

# INTEGRATED VALUATION OF LOCAL LIVESTOCK RESOURCES THROUGH GASTRONOMY POINTS: A CIRCULAR BIOECONOMY MODEL FOR SUSTAINABLE AGROTOURISM IN ROMANIA

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## Abstract

*This paper proposes a theoretical circular bioeconomy model for sustainable agrotourism in Romania, with the Local Gastronomic Point (PGL) as its core. The goal is to show how PGLs can integrate domestic livestock resources to create a regenerative economic system at the micro-regional level. The qualitative methodology uses a systematic literature review, documentary analysis of the legislative framework, and a multiple case study of good practice models. The results develop a conceptual model that highlights the PGL as an integrative node of circular nutrient, economic, and socio-cultural loops. The model is found to be viable and able to transform the conservation of local genetic resources into a sustainable economic activity, strengthening the resilience of rural communities. The originality of the work is in conceptualizing the PGL as a practical mechanism for applying circular bioeconomy principles in agrotourism.*

**Key words:** circular bioeconomy, local gastronomic points, sustainable agro-tourism, domestic livestock resources

## INTRODUCTION

The European strategic context, shaped by documents such as the Europe 2020 Strategy and the new Common Agricultural Policy (CAP) 2023-2027, promotes the transition to sustainable development, a green economy, and a circular bioeconomy, all seen as essential for rural viability and prosperity [1]. Romania's alignment with these directives appears in national strategies aimed at achieving the Sustainable Development Goals (SDGs), such as ODD 8 ("Decent work and economic growth") and ODD 12 ("Responsible consumption and production"), which stress the need to promote sustainable tourism that uses local products and culture [2]. This shift requires moving from the linear economic model,

defined by "extract-produce-throw" (take-make-waste), to a circular, regenerative model that can address resource depletion and climate change.

In this context, Romania's rural and mountain areas face major structural challenges, including the decline of subsistence agriculture, sharp depopulation, a need for economic diversification, and often insufficient use of local resources. Agrotourism is widely seen as a strategic solution with strong potential to revitalize these areas economically, socially, and culturally, especially in regions with a strong identity like the Carpathian Mountains [8].

The growth of this sector depends on offering authentic experiences that integrate natural resources, traditions, and local gastronomy.

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The rise of Local Gastronomic Points (PGL) sits at the intersection of public policies for rural development and local entrepreneurial initiative. National and European strategies have created a favorable framework for sustainability and the use of local heritage. The evolving legislative framework for PGLs has also provided a direct way for small producers to meet market demand for authenticity. The success of these initiatives results from the convergence of strategic vision at the macro level and entrepreneurial innovation at the micro level.

This paper introduces and explains the key concepts. The Local Gastronomic Point is a family-type food establishment that uses local primary production in a small, authentic setting. The circular bioeconomy is seen as the intersection of the bioeconomy, based on renewable biological resources, and the circular economy, which aims to minimize waste and maximize resource value by closing material cycles [8].

The central hypothesis is that Local Gastronomic Points, by integrating domestic livestock resources, can serve as a practical and scalable model of circular bioeconomy at the micro-regional level, directly supporting sustainable and resilient agrotourism in Romania [2]. The main aim is to develop this theoretical model, with conclusions highlighting its viability and implications for sustainable rural development.

## MATERIAL AND METHOD

This research employs a qualitative methodology to develop a theoretical model, which is suitable for exploring a complex and emerging phenomenon where variables and their interactions are not yet fully quantifiable. To ensure validity and depth, data triangulation was used by combining information from multiple sources: legislative and public policy documents, scientific articles, and case studies from secondary sources.

The data collection and analysis process followed several stages. First, a systematic review of the specialized literature was

conducted, using established methods such as PRISMA and SALSA.

Relevant studies from international databases (using keywords like "circular bioeconomy", "agrotourism", "local food systems", "native breeds") and national and European strategic documents were selected and analyzed. In the second stage, an in-depth documentary analysis was done on the legislative framework for PGLs in Romania, national strategies for tourism and mountain area development, and relevant academic programs in agronomy and bioeconomy.

To ground the theoretical model in practical realities, a multiple case study analysis was used, based on secondary data. Good practice models were examined, such as successful PGL networks in Buzăului Customs and individual examples from Dobrogea ("La Grisha", "La Mirela in Ogradă", "Souvenir din Dobrogea"). This analysis identified common success factors, recurring challenges, and concrete ways to leverage local resources.

