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DOI: https://doi.org/10.3126/ocemjmtss.v4i1.74759 Paper Type: Research Article Effect of Covid-19 Pandemic on Community-Based Homestay Tourism in the Buffer Zone of Chitwan National Park

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Abstract

Volume 4, Issue 1 ISSN Print:2705-4845 ISSN Online:2705-4845 Tourism is a key driver of economic growth and a vital component of sustainable development, linking sectors such as transportation, accommodation, and cultural experiences. It enhances local livelihoods, particularly through community-based ecotourism initiatives like homestays. This study assessed the socioeconomic effects of the COVID-19 pandemic on homestay operators and their coping strategies in Amaltari Tharu village homestay, located in the bufferzone of Chitwan National Park, Nepal. The research aimed to evaluate the pandemic's impact on livelihoods and identify adaptive strategies for recovery. Household surveys (n=31) and focus group discussions were employed, with data analyzed using t-tests, Chi-square tests, and descriptive statistics. SWOT analysis was conducted among the stakeholders to find the strategic position of homestay tourism in the post pandemic situation. The pandemic significantly impacted the livelihoods of people dependent on ecotourism. The study revealed that the proportion of respondents reporting little or no earnings increased significantly from 16.1% to 77.4% during the pandemic, reflecting the severe impact of the pandemic on livelihoods. There was substantial decline in the average gross monthly income of homestay operators, confirming significant reductions in income levels and sufficiency after the lockdown. Overall, the study highlights the adverse effects of the pandemic on community-based homestay tourism in buffer-zone area, emphasizing the need for adaptive alternative livelihood strategies and policy support like provision of soft loan, operation capital, motivational training on safety measures and the promotional activities by the respective authority to operate and revive the homestay tourism in its rhythm in the new normal situation.

Keywords: *Buffer zone, community-based homestay, COVID-19 pandemic, ecotourism, livelihood.*



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Introduction

Tourism multidimensional is а industry interconnected with hospitality services and generates assorted business connectivity with transportation, accommodation, food and beverage, entertainment, nature, culture and adventure facilities that has some significant implications over the local economy at community as well as destination level (Khatiwada et al., 2024). Ecotourism, a form of sustainable tourism, emphasizes responsible travels to natural areas while fostering cultural understanding and conservation to support the local livelihood in the buffer-zone (BZ) area. The International Ecotourism Society (TIES) defined ecotourism as "purposeful travel to natural areas to understand the culture and natural history of the environment, taking care not to alter the integrity of the ecosystem while producing economic opportunities beneficial to local people"(Bricker, 2017). The BZ was to safeguard biodiversity in parks and reserves by providing alternative economic opportunities to local communities and minimizing conflicts between communities and protected areas (Sherpa, 2000). Tourism is one of the fastest growing industries in the world where the number of people who traveled and stayed overnight was 1.4 billion in 2018 following the momentum produced in the year 2017 with the growth rate of 6% despite Brexit uncertainty (UNWTO, 2019). However, after 2019 the growing ecotourism industry was severely affected by the coronavirus (UNWTO, 2019). Among the several forms of tourism, ecotourism is a major component of sustainable tourism in Nepal. Eco-tourism activities carried by the community, have become the backbone of the livelihood for the local people by generating income and employment opportunities in Nepal (Khatiwada, 2022).

