A Review of Quantitative Studies in Agritourism: The Implications for Developing Countries

Kumar Bhatta 1,* and Yasuo Ohe 2

1 Department of Food and Resource Economics, Chiba University, Chiba 271-8510, Japan
2 Department of Agribusiness Management, Tokyo University of Agriculture, Tokyo 156-8502, Japan;
yo207358@nodai.ac.jp
* Correspondence: kumar2bhatta@gmail.com or kumar2bhatta@chiba-u.jp

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Abstract: This study reviews the published quantitative literature in agritourism from the supply, demand, and both supply- and demand-side perspectives to determine the implications for agritourism in developing countries. A total of 85 quantitative papers were reviewed. Most studies in the literature concern developed countries, and the motivations and attributes of the actors in this field have been investigated thoroughly, whereas few researchers have focused on quality tourism and identity in agritourism. This study suggests that policymakers in developing countries should promote females, insist on maintaining the quality of the workforce, ensure the availability of credit or subsidies to farmers, and guide and monitor the planning and development of agritourism. Furthermore, connecting different stakeholders and minimising the adverse effects in society through innovation in agritourism may lead to sustainable agritourism.

Keywords: agritourism; developing countries; motivating factor; quantitative study; review; tourist interest

1. Introduction

Agritourism development in developing countries is essential for the alleviation of poverty and rural development. However, the pace of agritourism’s growth in developing countries, especially in the South Asian countries, is delayed as compared with the pace of that in developed countries [1–5]. Agritourism development is primarily based on farmers’ willingness [1,2] and the ability to establish the necessary infrastructure [6–8], as well as tourists’ interest in visiting such attractions [9–11]. More specifically, agritourism development and sustainability depend on supply and demand factors and exploring those factors sheds light on the conditions for agritourism development from the supply and demand perspectives [10,12]. However, the agritourism studies are majorly focused on the developed countries [13], and research on agritourism in developing countries is limited [2,4]. Therefore, this study aims to review the literature on agritourism from the supply and demand perspectives, which were not performed fully in agritourism literature, and explore the possible implications for agritourism development in developing countries, especially in Nepal.

The concept for innovation in agritourism is also growing, and the sustainability of agritourism is being emphasised. Innovation in agritourism is considered to trigger sustainable development of the rural areas through agricultural farm modernisation as seen in the non-agricultural economy [14,15]. It can involve both developing an original tourist product at the destination and integrate the required services as well as promote the products [14]. Innovative agritourism projects include firm infrastructure, human management, procurement of resources, and technology development [15]. Innovation in agritourism is essential for developing the competitiveness of tourism enterprises and tourist areas [14]. Reviewing the literature on agritourism not only directs farm diversification, but also guides the integration of the
tourists’ products as a compound product in a destination by comparing the best practices of agritourism at successful destinations. Moreover, it contributes to the innovation in agritourism.

As mentioned later in Section 3, some scholars reviewed the literature on agritourism and indicated the necessity of further research. For instance, Dimitrovski et al. [16] suggested investigating the novel areas of scientific interests on agritourism; Santeramo and Barbieri [17] recommended isolating the features, amenities, and landscape that draw the visitors to an agritourism destination; Rauniyar et al. [13] concluded that there is a necessity of research in emerging economies. Based on the recommendation of the previous scholars, we conduct a literature review on agritourism and generate the implications for developing countries, especially Nepal. However, these implications can also be employed in other countries as well.

Agritourism boasts of a long history in developed countries [18], but its expansion in developing countries, especially in the South Asian countries, remains limited. As developing countries have either limited or no agritourism [2,4], reviewing the existing literature can provide a further understanding of the current agritourism trends, which contribute to developing new forms of agritourism and modify existing ones. More precisely, the review of supply and demand in this sector identifies reasons for the success of agritourism and the implications for developing countries. Furthermore, it evaluates the necessary capabilities of operators and explores tourists’ expectations during their agritourism visits. Therefore, by reviewing the literature, we investigate the answers of the following research questions:

• What motivates farmers to participate in agritourism?
• What are the opportunities, challenges, and risks involved in agritourism development?
• What attracts visitors to the farms?
• How to increase the sales revenue in agritourism and what are its impacts on the environment?

The results regarding the conditions for agritourism can be employed for its development in both developed and developing countries. Since quantitative research methods provide robust results [19,20], and the authors considered reviewing studies that employed quantitative methods that had not yet been reviewed (mentioned in Section 3). Based on the findings, the policy implications for agritourism development in the new destination of developing countries are outlined in this paper.

2. The Structure of the Review

Agritourism must create sustainable value in ecological, social, or economic terms [21]. Thus, the objectives of farms should also include guiding the supply of the agritourism approach by producing multiple environmental, sociocultural, and economic benefits, not only for individual farmers, but also for the broader society [22]. However, the development of agritourism is not uniform. It differs significantly from one region to another due to the level of carrying capacity, destination connectivity, types of available attractions, and level of government support [23,24]. Thus, identifying the general implications for agritourism development based on the supply and demand for agritourism development is necessary. Since agritourism in developing countries is in the developing phase [2,4], it is necessary to understand the conditions applied, as well as points requiring scrutiny, for agritourism development and modification. Therefore, agritourism development guidelines can be examined through supply, demand, and both supply- and demand-side perspectives (Figure 1). Supply-side perspectives for agritourism development include aspects that motivate farmers to establish agritourism, such as economic factors or their attributes [22], farmers’ investment capabilities [4,25], and obstacles and risks related to agritourism development [26]. Similarly, the demand for agritourism can be diverse, which may be based on the types of tourists, their expectations, spending capacity, and time availability. The interests of tourists (e.g., demographic and social profiles) might vary. Furthermore, tourists’ attributes can guide the selection of a particular type of agritourism because their reasons for engaging in agritourism may differ based on the characteristics of the targeted place for agritourism. For instance, tourists on a family vacation or an educational tour might have different expectations than those seeking adventure or culinary experiences. Some other factors can be judged from both demand- and supply-side perspectives. Access to a farm, activities to
increase sales revenue, agritourism activities, and environmental factors can affect both suppliers and tourists [21,27]. Therefore, the implications highlighted in the literature must be understood to further agritourism in developing countries. However, no scholars have focused on reviewing this topic (as explained in the following section). Therefore, we reviewed the existing literature from both the supply- and demand-side perspectives on agritourism and explored their implications for agritourism in developing countries.