The theoretical model, presented in the next section, was developed through thematic synthesis. Key elements of the circular bioeconomy, sustainable agrotourism, and local food systems were drawn from the literature and integrated into a new conceptual framework. This framework places the Local Gastronomic Point as a central unit and integrative node for flows of matter, energy, capital, and information. The model details its components-inputs, processes, outputs, and feedback loops-and the relationships between them, offering a logical structure for understanding how PGLs can function as circular bioeconomy systems.

## RESULTS AND DISCUSSION

### The Local Gastronomic Point: A Catalyst for the Valorization of Rural Resources

The Local Gastronomic Point (PGL) concept in Romania has evolved from a strictly sanitary-veterinary notion to a recognized tool for rural economic

development. Initially, the Order of the ANSVSA President no. 111/2008 defined the PGL as a private kitchen in the countryside, serving up to 12 people and focused on hygiene standards. The recent legislative framework, Law no. 412/2023, redefines the PGL as a "local primary production valorization unit" in a rural area, with a maximum capacity of 15 people, and highlights its role in rural economic development and reducing the urban-rural gap [2]. This shift legitimizes and encourages the transformation of peasant households into viable micro-enterprises in hospitality.

The operational characteristics of PGLs root them in local specifics. They can operate in various settings, from private homes and farms to stables, wineries, or monasteries. The menu is narrow and area-

specific, based on traditional recipes and mainly using raw materials from their own production or other authorized local producers. This business model creates positive, multidimensional socio-economic impacts. It provides additional and diversified income sources for rural households, supporting economic stability. It also stimulates short supply chains, creating a local market for community farmers' products, as seen in Vama Buzăului [8]. PGLs are crucial for preserving and promoting local gastronomic heritage and cultural identity, turning culinary traditions into tourism assets. By attracting tourists to less traveled rural areas, PGLs can drive community development and generate positive effects in local economies [10].

Characteristic	ANSVSA order no. 111/2008	Law no. 412/2023	Implications
Legal definition	"Units represented by private kitchens within rural housing"	"Unit for valorization of local primary production, located in a rural locality"	Moving from a restrictive vision (location) to a functional one (economic purpose).
Maximum number of consumers	Maximum 12 people	Maximum 15 people at a time	Modest increase in capacity while maintaining the family and intimate character.
Source of raw materials	"With a preponderance of primary production from the level of own exploitation"	"Locally available, mainly from own production, from producers, fishermen, hunters, gatherers"	Expanding and clarifying sources of supply, strengthening short chains.
Stated purpose	Implicit: ensuring food safety in small-scale activities.	Explicit: "facilitating the economic development of the rural area", "reducing the informal economy"	Official recognition of the role of PGL in rural development and taxation.
Legal form	The need for incorporation in a legal form (PFA, Family Association, SRL)	It can be established by natural persons (agricultural producers), PFA, individual/family businesses, legal entities	Clarification and flexibility of legal organization options.

*The Strategic Role of Local and Indigenous Livestock Resources*

Domestic livestock resources are a fundamental part of Romania's natural and cultural heritage, with strategic importance beyond immediate economic value. Conserving these breeds is vital, as they

provide genetic biodiversity, superior adaptability to local conditions, increased disease resistance, and better ability to cope with climate change. Breeds such as Sura de Stepă cattle and various sheep and pig breeds possess valuable genetic backgrounds shaped by centuries of

interaction with the Romanian environment, which can be essential for future improvement programs and ensuring agricultural resilience [9].

The gastronomic potential of these breeds is considerable but still underexplored in mass tourism. Sheep breeds like Țigaie or Karakul are the basis of traditional dishes such as pastrami, stews, or cauldron dishes, which define the culinary identity of many pastoral regions. The Mangalița pig breed is distinguished by its high-quality meat and fat, renowned for its exceptional taste and healthier fatty acid profile. Products like smoked sausages, caltaboș, bacon, or Mangalița steaks are niche items with high added value. Even endangered cattle breeds like Steppe Sura have untapped potential, as their meat can

be promoted as a premium product linked to specific history and terroir [9].

In this context, Local Gastronomic Points play a key strategic role. They directly link the conservation of genetic resources with economic viability. By creating steady demand for products from native breeds, PGLs provide farmers with a genuine economic incentive to breed them. This supports a shift from a "conservation-subsidized" model, which relies on public support, to a "conservation-by-use" model, where product value directly funds breeding maintenance. A tourist eating Mangalița meat at a PGL not only pays for a meal but also supports the farm's sustainability, closing the circle between tourism, gastronomy, and biodiversity conservation.

