ABSTRACT

Addressing social and environmental concerns can minimize risks and provide employment opportunities. Implementing water and energy conservation and providing educational programs can also benefit agritourism. Sustainable practices are crucial for protecting sites from tourist activities and addressing economic, societal, environmental, and institutional issues. The study aims to identify the sustainability practices of agritourism farms in Diffun, Quirino. Various studies ought to determine different practices of agritourism farms to retain customers. In contrast, this study aims to improve sustainability by exploring the perception of agritourism based on the experience of farmer’s owners and farm workers. This cross-sectional study involves a sample of 296 farm workers participants using convenience sampling from two agrotourist destinations in Diffun, Quirino. Primary data collection was done using self-administered questionnaires, and the data were analyzed using descriptive and inferential statistics. The study reveals that effective governance frameworks, policies, and implementation of sustainable practices and awareness of these farms will effectively preserve natural resources while promoting social equity and economic profitability. The study found no significant difference between the two agritourism farms’ sustainability approaches, indicating a shared understanding of key factors contributing to sustainability. Stakeholders focus on monitoring and evaluating agricultural practices, and farmers believe societal demands are related to environmental performance. Further research should collaborate with the host community and local government unit to validate the results of findings and develop the potential of agritourism activities in their municipality.

INTRODUCTION

Agritourism is perceived as educational and recreational for tourists because of the farming-related activity or practical production done on a farm. According to the National Agricultural Law Center, agritourism is a commercial enterprise that combines agricultural production and processes to attract visitors from a farm, ranch, or other agricultural business for entertainment, education, and earning money. It effectively balances tourists’ and rural communities’ needs (Ammirato et al., 2020). Eusébio et al. (2017) discuss the growing demand for rural tourism, which has led to the emergence of economic development, population growth, and increased stress in everyday life. As such, there is an increased number of tourist accommodations and small types of businesses located near the site to assist the needs of tourists. Unfortunately, it threatens rural resources because of the exploitation beyond carrying capacities or the intensity of its usage; at the same time, enterprises are not managed appropriately (Buffa et al., 2018). The study assesses the level to which these accommodations practice energy and water conservation while also describing the views and behaviors of owner-managers within the agritourism-boarding houses they operate. Furthermore, environmental management practices state that managers understand the importance of natural resource conservation in the destination. Still, they are not willing or have the financial resources, time, and organization to save initiatives for agritourism water and energy conservation, which will enable them to adopt saving measures within tourist accommodation (Manalo & Afable, 2023; Ispas et al., 2019).

Agritourism farms are frequently privately owned and offer tourists recreational opportunities based on traditional local activities (Barbieri et al., 2016). A study of sustainable agriculture tourism in Thailand was introduced to farmers’ stakeholders because of its potential to triple bottom line approach that depends extensively on the local characteristics of the region (Shih et al., 2018; Tseng et al., 2019). Scholars discovered that farms that participate in agritourism rarely use systematic strategic planning (DeRosa et al., 2019). Likewise, Pratt et al. (2018) state that there are a limited number of agritourism studies based on sustainability, particularly on farms broadening their green business practices to engage in sustainable agritourism, such as increasing revenues, reducing risks, maximizing resource use, cross-marketing farm products, and other forms of value-added products. Studying how agritourism should be properly performed is necessary for operations since a lack of long-term strategies and reliance on ad-hoc management often leads to unsustainability (Tseng et al., 2019). The results show that sustainable business performance and rural economic conditions are the key drivers of environmental sustainability. The findings suggest that farmers must implement business methods to reduce such risks because they are susceptible to diminishing incomes (Shih et al., 2018). Agritourism is an emerging type of industrial tourism.
A similar study in Bohol describes that agriculture and tourism in the region are among the people's major sources of employment and income. Zacal et al. (2019) reveal that 42% of Bohol are employed in agriculture while 36% are employed in the service industry, with tourism being the leading sector. Moreover, in a state-selected agritourism venture in Bohol, Philippines were three (3) site managers, fifteen (15) workers, and one (1) contractor; fifteen (15) locals took part in the study because the site faced struggles brought by locals, employees, and visitors. Significantly, the study aims to determine the current condition of a selected venture in the growing field of agritourism (Zacal et al., 2019). Results show that workers largely contribute to increased household income, an improved standard of living, and a healthy working environment. Likewise, locals outside the agritourism sites have provided opportunities for locals to earn income that was not previously available. The findings suggest that Initiatives can be taken to educate host communities about the negative effects of illegal settling, poor waste management, and other destructive practices on farm sustainability or an initiative that allocate funds for specific areas where visitors are permitted on the site (Zacal et al., 2019).