![Diagram of Agritourism related elements](image)

**Figure 1.** Important elements for agritourism development (AT = agritourism). Source: Authors’ elaboration.

### 3. Existing Reviewed Literature on Agritourism

The research on agritourism has primarily been conducted in the West, specifically the United States, Canada, and Europe [16] because agritourism has a long history in these countries [18]. Moreover, the majority of researchers focused on previously developed agritourism destinations. Specifically, in the case of the United States, bed and breakfast and commercial farm tours became widespread in the 1980s and 1990s [18], and scholars conducted numerous studies on agritourism in developed tourist destinations [7,26,28]. Similar trends can be observed in Europe, Australia, and some Asian countries [10,29–34].

Studies on agritourism demand or supply, focusing on one specific destination have been conducted in many destinations using primary and secondary data [7,12,35]. However, there has been no research reviewing the existing literature on demand- and supply-side perspectives.

Some scholars have reviewed the literature on agritourism. At the national level, Tiraietari and Hamzah [36] discussed the evolution of agritourism and its benefits in Malaysia, and Maharjan and Dangol [37] provided an overview of the agritourism education system and publications on agritourism in Nepal. These scholars did not touch upon the studies conducted outside the respective countries’ boundaries. In addition, Santeramo and Barbieri [17] conducted a cursory review of agritourism demand and explored the limited information on agritourism demand, especially regarding methodology and information compiled in the existing literature. Similarly, Dimitrovski et al. [16] conducted a literature analysis of 21 papers published on the Web of Science website and pointed out that future research should include the review of more papers and covering multiple perspectives. With the review of more papers, Rauniyar et al. [13] identified the common agritourism research trends around the world.
The book *Agritourism* was published by the Centre for Agriculture and Bioscience International; Reiser [38] reviewed the book, stating that it fills the gap in the international literature with regard to agritourism by inspiring researchers and farmers. Furthermore, the article ‘The perceived benefits of agritourism: The provider’s perspectives’ was published in *Tourism Management*, and one reviewer commented that agritourism could generate revenue not only for farmers, but also for other stakeholders [39]. To the authors’ knowledge, besides these, no other studies (as of December 2019)—either qualitative or quantitative—have reviewed the literature on agritourism. Therefore, considering the necessity of reviewing both the supply- and demand-side perspectives to examine the conditions applied for agritourism development, we reviewed the literature using quantitative methods to determine the implications for agritourism, especially in developing countries.

### 4. Methods

The central theme of this study is to explore the implications of agritourism development by analysing the literature through both the demand- and supply-side perspectives on typically agrarian, rural destinations in developing countries. For this purpose, the authors used three keywords (e.g., ‘agritourism’, ‘agri-tourism’, and ‘agro-tourism’) in the Web of Science search engine to sort the existing literature. As of 5 December 2019, we found 308 papers online. Among them, 85 papers for this study were selected based on the criteria presented in Table 1. For this study, the authors used only those papers with quantitative methodologies because qualitative methods help researchers understand meanings in complex contexts, whereas quantitative methods seek to obtain robust results through statistical analysis [19].

**Table 1.** Paper selection and rejection criteria.

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Inclusion Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keywords</td>
<td>Includes keywords agritourism, agri-tourism, or agro-tourism</td>
</tr>
<tr>
<td>Language</td>
<td>Papers are written in English</td>
</tr>
<tr>
<td>Publication year</td>
<td>Published 2000–2019</td>
</tr>
<tr>
<td>Types of papers</td>
<td>Papers published in peer-reviewed journals and international conferences</td>
</tr>
<tr>
<td>Papers’ topics</td>
<td>Papers that deal with agritourism</td>
</tr>
<tr>
<td>Written criteria</td>
<td>Written in a clear format contains research methodologies, output, and results</td>
</tr>
<tr>
<td>Methodologies</td>
<td>Quantitative methodologies</td>
</tr>
</tbody>
</table>

Source: Authors’ definitions.

As depicted in Table 2, a total of 85 papers from 24 countries were reviewed. Most of the papers reviewed in this study were from the United States, followed by European countries, especially Italy and Romania. We found minimal studies conducted in Asian countries featuring quantitative methods. The Results section is summarised as each bullet point presented in Figure 1.

