

Application of Agritourism in Macedonia: Regional Potentials, Economic Indicators and Opportunities for Sustainable Development

Tanja Angelkova Petkova¹

¹Goce Delcev University, Stip, North Macedonia Faculty of Tourism and Business logistic, mail:
tanja.angelkova@ugd.edu.mk, <https://orcid.org/0000-0003-1516-4457>

Abstract: This paper analyzes the possibilities for the development and application of agritourism in Macedonia through a detailed evaluation of natural resources, agricultural structure, regional potentials, and economic indicators. The research employs a combined methodological approach: descriptive analysis, comparative regional analysis, assessment of agritourism capacities, SWOT-analysis and recommendations for sustainable development. Agritourism represents an integrated form of rural development based on agricultural resources, local traditions, and experiential tourism. Macedonia, with its diverse climate, rich agricultural regions and cultural heritage, possesses significant prerequisites for developing agritourism offerings. The aim of the paper is to identify the potentials of agritourism through regional analysis, to determine the critical factors for development, and propose recommendations for long-term sustainability. The results indicate that the Pelagonia, Vardar, Southeastern, and Southwestern regions have the greatest opportunities for agritourism development, yet face infrastructural and institutional limitations, while the Northeastern and Eastern regions require structural and infrastructural improvements. The paper provides practical guidelines for the development of standards, integration of agricultural products into tourism offer and the establishment of synergy with eco, gastronomic, and cultural tourism. The conclusion suggests that agritourism can become a significant economic pillar if systematic planning, regional branding, and investment in rural development are implemented.

Keywords: agritourism, rural development, regional analysis, sustainability.

Introduction

Rural areas in Macedonia face demographic decline, weak economic development, and insufficient income diversification. Agritourism may serve as a response to these challenges, offering additional income for agricultural households and attracting tourists interested in nature, tradition, and authentic experiences (Angelkova, Dzordzevic Milosevic, & Ristova, 2018). Given that Macedonia has rich natural resources, diverse agro-ecosystems, and traditional agricultural practices, agritourism has the potential to become a significant driver of local economic development. Agritourism represents a specific form of alternative tourism that links agricultural activities with tourism services, creating added value for rural communities (Phillip, Hunter & Blackstock, 2010).

The development of agritourism in the country is unevenly distributed across regions, which makes a systematic investigation of capacities and limitations necessary. Certain regions, such as the Vardar and Southeastern regions, have already developed wine and gastronomic tours, while the Eastern and Northeastern regions still require institutional support and infrastructural investments. Interest in alternative forms of tourism is increasing as a response to the growing demand for natural, peaceful, and authentic experiences (Sharpley & Vass, 2006). There are several reasons why agritourism is important for the country:

1. The agricultural tradition is deeply rooted in rural communities;



2. Agricultural products are high-quality and authentic;
3. Favorable climatic and geographical conditions exist;
4. Agritourism enables socio-economic diversification in areas with high levels of migration and depopulation.

According to research by Angelkova Petkova (2015), agritourism may represent one of the most sustainable models for the development of rural regions in Macedonia. The main objective of this paper is to provide a comprehensive analysis of the application of agritourism in Macedonia through a regional approach, including comparative indicators, examples of registered farms, economic indicators, identification of key success factors, weaknesses and threats, and to formulate recommendations for future development.

Theoretical Framework

Agritourism is defined as a tourism activity conducted on farms or in rural areas, where visitors have the opportunity to participate in agricultural activities, taste farm products, and stay in rural accommodations (Gadakh et al., 2025). In Macedonia, according to Angelkova Petkova (2024), agritourism is closely linked to traditional agricultural practices, local gastronomy, and the rural cultural landscape. One of the advantages of agritourism is the creation of a multiplier effect: farmers gain additional income, the local economy is stimulated and the rural community gains greater visibility. These studies emphasize the potential of agritourism to diversify the local economy and promote cultural heritage (Angelkova Petkova, 2024).

Methodology

The research applies a mixed-methods approach that includes: descriptive analysis, comparative regional analysis, quantitative analysis, and analytical methods.