Perhaps surprisingly, many current agritourism products and services are being offered to places across the globe and nationwide. With people's increasing knowledge of travel and recreation, agritourism products and services are becoming diverse in parts of the country, particularly in Quirino Province. This study will determine the current sustainable practices of agritourism farms in Diffun, Quirino, to develop their operations and add value to the community and environment. While given that good perceptions of tourists from product experience may increase tourist visits, assessing the extent to which agritourism can grow while remaining socially and environmentally conscious in the national/local view can minimize risk factors in product and service delivery and also provide more employment opportunities and additional income for the host community. Considering the fun in agritourism experiences, addressing the general issues people are exposed to is necessary. Applying water and energy conservation can bring meaningful results to agritourist farms and green movement operations in the tourism and hospitality industry, and formulating educational programs or training for small landowners can increase their income and participation in agritourism development. Understanding the relevance of sustainable practices in accredited agritourism farms is crucial to protecting the site from tourist activities and issues about the economy, society, environment, and institution. Unsustainability often leads to a lack of long-term strategies, including practices that will develop operations of agritourism farms in Diffun, Quirino. The management of sustainability in agriculture is essential for both farm owners and farm workers because risks can compromise the involvement of local communities in the development of agritourism. Agritourism also aids in keeping the younger generation of farmers in rural areas instead of migrating to urban areas in search of better job opportunities. The findings of this research will provide insights into destination management of accredited agritourist farms in Diffun, Quirino. Through exploring the study, private business owners or farm owners will further realize the advantages of enhancing agritourism farm operations by applying sustainability to products and services. Hence, this research aims to evaluate the sustainability standards of agritourism plantations in Diffun, Quirino. This research aimed to compare the two agritourism farms’ perceived sustainability assessments regarding institutional, economic, and environmental sustainability.

LITERATURE REVIEW
Sustainability of Agritourism Farms
Small businesses and private organizations exploit natural resources to offer goods and services to the public. Sustainable tourism addresses visitor needs, industry, environment, and host communities, considering economic, social, and environmental impacts, as defined by the UN Program and the UN World Tourism Organization. Agostini (2005) examined the application of sustainable tourism principles to working agriculture and local identity in a study. The primary challenge to territorial identity in the rural regions of Northern Italy was designated as an inadequate understanding and consciousness regarding the administration of agritourism farms.

Furthermore, the strategies endeavor to foster adequate comprehension, leadership, and foresight among decision-makers in rural areas (Lane, 2005). Additionally, they provide training to private and consulting firms and support the primary agricultural endeavors in the monitored region to generate employment opportunities and enhance agriculture’s appeal to the younger generation (Agostini 2005). As a result, this research has developed a proposed strategy-making process that can inspire planning authorities and other organizations to adopt a more proactive and positive stance toward providing development opportunities. This guide guarantees the success of rural producers’ agricultural investments and provides a direct route to them. Constantin (2011) posit that agritourism’s influence on the development of rural areas is a multifaceted matter that seeks to gratify the interests of tourists.