The novel coronavirus, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), was first identified in late 2019 at a seafood market in Wuhan City, Hubei Province, China (Zhu et al., 2020). The COVID-19 pandemic has an extremely significant impact on the functioning of societies, as well as many sectors of economic life (Sulkowski & Ignatowski, 2020). Among the pandemic's farreaching impacts was its profound disruption of the global tourism industry, which experienced an unprecedented collapse in both international and domestic travel. The Amaltari Tharu Homestay, located in the buffer zone of Chitwan National Park (CNP), exemplifies community-based homestay ecotourism, which is integral to rural development and conservation efforts in Nepal. The CNP, a UNESCO World Heritage Site established in 1973, is a cornerstone of ecotourism. Spanning 952.63 sq. km. in the subtropical lowlands, it is home to iconic species such as the Asian onehorned rhinoceros (Rhinoceros unicornis), Bengal tiger (Panthera tigris tigris), and Gharial crocodile (Gavialis gangeticus) (DNPWC, 2024). The park attracts thousands of visitors annually for jungle safaris, birdwatching, canoeing, and Tharu cultural experiences. Despite its ecotourism potentialities and local benefits in BZ, the pandemic exposed the vulnerabilities of homestay tourism, brought tourism activities in and around CNP to an almost halt situation and severely impacting the livelihoods of local communities, hence need for strategic policies to sustain rural tourism in the BZ area during and after the crises.

Literature Review

In Nepal, ecotourism focuses on meeting the demands of major three dimensions which includes conservation of biodiversity, poverty reduction and promoting the local business using sustainable principles and practices which focuses on bringing benefits to local communities, conserving, and protecting natural areas (K.C., 2017) and enhances the cultural integrity of local people (Sigdel, 2014). Ecotourism has been a vital strategy for engaging communities in conservation. Community-based tourism (CBT), particularly homestay tourism, plays a crucial role in promoting rural development. As Jones and Wood (2008) emphasize, "CBT projects are small- to medium-sized businesses that have the potential to generate positive social and economic development impacts in rural areas, where other types of development may be insufficient." In Nepal, homestay tourism allows villagers to build, own, and manage tourism services that involve guests in daily livelihoods and cultural practices. This model fosters economic growth, employment, and community development while requiring minimal capital investment and limiting socio-cultural disruptions (Kunwar, 2021).

One of the studies in Gandaki province identified that Community based homestay tourism is one of the appropriate ecotourism models that create the market for local products with income and employment opportunities for local people (Khatiwada, 2022). However, by January 2020, tourist arrivals had already declined by 2% compared to the same period in 2019 due to the COVID-19 pandemic that led to significant revenue losses for communities reliant on ecotourism, creating economic uncertainty and threatening the livelihoods of homestay operators near conservation areas (Sah et al., 2020). The global pandemic heavily battered the tourism sector of Nepal where visitors' number dropped by 80% and welcomed only 230,085 international tourists in 2020 which is the lowest number since 1990. Likewise, 46.6% fall in national GDP with the contribution of only 3.6% and loss of almost 2 lakhs jobs (46.6% less than previous year) to the national economy due to the effect of coronavirus (MoCTCA, 2020). Tourism and hospitality sector is the one of a few sectors which is in the top list of highest sufferers (almost 100%) from the pandemic of COVID-19 in Pokhara and periphery, the popular tourist destination of Nepal losing by NRs 2 billion 123 million (Khatiwada, Sharma & Ranabhat, 2024). The economic impact of COVID-19 have a much worse that the last earthquake disaster of 2015 in Nepal (Adhikary, 2020). Nepal had been adversely affected by the pandemic and its preliminary impact recorded 14.37 percent loss to Nepalese economy as a repercussion of travel restriction and flight cancellation (Shrestha et al., 2020). Further, the pandemic has severely impacted the livelihoods of the tourism-dependent community, particularly those in poor and disadvantaged groups. The pandemic's impact differs in core urban areas and neighboring settlements that has brought major changes and difficulties in rural tourism and altered the pattern of socio-economic status of local people which nowadays has become a matter of great concern (Khatiwada et al., 2022). Hence, the policymakers and planners must develop plans, policies, and strategies that promote the tourism sector and involve local communities in decisionmaking processes and tourism implementation, taking into consideration the global pandemic situation and its effects in local destinations.