**Table 2.** Country-wise quantitative research.

<table>
<thead>
<tr>
<th>Country</th>
<th>Papers</th>
<th>Country</th>
<th>Papers</th>
<th>Country</th>
<th>Papers</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>22</td>
<td>Israel</td>
<td>2</td>
<td>Iran</td>
<td>2</td>
</tr>
<tr>
<td>Italy</td>
<td>16</td>
<td>Japan</td>
<td>2</td>
<td>UK</td>
<td>2</td>
</tr>
<tr>
<td>Romania</td>
<td>4</td>
<td>Turkey</td>
<td>2</td>
<td>Czech Republic</td>
<td>1</td>
</tr>
<tr>
<td>China</td>
<td>2</td>
<td>Greece</td>
<td>2</td>
<td>Sri Lanka</td>
<td>1</td>
</tr>
<tr>
<td>Brazil</td>
<td>2</td>
<td>Poland</td>
<td>3</td>
<td>Taiwan</td>
<td>1</td>
</tr>
<tr>
<td>Spain</td>
<td>2</td>
<td>Russia</td>
<td>2</td>
<td>Montenegro</td>
<td>1</td>
</tr>
<tr>
<td>Thailand</td>
<td>2</td>
<td>Austria</td>
<td>2</td>
<td>India</td>
<td>1</td>
</tr>
<tr>
<td>Korea</td>
<td>2</td>
<td>Serbia</td>
<td>2</td>
<td>Multinational</td>
<td>5</td>
</tr>
<tr>
<td>Malaysia</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>Total = 85 (from 24 countries)</td>
</tr>
</tbody>
</table>

Source: Authors’ sorting out.

During the paper selection process, we also detected that more papers had been published in recent years (Figure 2). From the beginning, though, the motivations and attributes of farmers were studied
continuously. However, researchers have only recently attempted to study identity, quality tourism, tourism linkage, branding, creative tourism, and innovation in agritourism using quantitative methods. The recent trends of research on agritourism signify that scholars are increasingly paying more attention to quality tourism development due to its role in sustainability.

![Figure 2. Paper publication and majorly focused contents over the period. Source: Authors’ sorting out.](image-url)

### 5. Results and Discussion

#### 5.1. Supply-Side Perspective

**5.1.1. Motivational Factors: Farmers’ Attributes**

Different factors contribute to motivating farmers for starting agritourism operations, which could be a composite of farmers’ attributes, economic elements, social factors, and size, as well as the location of their farms.

Farmers’ attributes in relation to agritourism were explored using regression, ANOVA, factor analysis, and D.E.A. (data envelopment analysis) analysis methods (Table 3). ANOVA and factor analysis have been used consistently. However, recently, probability and efficiency measurement methods, such as D.E.A. analysis, have also been employed in agritourism research to explore farmers’ attributes. The number of family members engaged in agriculture as a full-time job, the number of employees working on a farm and farm size—all motivate people to become involved in agritourism [40–42].

Another study conducted in the United States suggests that people participate in agritourism due to social, economic, and external influences [28]. Agritourism is a part of tourism; the development of tourism is a joint effort of the community. If community people operate agritourism, it contributes to the quality of life in rural societies [43]. Therefore, social reasons and external influences contribute to the development of agritourism [28]. The social reasons involve fulfilling the needs of the target market, establishing companionship with the guests and operators, and serving the community’s interests. In contrast, the external influences comprise the effects of the various institutions that employ
the controls on the farms. The majority of the people in developing countries like Nepal are employed in the agricultural sector [44], so people in such societies can be employed in agritourism.

Table 3. Motivating factors in agritourism: Attributes.

<table>
<thead>
<tr>
<th>Authors</th>
<th>Methods</th>
<th>Country</th>
<th>Topic</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedreira and Fidago [41]</td>
<td>OLS</td>
<td>Brazil</td>
<td>AT potential</td>
<td>Family or small farms are potential for AT</td>
</tr>
<tr>
<td>Petrović et al. [42]</td>
<td>ANOVA, factor analysis</td>
<td>Serbia</td>
<td>AT impact</td>
<td>Full-time farmers develop agritourism</td>
</tr>
<tr>
<td>Barbieri and Mshenga [40]</td>
<td>Interval regression</td>
<td>USA</td>
<td>AT performance</td>
<td>Number of employees and total acreage dedicated to AT development</td>
</tr>
<tr>
<td>Nickerson et al. [28]</td>
<td>ANOVA</td>
<td>USA</td>
<td>AT motivation</td>
<td>Social, economic, and external influences motivate farmers to engage in AT</td>
</tr>
<tr>
<td>Lucha et al. [7]</td>
<td>Survival studies</td>
<td>USA</td>
<td>Profitability</td>
<td>Higher education and more motivation to earn more profit from AT</td>
</tr>
<tr>
<td>Ohe [32]</td>
<td>D.E.A. analysis</td>
<td>Japan</td>
<td>Efficiency</td>
<td>Skills from foreign countries increase the efficiency of owners</td>
</tr>
</tbody>
</table>

AT = agritourism; OLS = Ordinary least squares; D.E.A. = Data envelopment analysis. Source: Authors’ sorting out.

The development and sustainability of agritourism must be discussed simultaneously. The sustainability of agritourism is primarily based on managerial capabilities and profit margins. Scholars in Japan found that managers trained in foreign countries tend to have more efficiency when managing dairy farms, and farmers who are motivated to earn more income earn higher profits from agritourism [7,32,40]. Specifically, farmers who want to increase their incomes tend to introduce different activities on their farms, thus increasing their sales revenue and, ultimately, their profit margins. However, due to the poor economic conditions of farmers in developing countries like Nepal, they might not get the opportunity to acquire training in foreign countries. Therefore, these farmers can be trained in previously established tourism destinations inside their own countries so that they can deliver quality service to tourists.