Native Race	Species	Key Features	Specific Traditional Gastronomic Products	Added Value in Agrotourism
<b>Mangalița</b>	swine	Marbled meat, rich in unsaturated fats (Omega 3, 6, 9), adaptability to extensive growth.	Smoked sausages, bacon, ham, caltaboș, smoked neck, roast beef.	Premium product, strong marketing story ("pork-salmon"), attracts tourists interested in quality gastronomy.
<b>Steppe Sura</b>	bovine	Rusticity, resistance to diseases and severe environmental conditions, genetic and historical value (primitive breed).	Slow-cooked beef preparations (stews, goulash), raw-dried products.	Element of uniqueness and exclusivity, preservation of an endangered breed, cultural-historical story.
<b>Țigaie</b>	ovine	Mixed production (milk, meat, wool), adaptability to hill and mountain areas, precocity.	Mutton pastrami, stew, drob, cauldron dishes, specific cheeses (telemea, curd).	Symbol of the pastoral tradition, authentic taste specific to mountain cuisine, the connection with transhumance and the herd.

### A Proposed Circular Bioeconomy Model for Sustainable Agrotourism

The proposed model is based on integrating circular bioeconomy principles into an operational framework specific to Romanian agrotourism. This model utilizes renewable biological resources and manages them within a system that minimizes waste and maximizes value by closing material and energy loops, with the Local Gastronomic Point serving as the central unit [3].

The conceptual model can be structured on three main levels: inputs, valorization processes, and outputs, interconnected by circular feedback loops.

Inputs are represented by the local resources available in the peasant household and in the immediate community. These include: livestock resources, with an emphasis on native and local breed animals, adapted to the environment; agricultural resources, such as vegetable crops for human consumption and feed, obtained from own production or from nearby

farmers; and human and cultural resources, comprising invaluable traditional knowledge of recipes, animal husbandry techniques and local ecosystem management [4].

Valorization processes occur within PGL and its associated farm. These include: integrated primary production, where animal husbandry and plant cultivation are interconnected (for example, the use of manure as a natural fertilizer for fodder crops); small-scale processing, which involves slicing and preparing meat, preserving vegetables and fruit, and actually cooking meals according to traditional recipes. The delivery of the agrotourism service, which transcends the simple serving of the meal and becomes a complete cultural experience, where the story of the products (storytelling) and the interaction with the hosts add significant intangible value [3, 6, 7].

The model's outputs reflect value created on several levels: products and services, seen in authentic gastronomic menus and memorable experiences for tourists; economic value, manifested through direct income for the household and stimulation of the local economy; socio-cultural value, by actively preserving the culinary heritage, the native breeds and by strengthening the local identity and pride and ecological value, by maintaining traditional agricultural landscapes of high natural value and conserving the biodiversity associated with them.

The central and innovative element of the model is its circular feedback loops, which ensure system regeneration.

1. Nutrient loop (biological): Organic kitchen waste (vegetable scraps) and inedible by-products from animal processing are composted and returned to the soil as fertilizer. This process closes the nutrient cycle at the farm level, reduces

reliance on chemical fertilizers, decreases pollution, and improves soil health.

2. Economic loop: The income obtained from the agrotourism activity is reinvested in the farm (eg, modernization of shelters, purchase of quality genetic material) and in the local community by purchasing raw materials from neighbors (cheeses, vegetables, honey), thus strengthening the economic resilience of the entire micro-region.

3. Socio-cultural loop: Tourists' appreciation of local products and traditions, as evident in positive reviews and increased demand, validates hosts' efforts and strengthens community pride. This positive feedback acts as an incentive to continue traditional practices and can encourage younger generations to see a viable future in the countryside.

The originality of this model is in positioning the PGL not just as a simple outlet, but as a fundamental integrator. Unlike circular economy models that focus on large-scale industrial flows, this model demonstrates how a small-scale business can efficiently integrate biological, economic, and social loops. The PGL becomes the center where biological resources are transformed into high-value-added products, while generating flows of capital, nutrients, and information that return to support the production system and the community. In this way, the circular bioeconomy becomes a grassroots concept with a direct, measurable impact on sustainable rural development [10].

