mixed-methods approach of in-depth interviews and a quantitative survey was used in this study. In-depth interviews are useful for obtaining detailed information about the opinions of the interviewees on the topic under study, in our case concerning barriers and measures relevant to the revitalization of the Slovenian herbal market, and for explaining the results of the quantitative research. Since the drawback of conducting in-depth interviews is that they include only a small sample, we conducted a quantitative survey to identify the main characteristics of herbalists, as well as the needs for and the main barriers preventing a greater revitalization of the Slovenian herbal market.

3.1. Qualitative Approach

In order to gain a detailed insight into the barriers to and necessary measures for the revitalization of the Slovenian herbal market from different perspectives, we conducted in-depth semi-structured interviews with key stakeholders in the field of herbalism, namely herbalists (large-scale herbalists, organic herbalists, social enterprises); experts and consultants in the field of herbal science; scientists in the field of herbal science; traders buying herbs; pharmacists (heads of galenic laboratories), doctors, healers, and phytotherapists; and representatives of the Ministry of Agriculture, Forestry and Food of the Republic of Slovenia ($N = 18$).

The topics of discussion were barriers to herb growing, to the organized purchase of herbs, and to the collaboration of herbalists, as well as measures to stimulate increased herb growing and purchasing, and collaboration among herbalists. Using existing studies and contextual knowledge, a topic guide protocol was developed to collect all qualitative data. The interviewees were selected based on publicly available information about their work. Invitations were sent out to them by email and an interview date convenient to the interviewees was arranged. The interviews were conducted in December 2022, and in January and February 2023 by two female researchers in the field. The interviews, which lasted between 45 and 60 minutes, were recorded and the interviewees' statements were transcribed.

The anonymized statements were transcribed and analyzed using thematic analysis. In the analysis and coding, we first read the text several times and assigned corresponding terms to the individual statements. These were then grouped into subthemes based on related meanings, further grouped into themes. The result of the analysis is represented by codes, related subthemes, and themes interpreted and supported by the respondents' statements. The analysis was conducted by both researchers.

3.2. Quantitative Approach

To obtain information from the actors in the field of herbalism about the needs for and barriers to establishing an organization of herbalists, and to select the most environmentally and market appropriate herbs for growing in Slovenia, we conducted a descriptive survey based on a quantitative method, using the survey technique.

An online questionnaire was used in order to reach as many respondents as possible and obtain generalizable data. The survey was conducted using an open-source online survey application from 6 February 2023 to 15 March 2023. Invitations for participation were sent out via email to individual herbalists and herbalist associations with a request to forward the survey to their colleagues in the field. To reach a larger number of herbalists, we also distributed the questionnaire on social networks.

The questionnaire was developed based on a study conducted by Spychalski (2014) and an initial analysis of the in-depth interviews. The final instrument consisted of a total of 20 closed multiple-choice questions. The first five questions concerned the sociodemographic characteristics of the respondents (gender, age, education, region, and income). These were followed by questions aimed at determining the characteristics of the herbalists (e.g., type of farm, herb-related activities, size of herb-growing area, share of herb growing in relation to income), the demand for herbs, barriers to the revitalization of the herbal market, and opinions about the most environmentally and market appropriate selection of herbs for growing in Slovenia. The respondents evaluated the statements regarding demand on a 5-point Likert scale (1 – strongly disagree, 5 – strongly agree) and selected perceived barriers via a multiple-choice question.

The research population consisted of Slovenian herbalists. Since there are no records covering all farms and unregistered herbalists, the sample was selected using the simple random-sampling method. A total of 217 herbalists completed the questionnaire. Among the surveyed herbalists, women (84%), representatives of the middle-aged generation (48%), those with completed higher education (40%), and a monthly household net income of 1,000–1,999 euros (34%) prevail (Table 1).