- Descriptive analysis. Natural resources, agricultural crops, traditions, and agritourism activities in all eight planning regions are examined.
- Comparative regional analysis. Three tables are prepared: comparative indicators, known registered farms by region, and economic indicators.
- Quantitative analysis. Statistical data from the State Statistical Office, the Ministry of Agriculture, the Agency for Promotion and Support of Tourism and regional development centers are used.
- Analytical method. A SWOT analysis is conducted to assess potentials and challenges.

Data were collected from planning region profiles, official reports of the Ministry of Agriculture and the Ministry of Economy, existing scientific literature, as well as relevant works published by Angelkova and co-authors in the field of rural development and tourism.

Limitations of the research

- Limited availability of official data.
- Insufficient registered agritourism supply.
- Lack of classification standards for agritourism.

Agritourism Potentials

Below is a summary of regional agritourism potentials:

- Vardar Region – the strongest wine cluster in the country (Kavadarci, Negotino).
- Pelagonia Region – apple production and livestock farming are the main pillars of



agritourism.

- Polog and Southwestern Regions – a combination of mountain agritourism, dairy farms, and forest fruits.
- Eastern and Northeastern Regions – resources for rice tourism, grain farms, and traditional food.

Southeastern Region (Gevgelija, Bogdanci, Valandovo, Dojran, Strumica):

This region has the longest vegetation period in the country, a Mediterranean climate, and the most fruit-growing and early vegetable production.

- Apricot and peach farms – Bogdanci and Valandovo
Visits, fruit picking, tastings and educational tours.
- Organic tomatoes and peppers – Strumica Plain
Opportunities for learning about greenhouse production, ajvar tastings, and local recipes.
- Mediterranean olive groves – Gevgelija / Miravci
Small but developing olive plantations; olive oil tasting.
- Honey farms – Udovo, Moin, Gevgelija
Beekeeping tours, working with protective equipment, tasting honey and propolis.
- Dojran fishponds
Fishing systems and traditional fish specialties (Dojran redfin), with possible demonstrations.

Vardar Region (Veles, Gradsko, Kavadarci, Negotino):

Mainly known for viticulture and wine tourism.

- Winery “Tikveš”, Kavadarci
A long-standing example of agritourism (wine tours, tastings, gastronomic events).
- Winery “Bovin”, Negotino
- Family vineyards – Rosoman and Gradsko
Learning about grape harvesting, traditional wine or rakija making.
- Peach orchards – Rosoman
Famous for peach production; seasonal tours and fruit picking are common.
- Sheep farms – Bashino Selo (Veles) and surrounding villages
Production of white sheep cheese, tastings.

Skopje Region (Skopje, Zelenikovo, Ilinden, Petrovec):

- Farm “Chiflik” – Skopje
Horses, mini-zoo, homemade food.
- Strawberry farms in Ilinden and Zelenikovo
Pick-your-own models.
- Beekeeping cooperatives near Petrovec
Demonstrations with hives and bee products.

Polog Region (Tetovo, Gostivar):

- Dairy and cheese-producing farms – Jegunovce, Brvenica
- Mountain tours with shepherds – Šar Mountain
- Small berry and forest fruit farms



Southwestern Region (Ohrid, Struga, Debar, Kičevo):

- Ohrid bio-farm tours along the lake
- Mountain lamb farms – Debarca
- Plum orchards – Kičevo Plain

Pelagonia Region (Bitola, Prilep, Resen):

- Prespa apple orchards – the most developed agritourism model in Macedonia.
- Tobacco tours – Prilep Plain
- Cabbage farms – Mariovo and Dolneni

Eastern Region (Štip, Kočani, Vinica, Delčevo):

- Rice fields – Kočani (unique in the country)
- Cow farms – Berovo, Pehčevo
- Grain farms – Štip and Karbinici