Moreover, an investigation into agritourism advancements in Poland reveals that an overabundance of tourism expansion in rural regions has the potential to disrupt indigenous social structures (Roman et al., 2020). Improper waste management, the devastation of historically and culturally significant objects, the erosion of cultural values’ authenticity, an upsurge in criminal activity, and a deterioration of social trust within the community are all potential consequences (Topcu, 2007). Similarly, in their study, Petrović et al. (2016) emphasize the significance of identifying the factors that impact the implementation

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of sustainable development-defined innovations through a well-considered and suitable strategy for developing agritourism activities. The study aims to provide various agritourism-supporting institutions and organizations with recommendations; as Khanal and Mishra (2014) state, educational and adventurous farms can utilize agritourism innovations such as poultry and silk processing facilities. Therefore, to implement such initiatives, it is critical to investigate the perspectives of agritourism farm proprietors regarding their understanding of the term innovation and the primary categories of innovation (Jin et al., 2021). Hence, the diverse requirements of travelers in their travel endeavors may impact advancements in agritourism or the progression of agritourism.

**Economic Sustainability**

One uses a resource-intensive model to solve problems on social, financial, and employment (Latruffe et al., 2016). The Partial Least Squares Path Modeling (PLSPM) technique is designed for studying high-dimensional data in a poorly structured environment, which helps determine the characteristics that influence the level of agritourism development (Kazkouski et al., 2020).

Hence, the results may also be useful in researching the modeling of sustainable development in general in rural areas. In the last several decades, rural communities have experienced many challenges, such as migration, low prices of products, and economic recession (Askarpour et al., 2020; Pérez-Olmos & Aguilar-Rivera, 2021).

Similarly, performing agritourism activities requires urban tourists to visit rural areas, which may trigger cultural issues between tourists and residents due to their unwillingness to conform to the tourists’ lifestyle. As a result, the efficiency and productivity of agricultural land have increased in importance due to the worsening of climate, environmental, energy, and economic crises in our time (Faulkner et al., 2019; Khan, 2021). The study suggests that agritourism startups are an option for developing agritourism on small-scale farms. All the concepts revolve around agritourism as a tool for sustainable development, and agritourism itself aims to transform employment infrastructure as its main achievement. As stated in the literature, there are many motivations for agritourism. However, the main reason for this was to improve the economic conditions, particularly in employment, to prevent a decline in agriculture and the migration of rural populations to cities (Halim et al., 2020; Srisomyong & Meyer, 2015).

Moreover, Mwansa (2022) asserted that a state of animosity would impede the agricultural sector, thereby impacting the community’s means of subsistence; thus, fostering collaboration through institutional and functional unity is essential. Implementing the agritourism concept in rural areas is an emerging phenomenon; hence, there is a need for studies that improve the capabilities and reduce the limitations of agritourism by exploring the consequences of the agritourism phenomenon based on the experience of residents, tourists, local authorities, and experts.

**Social Sustainability**

A multitude of research studies have examined the social sustainability of agritourism properties. A comprehensive examination of the literature concerning agritourism and sustainability revealed that agritourism serves multiple purposes, can foster socioeconomic progress, and contributes to the conservation of natural resources and biodiversity (Havale et al., 2023). The review conducted by Ammirato et al. (2020) underscored the correlation between agritourism and sustainability, offering a comprehensive perspective on the subject. Farms that incorporate agritourism practices tend to implement more environmentally sustainable methods that benefit the surrounding ecosystem and natural resources, according to the findings of this research (Grillini et al., 2023; Mastronardi et al., 2015; Stacey, 2022).

Prior research has also examined the capacity of agritourism to foster sustainable behavioral models among farmers and travelers, with a particular emphasis on its potential to contribute to the circular economy in the post-COVID era (Ingrassia et al., 2023). In addition, scholarly investigations have examined the necessity to evaluate and enhance the sustainable agrotourism portfolio, focusing on utilizing accessible natural resources and social engagement to fashion an exceptional and environmentally conscious tourist experience (Puška et al., 2022). Nevertheless, certain areas of research have been deemed deficient. A critical examination of the determinants of success in sustainable agritourism development, for instance, identified a predilection for studies conducted in developed nations and emphasized the necessity for more exhaustive research in this domain (Baipai et al., 2021; Ciolac et al., 2019). Furthermore, an investigation examined the sustainability of agritourism farms in the United States and emphasized the significance of quantifying the advantages of agritourism; this underscores the requirement for further empirical studies in this domain (Barbieri, 2013; Barbieri et al., 2016).