The role of gender in agritourism has mainly been evaluated by using the utility model and regression analysis (Table 4). The gender of workers and their motivation levels contribute significantly to the success of agritourism. Different scholars noted that females are more motivated to engage in agritourism than males. For instance, female owners of agritourism operations tend to offer different types of wellness and souvenir products compared to their male counterparts [30,45]. In addition, a study conducted in Italy indicates that females tend to take responsibility for serving guests even if the manager or owner is male [30], and females’ initiative increased in the Japanese context due to this diversification [32]. However, a study conducted in the United States suggests that male-led agritourism operations perform comparatively better in terms of annual sales and revenue generation [40].

To summarise, studies conducted in developed countries indicate that females are more motivated to work in agritourism, although they have numerous household responsibilities. An understanding of the roles of females in agritourism in developing countries is also necessary. Therefore, further study is needed on the enhancement of female roles for the development of agritourism in these countries.
Besides attributes, economic reasons constitute another motivational factor for farmers to introduce agritourism for additional income generation. Scholars have mostly employed statistical tests and regression analysis methods to explore the economic factors motivating people to engage in agritourism (Table 5). Investigating the income factor using quantitative methods is a recent trend in agritourism literature (Table 5). Tourists’ spending results in earnings for farmers in agritourism. The more tourists spend in rural areas, the higher the percentage of their spending the farmers receive. Fischer [30] mentioned that a total of 10% of tourists’ spending goes to the farmers in Italy, which itself is around 23% of the farmers’ total incomes. Out of the numerous services offered in agritourism, accommodation is significant in terms of earning income; farmers earn 10% of their sales revenue from renting rooms [30]. Another study conducted in China indicates that transforming farms for agritourism purposes increased the economic output by 1.6 times as compared to traditional vegetable farming [34]. Besides the factors mentioned and farmers’ attributes, the availability of transport facilities and unique products (e.g., organic products) increased the income of farmers [4,15,26]. Thus, agritourism’s growth in developing countries should also focus on how to make tourists’ time spent during their visits to rural areas meaningful through innovation in agritourism. Rural communities can develop cultural trails [46], offer entertainment on their farms [47], provide opportunities to play with animals, and stage cultural performances in the evening to encourage tourists to spend more time in rural areas, and helps on generating additional income for the farmers and increasing tourist satisfaction.

The location, availability of transportation infrastructure, and different farm activities determine farmers’ income levels in agritourism. Agritourism not only increases the income for a particular farmer, but also creates employment opportunities for their family members [22]. The earnings from agritourism depend on the farmer’s level of education, age, and investment capacity, as well as the location of the farm [7,48]. Highly educated and young farmers generate more income from agritourism by offering more activities, and farms located nearby tourists’ residential locations are preferable for tourists. Although facilities are essential in agritourism for farmers to earn additional income, small-sized farms are more suitable for the agritourism [48], because small farms make more profit [47]. Numerous studies conducted in developed countries suggest that intensive farming is less productive from the agritourism perspective [30,49] because intensive farmers are comparatively busier than extensive farmers, and the quality of the products also differs between intensive and extensive farming. Therefore, tourists may have less quality time on an intensive farm compared to when they visit an extensive one. In developing countries such as Nepal, most farmers in rural areas practise traditional farming methods and produce organic goods without the use of pesticides. However, due to extreme underemployment, young and educated people are migrating to foreign countries in search of temporary and often dangerous jobs [50]. This trend could represent an opportunity to introduce agritourism for income generation for young and educated farmers in their home countries.
Table 5. Motivating factors in agritourism: Economic factors.

<table>
<thead>
<tr>
<th>Authors</th>
<th>Methods</th>
<th>Country</th>
<th>Topic</th>
<th>Key Findings</th>
</tr>
</thead>
</table>
| Fischer [30]       | Input-output analysis | Italy     | Agriculture and tourism linkage | • Farmers receive only 10% of total tourist spending; it becomes 23% for farmers' total income  
                                                                                     • Accommodations account for 10% of income in AT |
| Qiu and Fan [34]   | C.V.M.                | China     | Leisure agriculture         | Farm transformation increased the economic output by 1.6 times                |
| Malkanthi et al. [4] | Chi-square           | Sri Lanka | Conditions for spice tourism | Transportation has positive effects on tourism development                      |
| Sidali et al. [26] | Hedonic analysis      | Italy     | Quality indicators          | Wine production and organic farming have a positive influence on AT            |
| Barbieri [22]      | Chi-square and t-test | USA       | Sustainability of AT        | AT increases profits and creates jobs                                          |
| Lupi et al. [47]   | Logit                 | Italy     | Features of AT              | Small farms make more profit                                                  |
| Khanal & Mishra [48]| Spatial regression   | USA       | Factors affecting AT        | • Education, age, financial conditions, and location determine farm income  
                                                                                     • Small farms have high household incomes |

AT = agritourism; C.V.M. = Contingent Valuation Method. Source: Authors’ sorting out.