This study needs to investigate the economic impacts of COVID-19 on homestay operators in Amaltari, their livelihoods, and the coping strategies they employed during the crisis. By examining the various issues related to homestay tourism, it is necessary to provide actionable insights for policymakers, tourism stakeholders, and conservation organizations to mitigate future challenges and strengthen the resilience of community-based tourism. Additionally, it contributes to the broader discourse on sustainable tourism by exploring recovery and adaptation strategies for rural ecotourism sectors in buffer zone areas.

Methodology

Study Area

The study was conducted in Amaltari, a buffer zone area of Chitwan National Park (CNP), Nepal. Specifically, the research focused on Amaltari Madhyawarti Homestay in Baghkhor village within Kawaswoti Municipality, Nawalpur District. Baghkhor village, situated in Nepal's southern Terai region at about 117 meters above sea level, experiences a subtropical climate characterized by substantial rainfall (see Figure 1). The municipality is located along the East-West Highway, approximately 170 km west of Kathmandu, the capital of Nepal. The region, known as a "green city," comprises 27.1% forested land and 23.07% agricultural land (DFRS, 2024; Kawasoti Municipality, 2025). The Amaltari Madhyawarti Homestay is a communitybased initiative that began in 2013 through the collaborative efforts of 20 households and support from WWF. The area is rich in cultural and natural heritage and is primarily inhabited by Tharu, Bote, and Musahar ethnic communities, which contribute significantly to its tourism appeal (Karki et al., 2019).

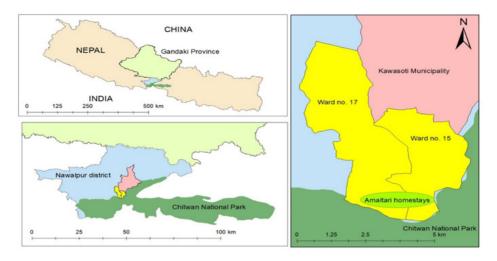


Figure 1: Study area

Data and Methods

The study used both primary and secondary data for analysis. A total enumeration was adopted, involving a household survey of all 31 homestay households in Amaltari. Further key informants' interview (13) was conducted to gain deeper insights into the impacts of COVID-19. The household survey was implemented through structured questionnaires, consisting of both closed and open-ended questions, to gather data on the socio-economic and cultural impacts of COVID-19. These questionnaires also captured information on coping strategies adopted by respondents, such as resilience on loans, insurance coverage, property ownership, migration, and alternative income sources.

Key informant interviews were conducted with local leaders, homestay operators, teachers, health workers, and ward officials. These interviews were designed to understand their perspectives on the opportunities and challenges faced by the homestay sector during the pandemic, with a particular focus on financial and operational strategies.

Additionally, two Focus Group Discussions (FGDs) were conducted with local business owners, community leaders, and representatives of the Homestay Management Committee. The number of participants in each FGD was 7 and 8. Discussions focused on the socio-economic and cultural impacts of COVID-19, as well as income generation, employment, benefits distribution, and infrastructure development. During the FGDs, a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis of the homestay program was conducted.

Secondary data were gathered from various sources, including records from local offices (e.g., Kawasoti Municipality, ward offices), published and unpublished research reports, journals, online articles, and institutional databases. Information on external support mechanisms, such as the WWF's "Conservation for Livelihood" program, was also reviewed to understand their role in mitigating the impacts of the pandemic and supporting homestay operators. This program's contributions, including capacity-building training and financial incentives, were analyzed for their effectiveness in enhancing resilience.

The methodological approach ensured a comprehensive understanding of the financial and operational challenges faced by the homestay sector during the COVID-19 pandemic, as well as the strategies adopted by respondents to cope with these challenges.