TABLE 1: Sociodemographic Characteristics of the Sample (N = 217)

Characteristics	Category	n (%)
Gender	Male Female I do not want to answer	32 (14.7%) 182 (83.9%) 3 (1.4%)
Age	Less than 25 years 26–35 years 36–45 years 46–55 years 56–65 years 66 years and over	2 (1%) 24 (11.1%) 52 (24.0%) 52 (24.0%) 70 (32.30%) 17 (7.8%)
Education	Primary or vocational school Secondary school Post-secondary education Higher education (1st and 2nd cycle) Master of Science PhD	10 (4.6%) 64 (29.5%) 39 (18.0%) 86 (39.6%) 13 (6.0%) 5 (2.3%)
Monthly household net income	Less than EUR 500 EUR 500–999 EUR 1,000–1,999 EUR 2,000–2,999 EUR 3,000–3,999 More than EUR 4,000 I do not want to answer	16 (7.4%) 32 (17.4%) 74 (34.1%) 48 (22.1%) 17 (7.8%) 12 (5.5%) 18 (8.3%)

Source: Survey, 2023

A basic descriptive statistical analysis was used for data processing. For a more detailed analysis, i.e., to identify any differences between herbalists, the Kruskal-Wallis Test was used.

4. RESULTS

4.1. Qualitative Approach

4.1.1. Barriers to the growing and organized purchasing of herbs and to cooperation among herbalists

In the opinion of the herbalists interviewed, the biggest barrier to revitalizing the herbal market is the low purchase price of herbs, which discourages them from growing herbs in larger quantities. Another barrier is disorganized purchasing and the lack of an actor who would be the driving force behind the collaboration among herbalists. More specifically, according to the representative of a company producing essential herbal oils (Interviewee 12), the supply of herbs in Slovenia is too small, forcing herbalists to buy abroad, that is, in former Yugoslavia. Some of the interviewed herbalists and representative of the ministry noted that "herbalists do not collaborate because most of them do not need to yet, as the demand for herbs is still bigger than the supply," as stated specifically by Interviewee 11, who is a big producer of herbs by Slovenian standards.

Most of the herbalists interviewed claimed that they were "hindered by the pharmaceutical industry" (Interviewee 2), while scientists and representatives of the pharmaceutical industry claimed that this was due to a misunderstanding of how the pharmaceutical industry works, as it does not impose any laws or strict requirements on the quality of herbs on the market: "If pharmaceutical companies do not want to buy their raw materials, they do not mind, but that is their business strategy. The problem lies in the legislation, which is otherwise favorable to the pharmaceutical industry, even though it basically sets high requirements to protect consumers. Herbalists want to sell certain herbs, for example St. John's wort, as medicine or food, but that is not allowed." (Interviewee 4)

The problem lies in the extensive documentation for proving the quality of the raw material (certificate of analysis of microbiological quality, the absence of heavy metals and pesticides, etc.), which herbalists need to sell herbs but cannot afford financially as individuals. Therefore, the interviewed scientists and pharmacists propose to "establish a cooperative or a company that would determine, control, and sell the herbs of a large number of co-operators and also perform these complex analyses for them," as Interviewee 4 put it. Some interviewees noted that Slovenians are too independent and mistrustful, and do not want to submit to common rules; they therefore doubted the success of such collaboration.

An interviewee from a social enterprise mentioned that his enterprise also focused on connecting different social enterprises that grow herbs, and involved unemployed Slovenians in the work, as they had "precontracts with local, Croatian, and Bosnian social enterprises, because pharmaceutical companies require tons of herbs that we cannot supply ourselves." (Interviewee 5)

4.1.2. Measures in the field of production and organized purchase of herbs and the cooperation among herbalists

Most of the interviewees see possibilities in the creation of a register of herbalists and the establishment of an herbal cooperative. Interviewee 10 suggested that "herbalists who grow herbs on more than 0.2 ha could market independently or through cooperatives, and smaller ones only through cooperatives so that the system and consumers are not exploited." Herbalists expect the register and herbal cooperative to be established by the Ministry of Agriculture. The herbalists and an agricultural extension worker also expect help from the ministry in the form of financial support for herbalists and public procurement, especially in schools and kindergartens. Some herbalists also expect the Ministry of Agriculture to create a common platform where herbs can be offered at the national level: "We first need overarching support from the Ministry to separate the intensive farming measures and the rural revitalization measures for growing herbs and medicinal plants, which can also be a wonderful business opportunity that requires fewer input costs. They should also form a common platform at the level of Slovenia as a whole and help with buying herbs." (Interviewee 5)

The Ministry of Agriculture's representative said, "The Ministry must not unite the herbalists, because that is not its job; besides, it is undemocratic. However, if the herbalists organize themselves, it can offer them support. If the herbalists have the will to unite, they will get the funds." (Interviewee 3)

Herbalists also see great opportunities for progress with respect to professional support, following the German, Austrian, Slovakian, and Serbian models, where the state funds research into herbs and provides professional support to herbalists. For example, Interviewee 10 observed, "I have been warning for years that in Slovenia we do not have an institute for medicinal plants that could provide professional support to herbalists. When growing herbs, professional support is often more important than financial resources from the state." Most of the interviewed herbalists also called for granting a special status to herbalism as an "understaffed industry" (Interviewee 1), as it meets sustainable environmental, social, and economic goals.