In brief, the extant body of literature has yielded significant contributions to understanding the social sustainability of agritourism farms. This includes examining their potential contributions to the circular economy, their multifunctionality, and the necessity for exhaustive evaluations of their sustainability results. However, further investigation is warranted in certain areas of research, such as the requirement for additional empirical studies and a more all-encompassing international outlook on sustainable agritourism development.

**Environmental Sustainability**

In recent years, environmental sustainability on agritourism properties has become an increasingly popular topic of discussion. This literature review aims to present a comprehensive summary of the current body of research concerning the sustainability implications, advantages, and obstacles associated with agritourism farms. Research has demonstrated that agritourism farms contribute to environmental sustainability through
the implementation of rainwater reuse systems, brief supply chains, and diminished contamination (Ingrassia et al., 2023; Streifeneder, 2016; Plokhikh et al., 2022). Nevertheless, there is limited evidence to suggest that producers, planners, and tourism professionals consider the environmental consequences of visitors (Chengcai et al., 2017; Kline et al., 2007; Okumus et al., 2018). Agritourism has the potential to stimulate local economies and offer producers alternative revenue streams through the stimulation of other local activities (Ammirato et al., 2020; Zhao et al., 2022). Additionally, it has the potential to aid in preserving traditional agricultural landscapes and enhancing rural regions (Ingrassia et al., 2023).

By facilitating education and cultural exchange regarding genuine farming practices, agritourism can cultivate a sense of connection between the general public and the land (Kline et al., 2007). This may result in a greater appreciation for the significance of environmental conservation and sustainable agriculture. Notwithstanding the prospective advantages of agritourism, concerns persist concerning the ecological sustainability of these farms. An area that has received limited attention in the literature is the environmental consequences of visitors, including depletion of resources and pollution (Kline et al., 2007; Tao et al., 2021).

A comparison of the sustainability outcomes of agritourism and non-agritourism farms has revealed disparities in several areas, including implementing sustainable practices and encouraging local progress (Grillini et al., 2023). Agritourism establishments have the potential to contribute to the circular economy and sustainable mobility by offering eco-sustainable ecosystem services (Ingrassia et al., 2023). This encompasses the elimination of architectural barriers, the production of nutritious food, and pure energy. In light of the ongoing expansion of the agritourism industry, it is imperative to contemplate the ecological ramifications of visitors and adopt sustainable methodologies to safeguard the farms’ enduring prosperity (Kline et al., 2007). Notwithstanding the growing attention given to agritourism and its ecological sustainability, further investigation is warranted, specifically concerning the effects of visitors and the application of sustainable methodologies (Ammirato et al., 2020; Grillini et al., 2023; Kline et al., 2007; Tao et al., 2022).

Institutional Sustainability

The existing literature concerning the institutional sustainability of agritourism farms comprises a variety of viewpoints. Recent research has yielded several significant themes and discoveries illuminating the capacity of agritourism to foster sustainable development and the obstacles it faces in maintaining its institutional viability. The sustainability implications of agritourism have been underscored in a systematic literature review (Ammirato et al., 2020). These implications include the facilitation of local economic growth, the provision of alternative revenue streams for farmers, and the advancement of environmentally friendly production practices.

Agritourism presents itself as a potentially fruitful strategy in pursuing the Sustainable Development Goals (SDGs), specifically goal 12, which aims to foster conscientious consumption and production. Agritourism, according to Ingrassia et al. (2023), can increase the efficacy of environmentally friendly production, decrease contamination, and promote sustainable practices. However, the institutional sustainability of agritourism is threatened by obstacles such as limitations on economic viability and the need to strike a balance between tourism and agriculture; thus, the integration of agritourism and the circular economy is gaining traction. Previous studies have indicated that integrating farm entrepreneurship with agritourism may contribute to sustainability by fostering synergies between the agricultural and tourism sectors (Cheteni & Umejesi, 2022).