Data Analysis

The collected data were analyzed using SPSS and Microsoft Excel. The analysis involved data cleaning, coding, and categorizing based on the study objectives. Both qualitative and quantitative analyses were performed, employing statistical tools. Descriptive statistics tools, such as frequency, mean, percentage, and range were used to summarize the demographic and socio-economic data. Inferential statistics, such as a paired t-test were applied to compare the income levels before and after the COVID-19 pandemic and chi-square test was used to analyze the sufficiency of income during these periods. Finally, SWOT analysis utilized insights from FGDs and key informant interviews to identify strengths, weaknesses, opportunities, and threats of homestay tourism. The results were presented in tables, charts, and graphs for clarity and effective interpretation.

Results and Discussion

Demographic characteristics of homestays

Majority of the homestay operators were Tharu people with family size of three to ten individuals (see Table 1). The homestay operators were mostly illiterate or having only primary level education and agriculture as their secondary occupation. The other characteristics of the homestay operators are provided in

Table 1.

Table 1. Demographic and socioeconomiccharacteristics

Age	Respondents had an average age of 37.35 years, while household heads averaged 40.81 years.
Gender	The majority of respondents (63%) were male, while 37% were female.
Family Size	Household sizes ranged from 3 to 10 members, with an average of 4.58 members per household.
Education	Nearly half of the respondents were classified as literate.
Ethnicity and Religion	The majority of the respondents (71%) belonged to the Tharu ethnic group, followed by the Botey group (29%), with all respondents practicing Hinduism.
Landholding	Respondents owned an average of 5.92 Kattha of land, with ownership ranging from 2 to 20 Kattha.

Primary Occupation	Tourism was the primary occupation for 70.96% of respondents, followed by business and agriculture.
Secondary Occupation	Respondents had diverse secondary income sources, with a significant proportion engaged in business.

Total income before and after COVID-19

The average gross income declined from Rs. 33,417.54 before COVID-19 to Rs. 5,453.92 after the reopening of homestays following the lockdown. A paired sample t-test was conducted to compare monthly gross income before and after the pandemic significant decline in earnings (p = 0.001), emphasizing the severe economic impact of the pandemic (see Table 2).

Table 2. Paired sample t-test

Variable	N	Mean	Degree of freedom	t-value	Significance (2-tailed)
Monthly gross income (Before vs. After COVID-19)	31	33,417.54 →5,453.92	30	3.42	0.001 (Significant at 1%)

This sharp decline in income highlights the devastating effects of the pandemic-induced travel restrictions and lockdowns on rural tourism and community managed enterprises. Homestay operators, who rely heavily on income from tourists, faced unprecedented challenges during and after the pandemic. The reduced income levels directly affected household financial stability, as most operators could no longer meet their basic expenses.

Net Savings in a month before and after COVID-19

The findings reveal a substantial shift in savings patterns among respondents before and after the COVID-19 pandemic. Before the pandemic, only 16.1% of respondents reported little to no savings, a figure that surged to 77.4% post-pandemic (see Figure 2).

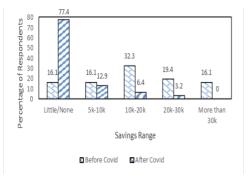


Figure 2: Net Savings in a month before and after COVID-19

Sufficiency of income before and after COVID-19

The sufficiency of income generated from homestays to meet household expenses was compared before and after the COVID-19 pandemic. Before the pandemic, 87.1% of respondents reported that their homestay earnings were sufficient to cover household expenses, while only 12.9% faced difficulties. However, after the pandemic, the scenario reversed, with 80.6% of respondents struggling to meet household expenses from homestay income, leaving only 19.4% reporting sufficiency (see Figure 3).

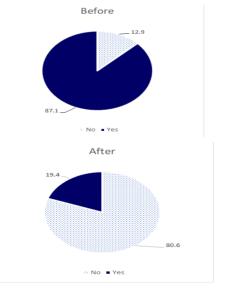


Figure 3: Sufficiency of income from homestay before and after COVID-19

To analyze this shift, a chi-square test was performed, as it is suitable for examining differences between categorical variables (see Table 3).

Table 3. Chi-square test to compare the sufficiencyof income from homestays.