The interviewees also reported the good practice of a local shopping basket that includes herbal tea alongside meat and vegetables. It is about connecting local farmers, which is not based on a contractual obligation, but only on their interest in joint sales and promotion.

Another positive trend is that consumers recognize the quality of local food, "so the pharmaceutical industry should also realize that it is worthwhile to produce and promote products from local herbs," said the representative of the Ministry (Interviewee 3).

Herbalists also mentioned the possibility of greater optimization of the herbal business in terms of increased training in the making of preparations; inclusion in tourism, cuisine, therapy; and the marketing of herbs. Interviewee 16 added that herbs should be recognized as part of the "material and cultural heritage" and promoted as such at the national level.

TABLE 2: Thematic Analysis with Subthemes, Codes, and Quotes from Stakeholders in Herbalism

Themes	Subthemes	Codes	Quotes
Barriers to revitalizing the herbal market	Barriers to production	• Low purchase price • Insufficient quantity • Non-cooperation among herbalists • Demanding analyses of the quality of raw materials	*"The biggest obstacle is the low price of herbs, so they are not worth growing." (Interviewee 10)* *"The main obstacle is insufficient quantity, which is why farmers are not competitive." (Interviewee 15)* *"An individual cannot afford the cost of a raw materials analysis." (Interviewee 13)*
	Barriers to cooperation among herbalists	• The interest of the individual is greater than the common interest	*"Herbalists do not collaborate because they do not have to. They still make good money by themselves." (Interviewee 3)*
Measures for revitalizing the herbal market		• Establishment of a register of herbalists • Establishment of an herbal cooperative • Stronger support from the state in linking up and promoting with incentives • Stronger professional support • Raising awareness of the pharmaceutical industry on the importance of local raw materials • Herbs as material and cultural heritage • Education and professional support • Integration into the tourist, culinary, and therapeutic offering	*"The state should encourage us to join cooperatives and participate in the market. It should give subsidies to those who collaborate." (Interviewee 2)* *"We need an institute to give us professional support." (Interviewee 10)* *"Pharmacies should realize that preparations from Slovenian raw materials are worthwhile." (Interviewee 3)* *"The possibility of inclusion in the tourist, gastronomic, health, and aromatherapy offering." (Interviewee 16)*

Source: Interviews, 2022–2023

4.2. Quantitative Approach

4.2.1. Characteristics of farms and herbalists

The results of the analysis with regard to the socioeconomic type of farm showed that almost a half of the surveyed herbalists (47.50%) have no registered farm activity and are engaged in the growing of herbs as non-registered producers, which means that they grow herbs in their free time as a hobby. More than 40% of the respondents reported a registered supplementary farm activity, which means that agriculture is not the main activity for any family member. The smallest share of respondents has a mixed (i.e., agriculture is the main activity for at least one family member) or pure (i.e., agriculture is the primary activity for all family members) type of farm. The areas dedicated to the growing of herbs are small, as more than a half (53.5%) of the respondents use less than 1 are (100 m^2) for the growing of herbs and a quarter (26%) use between 1 and 10 ares. While herb growing represents a small proportion (up to 10%) of their income for most respondents (80%), only 3% of them reported it accounting for a large proportion of their income (20–50%). Most of the respondents grow herbs (79%) using mainly organic production methods (73%), but a smaller share also engages, additionally or exclusively, in processing (40%).