5.1.2. Investment

Agritourism development can be challenging due to the lack of entrepreneurial culture, hospitality awareness among local people, lack of investment, infrastructure issues, and insufficient government support [7,8]. After the motivation factor, investing in agritourism is another significant step in agritourism development. Scholars have primarily used statistical tests like chi-square and t-tests, as well as survival and time-series analyses, to identify the investment contributions in agritourism. Solo investing in agritourism is difficult for farmers. Specifically, investing in agritourism is difficult for farmers, but the degree of difficulty might vary between developed and developing countries [4,25]. In the case of developed countries, farmers have better access to government support and subsidies, both at the policy level and operational level; however, these benefits are still not available in many developing countries like Nepal. Although the level of investment capacity of the farmers determines the level of earnings from agritourism [48], a small investment can be made during the initial phase, and later on, it can be increased. For the agritourism operators, Das and Rainey [51] and Volkova et al. [52] suggested that the capital investment for agritourism can be small or large if farmers focus on carefully planning their marketing, communication, legal frameworks, and insurance for agritourism. In summary, before investing money in agritourism, a proper input–output analysis must be conducted. Due to the low incomes of farmers in developing countries like Nepal, where the average income is around USD 1000 per year [44], investing in agritourism poses difficulties for them. As Giaccio et al. [53] confirmed that the incentives influence the tendency towards diversification, the policymakers should encourage farmers to develop agritourism by helping them plan carefully and ensure the availability of subsidies or credit without collateral. At the same time, the government should guide and monitor the plan’s implementation. Developing countries such as Nepal do not have a farm insurance policy, so the availability of a government farm insurance policy would encourage farmers to invest in agritourism.

5.1.3. Obstacles to Agritourism Development

Agritourism is a type of business form that might face a series of problems during its establishment, operation, and sustainable management. Researchers have conducted a variety of studies on these
obstacles, mostly using ANOVA, regression, and survival analyses; ANOVA was used in the early phase, and scholars have recently started to use survival analyses [4,7,42,54]. When establishing agritourism, farmers might face opposition from locals who think tourism will negatively impact the natural and cultural heritage [4,42,54]. Tourism development in a destination is a joint effort of the community; if a group of people is against the development of agritourism, then it will be difficult. For instance, a study conducted in China suggests that residents who have jobs outside of the tourism industry and do not have a direct connection with tourism tend to be generally less satisfied with agritourism development [35]. Hence, when establishing agritourism in developing countries, the promoters should also try to link the local residents to the tourism industry to avoid local opposition.

For agritourism operations and sustainable management, another essential step is devising a strategy for attracting tourists and meeting their needs. On the supply side, attracting guests to agritourism is a challenge. The distance of agritourism venue and tourists’ satisfaction are negatively correlated, meaning that tourists may not visit distant locations [7,35]. For instance, if an agritourism destination in one region offers the same activities as another one, tourists chose the nearest location. Farms can attract more tourists by offering traditional and genuine food, culture, and authentic local heritage experiences, which can work as pull factors [12,43,53]. For the sustainability of agritourism in developing countries, the promoters can add ethnic attractions and minimise negative impacts, which reduces opposition and satisfies tourists.

5.1.4. Risks of Agritourism Development

Although agritourism development contributes positively to the income of the local people, it also generates risks for the farmers involved. Thus, recently, scholars have started to focus on the risks of agritourism development using quantitative methods. They have used stochastic frontier analysis and input–output analysis methods to measure the risks. First of all, people receive additional income from farm diversification. However, agritourism activities may reduce efficiency in agrarian production in the long run [55]. If farmers become money-oriented, then they may stop working in agriculture and may use imported products from outside to serve the tourists. Agritourism starts with the resources farmers already have on their farms, which require less effort and carry less risk; however, as the business continues to grow, farmers may introduce additional services and attractions to increase their profits, and they may discontinue their farming activities [23]. In developing countries like Nepal, due to the low level of economic opportunities, such businesses are still not generally sustainable, especially in rural areas. For agritourism in developing countries, guidelines on best practices should be developed during the initial stage. Moreover, policymakers need to monitor and evaluate the developed guidelines thoroughly to minimise the risks.

5.2. Demand-Side Perspectives

Tourists’ Intentions in Agritourism

Farmers’ abilities and tourists’ interests in experiencing the services offered determine the supply and demand of agritourism. As presented in Table 6, tourists like to experience different activities on farms. To explore the demand for agritourism, scholars have recently started to use quantitative methodologies to explore tourists’ intentions. Regression, factor, and ANOVA analyses have primarily been used to explore this topic. By nature, as farmers, agritourism operators offer more agricultural activities to tourists [56]. However, agritourists are interested not only in the farming activities, but also the local heritage. A study conducted in the United States indicates that agritourists also enjoy seeing wildlife, historic elements, and farm animals, as well as visiting nearby water resources [57].
Table 6. Tourists’ interests in agritourism.