Table 1: Agritourism Potentials by Planning Regions in Macedonia

| Region | Main Agritourism Resources | Typical Activities / Products | Specific Examples |
|--|--|---|---|
| Southeastern (Gevgelija, Strumica, Valandovo, Dojran) | Mediterranean climate, fruit growing, early vegetable production, beekeeping, fish resources | Fruit picking; beekeeping tours; greenhouse tours; Dojran fishing tours | Orchards in Gevgelija, Bogdanci, Valandovo (peaches, apricots, persimmons); Beekeeping farms Udovo / Moin; Dojran fishponds; Olive groves Miravci |
| Vardar (Kavadarci, Negotino, Veles, Rosoman) | Viticulture and winemaking, fruit growing, livestock farming | Wine tours, tastings, grape harvesting, traditional rakija and wine production, cheese tastings | Winery “Tikveš”; Winery “Bovin”; vineyards in Rosoman; cheese-producing farms – Bashino Selo |
| Skopje (Skopje, Petrovec, Ilinden, Zelenikovo) | Fruit growing, vegetables, beekeeping, family animal farms | Pick-your-own models (strawberries), farm tours, animal activities, educational visits | Farm “Chiflik”; strawberry farms in Ilinden; beekeeping farms in Petrovec |
| Pelagonia (Prilep, Bitola, Resen) | Apple orchards, tobacco, mountain farms | Apple orchard tours, apple picking, tobacco tradition, farms with indigenous breeds | Prespa apple orchards; Tobacco tours in Prilep; farms in Dolneni and Mariovo |
| Southwestern (Ohrid, Struga, Debar, Kičevo) | Mountain landscapes, livestock farming, forest fruits | Lamb farms, forest fruit picking, lake-based activities | Mountain farms in Debarca; plum orchards in Kičevo; Ohrid bio-farm tours |
| Polog (Tetovo, Gostivar) | Mountain farms, livestock, dairy products | Shepherd tours, traditional cheese making, forest fruit picking | Dairy farms in Brvenica and Jegunovce; shepherd tours on Šar Mountain |
| Eastern (Štip, Kočani, Delčevo, Berovo) | Rice, grains, fruit, mountain livestock | Rice field demonstrations and workshops; organic livestock farming; tastings of local products | Rice fields in Kočani; livestock farms in Pehčevo; grain farms in Štip |
| Northeastern (Kumanovo, Kriva | Grains, livestock, traditional products | Homemade monastic products, traditional | Kratovo ethnographic households; cattle farms in |



| Region | Main Agritourism Resources | Typical Activities / Products | Specific Examples |
|-------------------|----------------------------|-------------------------------|---------------------------------|
| Palanka, Kratovo) | | cuisine, rural tourism | Kumanovo; local rural household |

Source: Author analysis

Table 2: Comparative Indicators for Agritourism Development by Region in North Macedonia

| Region | Natural Resources | Agricultural Characteristics | Tourism Potential | Limiting Factors |
|-----------|---------------------|------------------------------|--------------------------|--------------------|
| Skopje | Lowlands, vineyards | Viticulture, vegetables | Metropolitan market | Urbanization |
| Pelagonia | Plains, pastures | Dairy, grains | Strong agricultural base | Dispersion |
| Southeast | Sunny valleys | Fruits, grapes | Gastronomy, farms | Water stress |
| Vardar | Valley | Viticulture | Oenology, wine tasting | Climate risks |
| Polog | Mountains | Livestock farming | Mountain tourism | Infrastructure |
| Southwest | Lakes | Fruits | Lake tourism | Seasonality |
| East | Fields | Rice, horticulture | Agritourism tours | Lack of capacities |
| Northeast | Hills | Fruits, wheat | Traditional villages | Emigration |

Source: Author analysis based on Regional Development Profiles

In Table 3, comparative indicators by regions (agritourism potential) are presented. This table ranks the regions according to:

- natural resources,
- agricultural base,
- tourism infrastructure,
- local product brands,
- accessibility/visitor friendliness.

The assessments are on a scale of 1–5 (5 = very well developed).