TABLE 3: Characteristics of Farms and Herbalists

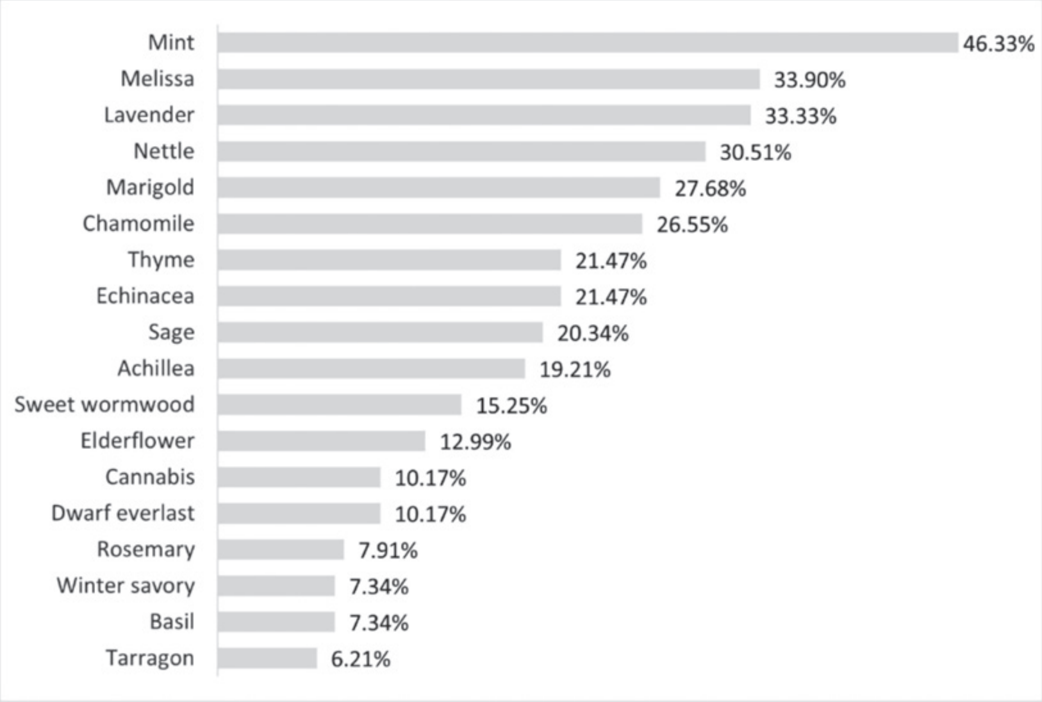
Characteristics	Category	f (f%)
Socioeconomic type of farm	*Pure farm*	8 (3.7%)
	Mixed farm	19 (8.8%)
	Supplementary activity	87 (40.1%)
	Non-registered farm / hobby	103 (47.5%)
Areas intended for the growing of herbs	*Up to 1 are*	116 (53.5%)
	1–10 ares	56 (25.8%)
	10 ares–1 hectare	26 (12.0%)
	More than 1 hectare	19 (8.8%)
Share of herb production in total production and income	*Small (up to 10%)*	175 (80.6%)
	Medium (11–30%)	23 (10.6%)
	Large (30–50%)	6 (2.8%)
	Predominant (more than 50%)	13 (6.0%)
Activities in the field of herbalism	*Production*	172 (79.3%)
	Processing	87 (40.1%)
	Restaurant and tourist activity	29 (13.4%)
Herb production methods	*Organic*	159 (73.3%)
	Conventional	17 (7.8%)
	Integrated	4 (1.8%)
	Biodynamic	25 (11.5%)
	In transition	12 (5.5%)

Source: Survey, 2023

4.2.2. The most environmentally and commercially appropriate herbs for growing in Slovenia

Slovenian herbalists estimate that the most environmentally and commercially appropriate herbs for growing in Slovenia are mint (46.33%), melissa (33.90%), lavender (33.33%), nettle (30.51%), marigold (27.68%), and chamomile (26.55%). In addition to the herbs listed in Figure 1, the respondents also mentioned oregano, St. John's wort, spotted thistle, dandelion, rose hip, marjoram, horsetail, roseroot, mallow, and valerian.

FIGURE 1: Most Suitable Herbs for Growing in Slovenia



Source: Survey, 2023

4.2.3. Demand for herbs in Slovenia

The respondents were asked to estimate the demand for herbs in Slovenia. The largest number described the demand as neither great nor little (33.20%), followed by those who described it as great (30%), or very great (19.40%). However, 12.90% of the respondents believe that the demand is low, and the rest (4.60%) that it is non-existent.

When asked about the area in which they believed consumption would increase, most respondents chose medicinal preparations (39.63%), followed by culinary products (32.26%) and cosmetics (14.29%).