<table>
<thead>
<tr>
<th>Authors</th>
<th>Methods</th>
<th>Country</th>
<th>Topic</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mastronardi et al.</td>
<td>Logit model</td>
<td>Italy</td>
<td>Compare AT and ordinary farms</td>
<td>Farmers consider offering primary agricultural activities</td>
</tr>
<tr>
<td>Gao et al. [57]</td>
<td>MANOVA</td>
<td>USA</td>
<td>Agricultural landscape for AT</td>
<td>Tourists like to see wildlife, water resources, historical elements, and farm animals</td>
</tr>
<tr>
<td>Cottrell et al. [35]</td>
<td>ANOVA</td>
<td>China</td>
<td>Residents’ perceptions</td>
<td>Satisfied tourists do not travel far to see the same attractions</td>
</tr>
<tr>
<td>Pocztza-Wajda Poczta</td>
<td>Linear regression</td>
<td>Poland</td>
<td>Conditions for qualified AT</td>
<td>Availability of sports equipment indicates the availability of physical recreational activities</td>
</tr>
<tr>
<td>Kline et al. [59]</td>
<td>SEM and factor analysis</td>
<td>USA</td>
<td>AT influences</td>
<td>AT experiences change consumer behaviour, particularly food consumption</td>
</tr>
<tr>
<td>Kaminska et al.</td>
<td>Graphic</td>
<td>Poland</td>
<td>AT development</td>
<td>Weak correlation between students’ expectations and AT facilities</td>
</tr>
<tr>
<td>Qiu and Fan [34]</td>
<td>C.V.M.</td>
<td>China</td>
<td>Leisure agriculture</td>
<td>Recreational value of agricultural landscape would be much higher</td>
</tr>
<tr>
<td>Sidali et al. [26]</td>
<td>Hedonic analysis</td>
<td>Italy</td>
<td>Quality indicators</td>
<td>Wine production and organic farming have a positive influence on AT</td>
</tr>
<tr>
<td>Galluzzo [61]</td>
<td>OLS</td>
<td>Italy</td>
<td>Agritourists aspirations</td>
<td>Complementary offered services like sports mountain bike, trekking, and horse riding attracts tourists</td>
</tr>
<tr>
<td>Giaccio et al. [53]</td>
<td>ANOVA</td>
<td>Italy</td>
<td>Activities in AT</td>
<td>Food service, direct selling, and public subsidies increased income</td>
</tr>
<tr>
<td>Fischer [30]</td>
<td>Input-Output Analysis</td>
<td>Italy</td>
<td>Agriculture and tourism linkage</td>
<td>Intensive farming is counterproductive</td>
</tr>
<tr>
<td>Lupi et al. [47]</td>
<td>Logit</td>
<td>Italy</td>
<td>Features of AT</td>
<td>Larger farms have no incentives to be an agritourism</td>
</tr>
</tbody>
</table>

Moreover, tourists prefer agritourism venues that have excellent transportation networks and that are located nearby. Cottrell et al. [35] discovered that satisfied Chinese agritourists visiting one agritourism destination are less likely to visit other agritourism sites that offer the same activities at a similar location. In this regard, to attract more tourists, operators can promote authentic indigenous [12] and sports activities [54,58,61] on their farms. In addition, tourists would like to have local culinary experiences that change consumer behaviour, particularly food consumption [43,59].

In general tourism, the amenities/facilities and visitors’ expectations are often correlated, but in Polish agritourism research, scholars found a weak correlation between students’ expectations and the actual facilities [60]. Similarly, a study conducted in China revealed that tourists placed more value on agriculture than merely their economic value [34]. Based on these findings, we can say that agritourists are more oriented toward activities than toward facilities. Therefore, even in developing countries, it is better to establish activity-oriented agritourism.

Tourists prefer to visit small farms rather than large farms. The presence of intensive livestock activities negatively impacts accommodation rates [26], and researchers found excessive farm activity diversification to be counterproductive for agritourism in Italy [30]. Further, larger farms have no incentives to be agritourism [47]. These findings demonstrate that small farms can be more productive for agritourism, and many small farms can be utilised to provide different attractions to tourists. Therefore, we can conclude that farm activities are essential; however, too many farm activities leave a
negative impression on tourists. Based on these results, developing countries such as Nepal, which has mostly small-sized farms, can develop activity-based agritourism.

In addition to farm activities, tourists’ attributes also affect the number of farm tours (Table 7). Moreover, females are motivated to participate in different agritourism activities. Studies conducted in two different countries by using regression analysis and Mann-Whitney U tests demonstrate that females with a child below six years of age participated more times in on-farm tours [62], and Spanish females who had a university degree and worked in a salaried position were more satisfied with vegetable-related tourism [63]. Based on these experiences from developed countries, females and children could be targeted for tourism in developing countries as well. As the majority of developing countries are male-dominated, females themselves often cannot make travel decisions. Therefore, the family target would be more effective.

Table 7. Tourists’ attributes.

<table>
<thead>
<tr>
<th>Authors</th>
<th>Methods</th>
<th>Country</th>
<th>Topic</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpio et al. [62]</td>
<td>Probit analysis</td>
<td>USA</td>
<td>Demand for AT</td>
<td>Local residents and females (with a child &lt; 6 years old) visited AT more times</td>
</tr>
<tr>
<td>Carril et al. [63]</td>
<td>Mann-Whitney U test</td>
<td>Spain</td>
<td>Visitors’ satisfaction</td>
<td>Older, salaried females with a university degree enjoyed vegetable-related tourism more</td>
</tr>
</tbody>
</table>

AT = agritourism. Source: Authors’ sorting out.

5.3. Both Sides

5.3.1. Agritourism Market

Examining the potential source of tourists (i.e., the market for agritourism) is another important step in agritourism development. Investigating the agritourism market is primarily done from a supply-side perspective, even though it can be observed from the tourists’ perspectives as well. In the past, most researchers used factor and regression analyses to explore the agritourism market (Table 8). The market for agritourism differs from country to country and location to location. However, linking demand and supply to satisfy actual and potential agritourists is crucial [12]. In developed countries such as Italy and the United States, domestic tourists account for the majority of agritourists [10,62]. In those countries, promotional strategies focusing on locals or domestic markets would be more beneficial for agritourism. In developed countries, farmers are limited in number; the domestic market for agritourism is comparatively larger than in developing economies. However, in the case of developing countries such as Nepal, farmers constitute more than two-thirds of the population, and they almost all grow the same products, meaning that domestic demand cannot sustain agritourism there [2].