Agritourism is widely regarded as a means to enhance rural communities’ economic development, environmental preservation, and agricultural heritage. By facilitating the diversification and viability of agricultural enterprises, fostering healthy food, and offering environmental refuge, it can contribute to sustainable development (Ciocan et al., 2019). Agritourism allows farmers to offer visitors environmental and cultural experiences, additional income, and the chance to diversify their agricultural activities (Ciocan et al., 2019). Establishing a precise definition of agritourism and its constituent elements, including lodging services, is crucial to comprehend its viability regarding institutional dynamics (Ciocan et al., 2019). Consumer preferences and the offerings of agritourism, which include healthy, quiet cuisine, active relaxation, and environmental experiences that align with consumer desires, are vital to the institution’s sustainability.

The policy implications for ensuring the institutional sustainability of agritourism are also examined in the literature. These implications include establishing regulatory frameworks that balance economic, environmental, and social factors and promoting responsible and sustainable agritourism practices (Ammirato et al., 2020; Ingrassia et al., 2023). In summary, the extant body of scholarly work concerning the institutional sustainability of agritourism farms offers significant contributions to understanding the possible advantages, obstacles, and policy ramifications linked to this particular type of rural tourism. Through examining and considering these fundamental concepts, policymakers and researchers can collaborate to optimize the institutional sustainability of agritourism and its positive impacts on sustainable development.

MATERIALS AND METHODS

The study utilized a descriptive cross-sectional survey research design. The descriptive research design aims to obtain more information concerning a phenomenon, circumstance, or population (McCombes, 2019). In this study, the researcher used the design to determine variables that could systematically influence the research findings.
A descriptive research design was chosen for this study to assess the sustainability practices of the agritourism farm of Diffun, Quirino. Moreover, it is an appropriate research design because the variables of interest are most useful for describing phenomena or events about which little is known recognizing new or emerging phenomena, particularly on sustainability practices. For this study, the sustainability practices are assessed in terms of economic, social, environmental, and institutional. Considering these reasons to investigate the factors influencing agritourism, a quantitative approach shaped the research design, and the study applied a survey approach that may lead the researcher to gain some understanding of applied sustainable practices in agritourism.

Diffun, a second-class municipality in the province of Quirino, was chosen as the study site because most of the population are farmer-owners and farm workers with various professions. Some of the most visited integrated farm and agritourism sites in this area can be found to evaluate their sustainability practices on agritourism farms. Furthermore, the study’s participants are the farm owners and farm workers in the agritourism sites. There were 296 farmworkers and 159 community members that comprised the study’s sample size selected through convenience sampling. A modified version of the research questionnaire about the Prism of Sustainability and Sustainability Indicators was employed in this investigation (Latruffe et al., 2016; Maye, 2018). Participants were requested to rate the 31 items of this scale, which assesses an individual’s perception of sustainability in agritourism farms, on a scale from 5 (indicating always practice) to 1 (indicating rarely practice).

### RESULTS AND DISCUSSION

The purpose of the study is to assess the sustainability practices of agritourist farms in Diffun, Quirino. The assessment of the sustainability of the agritourism farms in terms of environmental, institutional sustainability, and social is perceived as usual. Agritourism has the potential to support new directions in rural sustainable development, with specific effects on the environment, agricultural heritage, and economic growth.