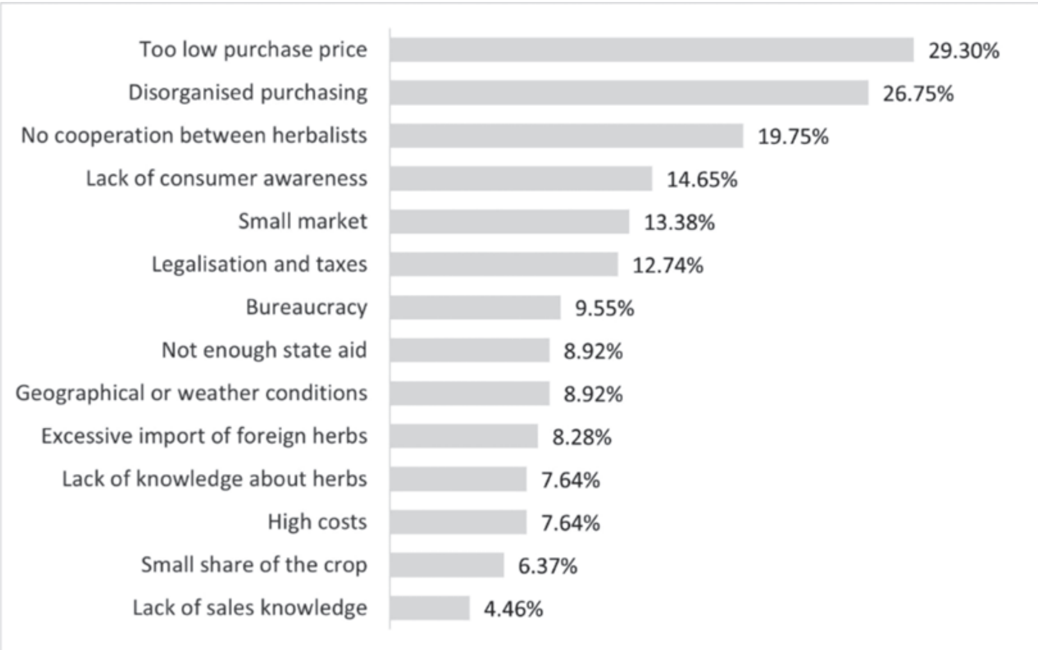
4.2.4. Key barriers to the revitalization of the herbal market

The most common responses regarding the key barriers to the revitalization of the herbal market are shown in Figure 2.

The most important barriers identified include a purchase price that is too low (29.30%) due to foreign imports of much cheaper herbs, followed by disorganized purchasing (26.75%), and insufficient integration and cooperation among herbalists (19.75%). The respondents also see a significant obstacle in the lack of awareness among consumers (14.65%), who still prefer pharmaceuticals, as well as foreign products and preparations that can be found in pharmacies or shopping centers. Herbalists therefore believe that herbalism and their (mostly manual) work is not appreciated by consumers, who consider the price of their products to be too high. A significant proportion of respondents also pointed to the legal and tax barriers (12.74%), extensive bureaucracy (9.55%), and insufficient government support (8.92%) in the form of additional incentives and aid.

Further statistical analysis was conducted to determine the existence of differences in the perception of barriers according to different characteristics using a rank-based nonparametric test. The results of the test, together with the frequency of selected obstacles from each group (f%), are shown in Table 4.

FIGURE 2: Key Barriers to Revitalizing the Herbal Market



Source: Survey, 2023

TABLE 4: Differences in the Perception of Barriers Based on Different Characteristics

Characteristics		**Low purchase price** *(H = 17.15; p = 0.001***)*	**Small market** *(H = 9.67; p = 0.022*)*
Socioeconomic type of farm	*Pure farm*	25.0%	0.0%
	Mixed farm	5.26%	5.26%
	Supplementary activity	3.48%	17.24%
	Non-registered	12.62%	4.85%
Characteristics		**Disorganized purchasing** *(H = 16.73; p = 0.001***)*	**Small market** *(H = 15.6; p = 0.001***)*
Areas intended for the growing of herbs	*< 1 are*	12.93%	6.03%
	1–10 ares	26.79%	21.43%
	10 ares–1 ha	46.15%	3.85%
	> 1 ha	16.67%	0.0%
Characteristics		**Small share of crops** *(H = 6.72; p = 0.035*)*	**Small market** *(H = 7.6; p = 0.022*)*
Activities in the field of herbalism	*Production*	6.98%	8.14%
	Processing	14.94%	14.94%
	Food and tourism	24.14%	10.34%
Characteristics		**Legalization and taxes** *(H = 8.03; p = 0.045*)*	**Not enough state aid** *(H = 20.54; p = 0.000***)*
Share of herb production	*Small*	10.29%	5.71%
	Medium	0.0%	0.0%
	Large	15.38%	23.08%
	Predominant	0.0%	7.69%
Characteristics		**Bureaucracy** *(H = 29.29; p = 0.000***)*	**/**
Herb production methods	*Organic*	3.14%	
	Conventional	0.0%	
	Integrated	0.0%	
	Biodynamic	24.0%	
	In transition	33.34%	