Moreover, on the demand side, as agritourists have relations with both operators and fellow visitors [9], agritourism promoters should make sure to cover their interests as well. Tourists tend to neglect destinations with poor transportation connections far away from them [11,35,54]. Specifically, before the development of agritourism, policymakers need to analyse the potential source of tourists, available resources, access, location, and capabilities of farms. Securing agritourists in developing countries is more complicated. Therefore, it is necessary to identify the targeted tourists, whether they face difficulties reaching the farms, their expectations, and farmers’ capabilities to satisfy the tourists’ expectations. The farms may organise unique and different events/festivals and sports events so that many tourists show interest in visiting the farms together with their companions [47,61].
<table>
<thead>
<tr>
<th>Authors</th>
<th>Methods</th>
<th>Country</th>
<th>Topic</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brandano et al. [12]</td>
<td>Cluster and factor analysis</td>
<td>Italy</td>
<td>Demand and supply in AT</td>
<td>Linking demand to supply for product development and satisfying the actual and potential customers is important</td>
</tr>
<tr>
<td>Ohe and Ciani [10]</td>
<td>Trend analysis</td>
<td>Italy</td>
<td>AT demand characteristics</td>
<td>Domestic demand is more than half of the total AT demand</td>
</tr>
<tr>
<td>Carpio et al. [62]</td>
<td>Probit and Count reg.</td>
<td>USA</td>
<td>Demand for AT</td>
<td>Local residents frequently participate in farm activities</td>
</tr>
<tr>
<td>Choo and Petrick [9]</td>
<td>Factor analysis</td>
<td>USA</td>
<td>Tourists’ relations</td>
<td>Visitors have relations with service providers and other fellow customers</td>
</tr>
<tr>
<td>Galluzzo [61]</td>
<td>OLS</td>
<td>Italy</td>
<td>Agritourists aspirations</td>
<td>Unique and sports activities attract tourists</td>
</tr>
<tr>
<td>Shah et al. [54]</td>
<td>Factor analysis</td>
<td>Fiji</td>
<td>AT market</td>
<td>AT location should be easily accessible</td>
</tr>
</tbody>
</table>

AT = agritourism. Source: Authors’ sorting out.

5.3.2. Activities to Increase Sales

In general, farm activities and sales revenue in agritourism are generally correlated with each other. Sales revenue can be increased in two ways—either by increasing the number of farm visitors or the number of activities (according to the resources available). As this study aims to explore the implications for agritourism development by using available resources, in this section, the authors have placed greater emphasis on how to increase sales revenue with the resources available. The majority of the existing research on the factors contributing to sales revenue using quantitative methods consists of regression, cluster, and input–output analyses.

Farmers can increase their sales revenue by developing high-quality agritourism standards [30]. For instance, in the case of Italian agritourism, the higher number of flower signs allotted to measure the standard in agritourism means a more standardised form of agritourism, and customers are ready to pay an additional amount for an additional flower sign [30]. Farms located near protected areas have the greatest attractiveness and are more profitable [47]. Most farms in developed countries offer farm accommodation; extra income can be generated by introducing additional services in the accommodation plan. For instance, accommodation plus meal plans [30]; the provision of education, experiences, events, and sports activities [31–33,54,58]; and the introduction of typical products and brand products [26,64], and direct selling [43,53], generate additional income for farms. Recently, different types of physical recreational activities have become popular, even in agritourism. For example, sports equipment such as mountain bikes, and trekking and horse riding have attracted more tourists to Polish farms [58]. Therefore, farmers should introduce more activities to create additional sales revenue based on their capacity and locally available resources. To summarise, each additional activity in agritourism generates additional revenue, meaning that more activities equal more income for farmers. Therefore, agritourism in developing countries should focus on introducing different kinds of attractions and services to address the expectations of the targeted tourists. Furthermore, promoting unique activities on farms may attract more tourists [14]. However, introducing many activities simultaneously is difficult and may not even be a good strategy. Rather, farmers can introduce activities in a step-by-step fashion.

5.3.3. Agritourism and Environment

Regarding the relation between agritourism and environment, the majority of scholars used statistical tests like chi-square tests and t-tests, while some others used time-series and MANOVA analyses. From the supply-side perspective, sustainable business performance and rural economic
conditions are the key drivers behind ecological sustainability [27]; agritourism also contributes to the sustainability of the local heritage, but it has an environmental impact similar to other types of tourism. However, it is believed that agritourism activities result in minimal damage to the environment [51] and earning from agritourism is a reward for the activities aimed at conserving biodiversity, ecosystems, and landscapes [56]. Minimal environmental damage is possible because agritourism not only offers recreational activities to tourists, but also contributes to preserving and displaying intangible and tangible rural heritage elements [22,29,65]. For instance, farms with agritourism have been found to develop more sustainable techniques that have a positive impact on biodiversity, landscape, and natural resource management in marginalised villages of Italy [56]. Furthermore, the environmental performance of agritourism can be observed due to the farm diversification process intended for the development of environment-based services [22]. Thus, we can say that agritourism operators focus more on maintaining environmental sustainability, not only to sustain their businesses, but also to attract more tourists.

On the demand side, tourists prefer landscape features commonly found on agritourism farms, such as nature and culture, rather than artificial attractions [11,57]; farms that are located in the higher areas like hills and mountains than those on plain lands and farms located near protected areas [47] motivate operators to preserve the natural and cultural heritage. To sum up, agritourism development in both developed and developing countries represents an opportunity to protect and promote local heritage. Mountainous countries like Nepal would be more benefitted from agritourism.

6. Conclusions

This study was conducted by reviewing the existing quantitative papers on the agritourism sector from the supply, demand and both supply- and demand-side perspectives. The authors reviewed 85 papers from 24 countries published in international peer-reviewed journals listed on the Web of Science website and generated implications for the agritourism development focusing on the developing countries that were not covered in the previous studies.