Table 3: Comparative Indicators by Region

| Region | Natural Resources | Agricultural Base | Tourism Infrastructure | Local Agro-Brands | Accessibility | Total Agritourism Potential |
|--------------|-------------------|-------------------|------------------------|-------------------|---------------|-----------------------------|
| Vardar | 4 | 5 | 4 | 5 | 4 | 22/25 |
| Southeastern | 5 | 5 | 4 | 4 | 5 | 23/25 |
| Pelagonia | 5 | 5 | 3 | 5 | 4 | 22/25 |
| Southwestern | 4 | 4 | 5 | 4 | 4 | 21/25 |
| Polog | 4 | 3 | 3 | 3 | 4 | 17/25 |
| Eastern | 4 | 4 | 3 | 5 | 3 | 19/25 |
| Northeastern | 3 | 4 | 2 | 3 | 3 | 15/25 |
| Skopje | 3 | 4 | 5 | 3 | 5 | 20/25 |

Source: Author analysis

Interpretation: The Southeast, Vardar, and Pelagonia regions have the strongest agritourism potential. The Northeast region is the weakest due to underdeveloped tourism infrastructure.

Most Well-Known Registered Farms by Region



A table of the most well-known registered agritourism farms and complexes by region (List includes the most notable and most frequently mentioned farms in public registries, media publications, and local tourism strategic documents.)

Table 4: Most Well-Known Registered Agritourism Farms

| Region | Most Well-Known Farms / Agritourism Entities | Type |
|-----------|--|---------------------------------------|
| Vardar | Wineries “Tikveš”, “Stobi”, “Bovin”; Farm “Eko Karpovica” | Wine, livestock |
| Southeast | Farm “Eko Karaman”, Dojran fish farms, plantations in Strumica | Fish farming, plantations, beekeeping |
| Pelagonia | Apple complexes in Resen, Farm “Bitolsko Mleko”, farms in Kruševo | Orchard, livestock |
| Southwest | Ohrid fish farms, dairy farms in Vevčani and Debarca, Kičevo farms | Fish, dairy |
| Polog | Dairy farms in Zerovjane, cattle farms around Gostivar | Dairy, livestock |
| East | Rice farms (Kočani), Organic farms in Berovo, dairies in Delčevo | Grain, organic |
| Northeast | Beekeeping farm “Kratovski Med”, livestock farms around Kumanovo | Beekeeping, livestock |
| Skopje | Urban farms in Ilinden, “Kamnik” winery, Sopište farm | Urban-rural, wine |

Source: Register of Agritourism Entities – Ministry of Agriculture, Forestry and Water Economy (2023–2024).

Economic and ecological aspects

Economic

Agritourism diversifies the economy of family farms—rather than relying solely on product sales, farms offer accommodation, activities, tastings, and souvenir sales (Gadakh et al., 2025; Angelkova Petkova, 2024).

Ecological

Sustainable practices (organic farming, minimal use of chemicals, preservation of nature and biodiversity) are essential both for attracting tourists and for safeguarding the local ecosystem (Gadakh et al., 2025; Angelkova & Ristova, 2021).

Table 5: Economic Indicators for Agritourism by Region (All figures are indicative and approximate)

| Region | Average Annual Visits (Agritourists) | Estimated Annual Revenue (€) | Capacity (Beds/Farms) | Typical Activities |
|-----------|--------------------------------------|------------------------------|-----------------------------|---|
| Polog | 18,000 – 22,000 | €1.2–1.6 million | 120–150 capacity; ~40 farms | Monastery tours, dairy farms, mountain tourism |
| Skopje | 25,000 – 30,000 | €1.8–2.5 million | 200–230 capacity; ~50 farms | Urban + rural mix, wine tours, gastronomy |
| Northeast | 8,000 – 12,000 | €350–500 thousand | 80–100 capacity; ~20 farms | Grain products, livestock farming, traditional crafts |
| Vardar | 30,000 – 35,000 | €2.0–2.8 million | 250–300 capacity; ~60 farms | Wine routes, olive growing, honey |
| Southeast | 22,000 – 26,000 | €1.4–1.9 million | 150–170 capacity; ~45 farms | Fruit growing, peppers, early agricultural crops |
| East | 10,000 – 14,000 | €0.6–0.8 million | 100–120 capacity; | Medicinal herbs, grains, rural |



| Region | Average Annual Visits (Agritourists) | Estimated Annual Revenue (€) | Capacity (Beds/Farms) | Typical Activities |
|------------------|--------------------------------------|------------------------------|--------------------------------|--|
| | | | ~30 farms | cultural tourism |
| Pelagonia | 16,000 – 20,000 | €1.0–1.3 million | 140–160 capacity; ~35 farms | Dairy products, grains, traditional cuisine |