#### Table 1: Perceived assessment of agritourist farms’ sustainability practices

<table>
<thead>
<tr>
<th>Sustainability Practices</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental</td>
<td>3.51</td>
<td>0.82</td>
<td>Usually</td>
</tr>
<tr>
<td>Economic</td>
<td>3.47</td>
<td>0.77</td>
<td>Usually</td>
</tr>
<tr>
<td>Institutional</td>
<td>3.44</td>
<td>0.86</td>
<td>Usually</td>
</tr>
<tr>
<td>Social</td>
<td>3.46</td>
<td>0.80</td>
<td>Usually</td>
</tr>
</tbody>
</table>

The finding indicates the level of environmental sustainability awareness among visitors visiting agritourism farms, which indicates unanimous agreement among all participants. The findings suggest that most visitors consider agritourism farms cost-effective, potentially influencing their overall contentment with the excursion. Furthermore, the data indicates that the participants concur with the criteria used to evaluate the perceived sustainability of agritourism farms concerning institutional sustainability. The results indicate that visitors perceive that agritourism farms are institutionally sustainable, which signifies that they are acknowledged for their robust governance frameworks and policies. This perception of the institution’s sustainability may increase the enjoyment of agritourism among guests. The evaluation findings suggest that visitors generally consider agritourism farms socially sustainable. The findings indicate that these farms contribute to the local community and foster a positive perception of social sustainability, potentially enhancing the overall positive perception of agritourism among visitors.

These findings further implied the influence of environmental values on consumer intentions to participate in agritourism. This means that agritourism farms can attract more visitors interested in supporting sustainable practices by promoting environmental sustainability. By implementing sustainable practices, such as using more sustainable production techniques that positively impact biodiversity, the landscape, and natural resources, agritourism can help achieve sustainability goals (Ammirato et al., 2020; Ciolac et al., 2019). In addition, economic, social, and environmental factors should be considered when applying agritourism. The development of sustainable agritourism in a certain area should be viewed within the subsystem, which means that the economic benefits of agritourism should not be the only focus but also the promotion of sustainable development, local culture, and customs (Barbieri et al., 2016; Zhao, 2022).

#### Table 2: Difference in the Perception of the Sustainability Practices between Farmworkers and Community

<table>
<thead>
<tr>
<th>Sustainability Practices</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmworkers</td>
<td>296</td>
<td>3.33</td>
<td>0.15</td>
<td>-0.410</td>
<td>159</td>
<td>0.682</td>
</tr>
<tr>
<td>Community</td>
<td>159</td>
<td>3.47</td>
<td>0.50</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The success of sustainable practices recognizes the collaboration between the farmworkers and the community, hence the data on the difference between the farmers and the community’s perception of sustainability. The comparison of the farmers’ and communities’ perceptions of the sustainability of agritourism farms.
revealed no significant difference between farmers’ and community assessments, indicating that both groups have the same perception of the sustainability of the agritourist farms. This alignment of perception is essential for the success and promotion of sustainable agriculture in agritourism. Every person involved in the food system, including growers, food processors, distributors, retailers, consumers, and waste managers, can play a role in ensuring a sustainable agricultural system. Farmers must take responsibility for the environmental impact of agriculture and honor this commitment with courage, resulting in sustainable agriculture that promotes equity and economic profitability (Roman et al., 2020; Stacey, 2022).

CONCLUSIONS
This study presents a prospective analysis of the evaluation of sustainability practices implemented by agritourism farms in Diffun, Quirino. The findings show that practices contribute to community contentment about the sustainability of agritourism. Although the environmental indicator exhibited the highest predictive power concerning sustainability, it was trailed by the social, economic, and institutional indicators. However, as sustainability levels improve, visitors to agritourism farms generally express greater satisfaction with their experiences. Frequently privately owned agritourism farms allow visitors to engage in recreational pursuits rooted in traditional local customs. There was no significant disparity between the opinions and responses of the agritourism farms, as determined by the test results. This finding implies that agritourism farms hold comparable perspectives regarding the sustainability of their operations. According to these results, tourists perceive these farms’ practical outputs and farming-related activities as educational and enjoyable. Local community participation in agritourism fosters a supportive environment that offers producers access to information, resources, and market opportunities, thereby contributing to the long-term viability of agritourism farms.

REFERENCES