The results of this review indicate that the majority of the quantitative studies on agritourism are focused on developed countries and previously existing agritourism destinations, especially in the United States and Europe. As agritourism is considered as a tool for poverty alleviation and development in rural areas, this trend should continue in developing countries as well. Agritourism development in developing countries is much more necessary as a tool for rural development and economic diversification. Moreover, the trend of publication of papers using quantitative methodologies has increased in recent years. Regression, factor, and ANOVA analyses have been utilised predominantly in agritourism research. Recently, scholars have begun to use new methods in agritourism, such as D.E.A. analyses. The specific major findings and implications can be divided into three main topics, as explained in the following sections.

6.1. Supply Side

1. Farmers are motivated to engage in agritourism due to the greater economic opportunities offered. More highly educated and younger people make more profits, and women are more motivated to engage in agritourism [14,22,62]. Therefore, policymakers in developing countries can encourage females and educated people to develop agritourism. Working in agritourism not only increases the income for females, but also contributes to gender equality.

2. During the review, the authors found that investing a significant amount at the beginning of this process is not a good idea. Thus, farmers can invest a small amount initially and increase their investment according to the demand, together with planning and implementation. As farmers in developing countries often lack the qualities required to work in agritourism [3], policymakers should insist on maintaining the quality of the farmers, credit availability, and the proper planning and monitoring of agritourism. If the farmers receive incentives, they perform farm
diversification [47]; therefore, the government could attract the farmers to start agritourism through the provision of incentives/subsidies.

3. The development of agritourism not only has positive impacts, but also involves some obstacles and risks. Those who do not benefit from tourism think tourism negatively affects society [42,54], and such people may oppose the development of agritourism. If they receive some sort of benefit from tourism, they may support it. Opponents’ interests can be adjusted in several ways, such as donating some earnings to social events, inviting opponents to join social activities, conducting awareness programmes and organising social events from time to time. Regular participation in community events unites local people [1], which also helps attract tourists. Bhatta et al. [2] and Lupi et al. [47] statistically confirmed that the young farmers run agritourism. Conversely, in developing countries like Nepal, young people are moving to foreign countries in search of temporary jobs [43]. In this base, the government policy should target those young people and make them manage agritourism.

4. Regarding the risks from agritourism, in the long run, farmers may become profit-oriented and may stop engaging in farming activities. Farmers may engage in more profit-oriented actions on their farms rather than involving themselves in farming activities. Policymakers should impose regulations by developing guidelines to avoid harmful activities in agritourism operations.

6.2. Demand Side

1. Tourists like to experience both physical and intangible attractions. Tourists in developed countries tend to prefer nearby attractions, recreational activities, and more easily accessed agritourism sites.

2. Females who have children are more likely to visit agritourism destinations. Moreover, we also found that tourists visit agritourism destinations to participate in authentic activities rather than to access amenities. The availability of more events and local foods increases the demand for agritourism.

6.3. Both Sides (Demand and Supply)

1. Each additional activity increases the sales revenue on the farm, which means that more diversified farm activities are better from both the demand and supply perspectives. In the diversified farm activities and innovated agritourism, tourists experience more events and activities and farmers simultaneously earn more.

2. In developed countries, farmers are limited in numbers, and the domestic market for agritourism is comparatively larger than in developing countries. However, in the case of developing countries, the majority of the people are engaged in agriculture, and they almost grow the same products, meaning that the domestic tourist market is not sufficient for agritourism. In this regard, focusing more on the international market will be beneficial. As Galluzzo [61] explored, if the farmers can provide a nexus of rural activities and agricultural activities in agritourism, the international tourists keep visiting the farms. Therefore, the rural attractions can be integrated and served to the tourists [14]. Moreover, farmers should focus on introducing different kinds of attractions and services to address the requirement of targeted tourists [11]. The promotion of unique activities on farms attracts more tourists as well [47].

3. Although agritourism development negatively affects the environment, it does so less when compared with the general tourism industry [51]. The earnings from agritourism also help maintain environmental sustainability [22]. Agritourism development in developing countries, therefore, can be taken as an opportunity not only for alleviating poverty and income generation, but also for preserving the local heritage. The society can protect local heritage through developing their own guidelines to be followed in the agritourism for its sustainability.
6.4. Limitations and Further Study

The authors based this review on the literature listed on the Web of Science search engine as of 5 December 2019, using only three search terms. Papers by scholars who defined rural tourism as agritourism [5,52] and agritourism is a part of rural tourism [66] were not included in this study. During the review, the authors detected that most of the studies were conducted in developed agritourism destinations, and the number of studies using quantitative research methodologies is increasing in recent years. The authors could not find the papers dealing with the ordinary agrarian destinations (tourism is not common) neither in developed countries nor in developing countries. An in-depth study is necessary to explore the possibilities and conditions applied for agritourism at ordinary villages or farms because agritourism development is based on the unique conditions that might vary significantly even in the developing countries. Most of the implications presented in this study are particularly generated for the agritourism development in Nepal. However, the implications can be employed in other countries as well.

This review is based on the supply and demand perspectives; comparing the literature based on the geographical locations could also be interesting. Moreover, due to the effects of the COVID-19 pandemic, the world is being pushed further into a digitalisation process. Therefore, it appeals to explore the impacts of digitalisation in agritourism [67]. Similarly, the role of social media for training, education, and the promotion of the tourism destination is another topic to be explored [13]. We focused more on development perspectives regarding agritourism and presented the implications for developing countries. Future studies should deal with the analysis of the promotional strategies applied in the successful agritourism destinations.

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