* p < 0.05; ** p < 0.01; ***p > 0.001

Source: Survey, 2023

A Kruskal-Wallis H test found a statistically significant difference in the perception of low purchase price between different socioeconomic types of farm (H = 17.15, p = 0.001). Based on the descriptive statistical data, the low purchase price is the greatest obstacle for farms with supplementary activities (34.48%) and for purely agricultural farms (25%). On the other hand, it is reported as an obstacle in a slightly lower proportion for farms with non-registered activities (12.2%). Moreover, the Kruskal-Wallis H test showed a statistically significant difference between different types of farms with regard to the perception of the Slovenian market size as an obstacle (H = 9.67, p = 0.022). It is largely the farms with supplementary activities that consider the Slovenian market to be too small (17.24%), while this proportion is lower for other types of farms, or not reported at all. The small market size is also reported as the biggest barrier for those with smaller areas intended for the growing of herbs (21.43%) and those who engage in processing (14.94%). The difference between the groups based on their main activity was also found to be statistically different (H = 6.72, p = 0.035).

Furthermore, the results show the respondents with between 10 ares and one hectareof land for herb growing (46.15%) as seeing the greatest obstacle in disorganized purchasing. With smaller areas, the frequency of this obstacle decreases. The exception are herbalists growing herbs on 1 hectare or more land, with 16.67% of them pointing to disorganized purchasing as the greatest obstacle. We assume that this problem is smaller for them because they have already ensured the purchase of the herbs they produce.

According to the share of herb growing in total production and income, statistically significant differences were observed in the perception of legislation and taxes (H = 8.03, p = 0.045), and lack of support from the government (H = 20.54, p = 0.000). Both obstacles were highlighted most by those with a large share of herb production in relation to total production (20.0–50.0%). Legislation and taxes are also a problem for herbalists with a small share of herb production (10.29%), while others did not mention that obstacle. The lack of state aid was highlighted by both those who have a large share of herb production (over 50.0%) and those with a small share (up to 10.0%).

A statistically significant difference (H = 29.29, p = 0.000) in the perception of bureaucracy was observed depending on the production method. It was mentioned as an obstacle by the respondents who are currently in transition (33.34%), followed by those who grow herbs in a biodynamic way (24.0%).

5. DISCUSSION AND CONCLUSION

Given poor understanding of the needs, barriers, and measures relevant for the revitalization of the herbal market, especially in developed countries where the market was well developed decades ago such as in Slovenia, the aim of the study was to identify the needs, barriers, and measures for revitalizing this market. The use of mixed methods proved valuable as the analysis of the in-depth interviews revealed the problem posed by a lack of interest among herbalists in increasing herb production and collaborating through a cooperative/company; it also explained the results of the quantitative research.

The results show that most Slovenian herbalists grow herbs as a hobby or as a supplementary activity; that they have little land for herb growing; and that they earn a small income from it, mostly by selling their herbs directly to consumers, with only one tenth selling herbs to retailers. In this respect, Slovenia is not dissimilar to the countries of Central, Western, and Northern Europe, which mainly import herbs from Mediterranean countries and China (Taghouti et al., 2022).

Most of the respondents grow the herbs themselves, mainly organically, and only a few process them, which indicates little added value. The herbs which would be ecologically most suitable and commercially appropriate for growing in Slovenia were suggested include mint, melissa, lavender, nettle, marigold, chamomile, oregano, St. John's wort, spotted thistle, dandelion, rose hip, marjoram, horsetail, roseroot, mallow, valerian, as well as a mixture of Mediterranean and Central European herbs, mainly sold in tea blends directly at the farm or online. As many as three quarters of the respondents are not members of any organization, but those who are members of associations exchange seedlings and products within these associations and share their knowledge and experience. However, they do not jointly sell or promote herbal products. A quarter of the respondents thinks that the possibilities for collaboration among herbalists are great but difficult to achieve due to various obstacles. A similar proportion thinks that there is either no possibility for collaboration due to obstacles, or that there are possibilities for collaboration thanks to a great deficit in this area. On average, farms with a registered supplementary activity are most interested in joining forces, as they want to increase their income. However, the in-depth interviews have revealed that the herbalists are not interested in cooperation because the existing situation is sufficient for them to a certain extent, with demand outstripping supply (in the direct sale of herbs). The low level of cooperation among farmers in this field is not an isolated case, as it is also widespread in other fields, such as vegetable production. This can be attributed to various factors, such as negative experiences with previous forms of collaboration, as well as a predominantly traditionalist orientation combined with the dominant individualist culture, which emphasizes the individual's insistence on traditional thinking and production methods (Erjavec & Klopčič, 2021). The absence of interest in cooperation can partly be attributed to the prevailing mistrust in the functioning of institutions that characterizes most social actors, especially traditionally conservative farmers (Godina, 2016).