Source: Author estimation based on regional development indicators and tourism data

Table 6: SWOT Analysis of Agritourism in North Macedonia

| S – Strengths | W – Weaknesses |
|---|---|
| <ul style="list-style-type: none"> - Diverse climate suitable for fruit growing, viticulture, and livestock farming. - Rich agricultural and gastronomic traditions. - Presence of family farms and small producers. - Strong regional brands such as Prespa apples, Tikveš wine region, and Strumica early vegetable production. - Natural resources (lakes, mountains) enabling combined rural + eco tourism. - Increasing tourist interest in local food and experiential tourism. | <ul style="list-style-type: none"> - Underdeveloped tourist infrastructure on many farms. - Lack of standardized agritourism service protocols. - Low level of digitalization and marketing among farmers. - Limited knowledge in managing tourism-oriented services. - Shortage of trained staff for maintaining agritourism activities. - Seasonality and dependence on fluctuating tourist flows. |
| O – Opportunities | T – Threats |
| <ul style="list-style-type: none"> - Development of wine, eco, and gastronomic tours. - Potential for regional branding (Prespa apple, Tikveš wine, Kocani rice). - Use of EU funds for rural development. - Growing interest in nature-based, rural, and Wellness tourism. - Linking agritourism with local festivals and cultural events. - Potential for artisanal products (honey, cheese, dried fruit, ajvar). - Access to European rural development funds. | <ul style="list-style-type: none"> - Emigration and ageing of the rural population. - Competition from neighboring countries (Bulgaria, Serbia, Greece) with more developed rural destinations. - Climate change affecting agricultural production. - Unstable policies regarding subsidies and governmental support. - Insufficient international promotion of the country. - Outflow of young people from rural areas leading to labor shortages. - Lack of cooperation between farmers and tourism operators. |

Source: Author analysis

Critical Factors, Recommendations, and Outcomes for Agritourism Development in North Macedonia

Table 7: Critical Factors for Agritourism Development in North Macedonia

| Category | Critical Factors | Implication for Development |
|--------------------------------|---|--|
| Infrastructure | Access roads, signage, parking, sanitation, safety | Improving accessibility and increasing visitor numbers |
| Human Resources | Farmer training, tourism knowledge, hospitality, language skills | Professional service and enhanced tourist experience |
| Marketing and Promotion | Digital marketing, online presence, social media, regional branding | Attraction of domestic and foreign tourists |
| Product Resources | High-quality agricultural products, local | Development of authentic tourist |



| Category | Critical Factors | Implication for Development |
|---|--|---|
| | gastronomy, indigenous varieties | offerings |
| Institutional Support | Subsidies, EU programs, municipal support, legal framework | Long-term sustainability of agritourism projects |
| Integration with Other Tourism Forms | Combination with rural, eco, and gastronomic tourism | Increased attractiveness and differentiation |
| Sustainability and Environment | Protection of farmland, organic production, ecological practices | Eco-certified tourism and better market positioning |
| Socio-Cultural Factors | Traditions, local events, crafts, cultural heritage | Creation of additional experiences and added value |

Source: Author analysis

Possible Recommendations

1. Developing a marketing strategy: creating online platforms and promotional campaigns.
2. Training for farmers: courses in hospitality, service management, and marketing (Gadakh et al., 2025).
3. Infrastructure improvement: accessible roads, signage, accommodation facilities.
4. Linking agritourism with local products and gastronomy: the “Farm to Table” concept (Gadakh et al., 2025).
5. Environmental protection and eco-friendly agriculture.
6. Creating thematic activity packages, for example, “apple picking + cheese tasting” (Angelkova Petkova, 2024).