**Viability, Challenges and Opportunities in the Romanian Context (SWOT Analysis)** provides a nuanced understanding of its applicability in Romania. This analysis highlights internal factors that support or limit the model, as well as external factors that may facilitate or hinder its broader implementation.

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Perfect alignment with current consumer trends: increased demand for authenticity, local experiences, sustainable and traceable products.</li> </ul>	<ul style="list-style-type: none"> <li>• Limited scalability inherent in the business model, determined by the small serving capacity (max. 15 people).</li> </ul>
<ul style="list-style-type: none"> <li>• Superior utilization of local resources, transforming subsistence agricultural production into an income-generating activity with high added value.</li> </ul>	<ul style="list-style-type: none"> <li>• High dependence on family labor, which can lead to overwork and limit expansion possibilities; vulnerability to seasonality.</li> </ul>
<ul style="list-style-type: none"> <li>• Relatively low entry barrier for entrepreneurs, with the initial investment being considerably lower than for a conventional restaurant, especially if the basic infrastructure is in place.</li> </ul>	<ul style="list-style-type: none"> <li>• Variable and often low level of digital, marketing and business management skills among rural entrepreneurs.</li> </ul>
<ul style="list-style-type: none"> <li>• The existence of a specific and supportive legislative framework (Law 412/2023), which provides clarity and legitimacy to the activity.</li> </ul>	<ul style="list-style-type: none"> <li>• Difficulties in ensuring a constant standard of quality of services and products, depending on the individual skills of each household.</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>• Access to European and national funding through programs dedicated to rural development, agrotourism and bioeconomy (eg: PAC, PNDR).</li> </ul>	<ul style="list-style-type: none"> <li>• Bureaucracy and complexity of sanitary-veterinary and fiscal rules, which, although simplified, can remain a barrier for small producers.</li> </ul>
<ul style="list-style-type: none"> <li>• Increasing domestic tourism, interest in proximity tourism (city-breaks) and the search for authentic post-pandemic rural experiences.</li> </ul>	<ul style="list-style-type: none"> <li>• Deficient rural infrastructure in certain regions (access roads, utilities), which can limit tourist access and business development.</li> </ul>
<ul style="list-style-type: none"> <li>• The potential to create regional networks and brands (eg: Local Gastro Association), which can increase visibility, ensure quality standards and facilitate joint marketing.</li> </ul>	<ul style="list-style-type: none"> <li>• Competition from agro-pensiones and conventional restaurants that may offer lower prices or a wider range of services, albeit less authentic.</li> </ul>
<ul style="list-style-type: none"> <li>• Increasing institutional support for promotion and information from entities such as the Ministry of Agriculture and Rural Development (MADR) and the National Mountain Area Agency (ANZM).</li> </ul>	<ul style="list-style-type: none"> <li>• The progressive abandonment of traditional agricultural practices and the erosion of the resource base (loss of knowledge, disappearance of native breeds) in the absence of viable economic incentives.</li> </ul>

## CONCLUSIONS

This paper developed a theoretical circular bioeconomy model centered on the Local Gastronomic Point (PGL), showing how this concept can effectively integrate domestic livestock resources to drive sustainable agrotourism in Romania. The main contribution is conceptualizing the PGL not just as a food unit, but as an integrative node and regenerative economic micro-system where nutrient loops, economic flows, and socio-cultural cycles are closed.

The analysis conceptually validated the central hypothesis: through its core mechanisms-the use of local raw materials, better use of own production, reintegration of by-products into agriculture, and strengthening the community economy-the PGL aligns with circular bioeconomy

principles. The model demonstrates that it is possible to transition from subsistence agriculture to a high-value micro-business, transforming biodiversity and cultural heritage conservation into a sustainable economic activity.

The practical implications of this study are relevant to several groups. For policymakers, the paper advocates for continued and strengthened support for PGLs, including simplifying bureaucracy and establishing dedicated funding programs. For rural entrepreneurs, the model serves as a conceptual guide for establishing a viable and sustainable business that aligns with modern market needs. For tourism industry actors, the study highlights the significant potential of local gastronomy as a central component of



agrotourism, capable of generating authentic and competitive experiences.

Ultimately, the research opens up new directions for future study. Future quantitative analyses are necessary to assess the economic, social, and environmental impacts of existing PGL networks. International comparative studies of similar models, such as "agriturismo" in Italy, could offer valuable lessons for adapting the Romanian model. In-depth sociological research on tourist perceptions and entrepreneur motivations could also help improve support policies and marketing strategies.

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