However, collaboration in the form of an organization/cooperative/company with the aim of joining forces, buying larger quantities of herbs, advertising together, and being present in the market would enable herbalists to assume a more competitive position in the market. Experience from Poland shows that a stable and competitive price under long-term contracts with the pharmaceutical industry is extremely important for herbalists, but the prerequisite for this are well-organized farmers who supply enough herbs (Spychalski, 2014). The first step towards a better position of herbalists in the market is their collaboration, which must be established by the farmers themselves (if they want to change the existing status quo at all).

The research has found that herbalists have demanded organizational and financial support from the government and the European Commission, and unfairly blamed the pharmaceutical industry. This is in line with the seemingly contradictory observation that "farmers often make ultra-communist, unrealistic, and naïve demands; they hardly understand that they do not receive adequate payment for their work; they only complain without cooperating vertically and horizontally in production and processing, or in presenting a new offer and added value with innovations" (Erjavec, 2012). In addition, most respondents would like to see more educational and technical support from advisors and research institutions, as there is only one advisor in the field of herbalism in Slovenia. They would like the government to help them by integrating the plant-based offering into tourism, culinary, and therapeutic services, which would also address the generally weak connection of agriculture with other activities (Strateški načrt skupne kmetijske politike 2021–2027, 2020). The need for the pharmaceutical industry to emphasize the importance of herbs has also been suggested as a measure, as more and more consumers realize the importance of this and buy local food (Krsnik & Erjavec, 2021). However, this has decreased significantly due to the price increase over the last year (Hristov, Erjavec, Pravst, Juvančič & Kuhar, 2023). Following the example of other groups of key producers in the protected food sector, e.g., the "Carniolan sausage" (Slovene: *Kranjska klobasa*) group (Hristov et al., 2023), it might make sense for large-scale herbalists to play a greater role in herbalists' cooperation, as they have a greater interest in selling larger quantities in the market. However, a few large-scale Slovenian herb farmers are relatively innovative and self-sufficient with direct on-farm sales and do not need to cooperate with others, as the results of the interviews have shown. At the same time, they are not ambitious and committed enough to work towards the development of the whole sector.

The Ministry of Agriculture and other state institutions could create external conditions to promote an association of herbalists and their joint presence in the market, for instance, financial and other support for associated farmers to improve the economic and social situation of farmers and to keep young farmers on the farm (Strateški načrt skupne kmetijske politike 2021–2027, 2020). This is particularly important in light of Slovenia's favorable soil and climatic conditions as well as the suitability of small Slovenian farms for herb growing. Economic and technological forecasts show an increasing demand from the pharmaceutical and food industries, also due to the emergence of product innovations that contain herbal substances in their composition, such as healthy foods and dietary supplements (Taghouti et al., 2022).

Thus, although Slovenia has a long tradition of herbalism (Gornik & Potočnik Slavič, 2020), as evidenced by the measure proposed by some interviewees to recognize herbs as cultural heritage, to grant them a special status and position, and to entitle herbalists to state aid, the results show that there is no evidence that herbalism has become an organized market as it was before Slovenia's independence.

The key limitation of this research is its sample, as there is no census of Slovenian herbalists. We cannot claim to have made a representative selection, but we have done our best to reach as many interested people as possible through their associations and by identifying the main providers on the internet. Although we have obtained results on the barriers to and measures for revitalizing the Slovenian herb market, which are useful for policymakers in promoting herb cultivation, future research might find it worthwhile to focus on the potential of individual herbs and provide more detailed data on specific cultivation potential. Further research could also address the environmental and cost aspects, as well as other barriers and potentials of herb production.

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MARKET TRŽIŠTE