The findings indicate that North Macedonia has a strategically favorable position for agritourism development, although the potential is unevenly distributed across regions. While agritourism is often perceived as an additional activity, it can become a major economic driver, especially in depopulated rural areas. Agritourism strongly depends on natural resources, infrastructure, and local institutional support. The Vardar and Southeast regions, due to developed viticulture, have the highest visitor numbers and income, while the Polog and Northeast regions hold significant potential for expansion through livestock-based and traditional cultural tours. The East region is important for rice production, which remains underutilized for agritourism purposes. There is a need for farm digitalization, certification of agritourism services, integrated rural packages, and support for local brands (Prespa apple, Strumica pepper, Kocani rice). Based on the above, the synergy between tourism and agriculture creates new opportunities for economic diversification.

Conclusion

Agritourism has the potential to become one of the key pillars of sustainable economic development in the rural regions of North Macedonia. Although the country faces infrastructural, institutional, and demographic challenges, its abundant natural, agricultural, and cultural resources provide an opportunity to develop a competitive agritourism offer. The development of agritourism in North Macedonia has significant potential to revitalize rural areas, improve the economic position of farms, and promote authentic natural and cultural value. It represents a major opportunity for the country but requires a systemic approach. Improving rural infrastructure, regional branding of products, supporting small farms in



offering tourist activities and connecting agritourism with gastronomy and cultural tourism are essential steps. With these measures, agritourism can become an important economic sector, especially in rural areas where traditional agriculture is already well established.

References

- Angelkova Petkova, T. (2024). The mapping of potential forms of tourism in the Malesevo region, for the development of a sustainable tourist destination. *Knowledge – International Journal*, 67(6), 999–1004. <https://ojs.ikm.mk/index.php/kij/article/view/7494>
- Angelkova, T., Ristova, C. (2021). The importance of travel agencies for the development of Macedonia as an attractive tourist destination. *Fourth International Scientific Conference “Challenges in Tourism and Business Logistics in the 21st Century”*, November 19, 2021, Štip. <https://eprints.ugd.edu.mk/29379>
- Angelkova, T., Dzordzevic Milosevic, S., Ristova, C. (2018). The development of agro tourism in Northeastern Macedonia – From hospitality to tourist activities. *LAP – Lambert Academic Publishing*. ISBN 978-613-9-85004-4. <https://eprints.ugd.edu.mk/20190>
- Angelkova, T., Stanojkova, M. (2017). Rural tourism as an alternative type of tourism. *First International Scientific Conference, ISCTBL, Faculty of Tourism and Business Logistics – Gevgelija, Macedonia*, pp. 129–134. ISSN 978-608-244-465-9
- Barbieri, C. (2013). Assessing the sustainability of agritourism in the US. *Journal of Sustainable Tourism*, 21(2), 252–268.
- Gadakh, A., Kumbhar, V., Khosla, S., & Karunendra, K. (2025). Identifying key features for establishing sustainable agro tourism centre: A data-driven approach. *arXiv*. <https://arxiv.org/abs/2509.09214>
- Telegrafi. (2018, May 7). *The promotion of rural tourism in Macedonia is not sufficiently offered by tourist operators*. <https://telegrafi.com/en/the-promotion-of-rural-tourism-in-Macedonia-is-not-sufficiently-offered-by-tourist-operators/>
- Ministry of Agriculture. (2023). *Register of Agritourism Entities*. Skopje.
- Ministry of Economy. (2024). *Regional Development Indicators*. Skopje.
- Phillip, S., Hunter, C., Blackstock, K. (2010). A typology for defining agritourism. *Tourism Management*, 31(6), 754–758.
- Sidali, K. L., Spiller, A., & Schulze, B. (2011). Food, agriculture and tourism: Linking local gastronomy and rural tourism. *Springer*.
- Sharpley, R., & Vass, A. (2006). Tourism, farming and diversification. *Tourism Management*, 27(5), 1042–1052.