Variable	N	Chi-Square (χ2) value	Degrees of freedom	p-value
Before vs. After COVID-19	31	19.7	1	0.001 (Significant at 1%)

The chi-square analysis indicates a statistically significant change in income sufficiency before and after COVID-19 (p = 0.001). This finding underscores the severe impact of the pandemic on the financial stability of households reliant on homestay income. These results highlight the importance of targeted financial support and interventions to assist homestay operators in adapting to the economic challenges posed by the pandemic.

These findings demonstrate the immediate economic effects of the pandemic and highlight broader issues of income vulnerability and dependency on tourism. The scientific literature of UNWTO (2020) and Gössling, Scott, and Hall (2020) have similarly documented the impact of COVID-19 on tourism-based economies. For instance, rural tourism studies in other regions, such as Southeast Asia and Africa, have shown a decline of 70-90% in income during the pandemic, largely due to travel restrictions and reduced consumer confidence in the safety of travel.

The prolonged loss of income also raises concerns about the sustainability of rural tourism enterprises. A study by Hall, Scott, & Gössling (2021) emphasized the need for diversification strategies for rural communities to reduce reliance on single income sources. Similarly, Rogerson and Baum (2020) pointed to the critical role of government and private-sector interventions in providing economic relief and fostering resilience during crises.

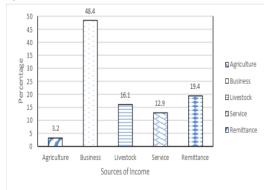


Coping strategies against COVID-19

Among the 31 respondents, the majority (64.5%) reported taking loans to cope with the financial challenges posed by the pandemic. These loans, originally intended for renovations under the Visit Nepal 2020 program, were repurposed to address financial strains. Most loans were secured from financial institutions rather than cooperatives, highlighting the role of the formal financial sector in providing liquidity during crises, though it raises concerns about potential long-term debt burdens.

In terms of insurance, 54.8% of respondents had not insured their homes or properties, which compounded their financial vulnerabilities during the pandemic. However, 64.5% had health or COVID-19 insurance, while 35.5% lacked any insurance coverage. The lack of property insurance further compounded financial risk for households dependent on tourism income. This finding aligns with previous studies that emphasize the importance of insurance in building financial resilience during crises (Hall et al., 2021; Gössling et al., 2020).

The study also revealed that 21 respondents did not own additional property beyond their primary residence, while 11 reported owing other property. When asked about their reliance on alternative sources of income during the pandemic, a significant proportion shifted to other income streams due to the decline in tourism (see Figure 4).



Additionally, 7 families had members migrate for work during the pandemic, with 5 members relocating abroad and 2 members moving within the country. Despite these challenges, 29 out of 31 respondents maintained the habit of depositing earnings into banks, showcasing resilience and a proactive approach to financial management.

The long-standing "Conservation for Livelihood" program initiated by WWF in the Baghkhor village also played a pivotal role in mitigating pandemic-related challenges. The program enhanced biodiversity through conservation efforts and introduced homestay tourism as a supplementary income source. WWF's direct interventions, such as capacity-building training and incentives, were seen as valuable in helping homestay operators navigate uncertainties during the pandemic. Respondents emphasized that such support mechanisms were crucial for coping with the impacts of COVID-19.

SWOT Analysis of Homestay in Post-COVID-19

The SWOT analysis of the Amaltari homestay program revealed key strengths, such as its strategic location near Chitwan National Park and the cultural appeal of the Tharu community. However, significant weaknesses, including poor infrastructure, limited accommodation capacity, and inadequate government support, were identified as major barriers to growth. These issues align with findings from Neupane et al. (2021), who highlighted similar challenges in their study on ecotourism in Bhadaure-Tamangi village of Kaski district, suggesting that improvements in infrastructure and government support are crucial for sustaining rural tourism. The major findings of this study, as an outcome of the SWOT analysis are presented (see Table 4).

Figure 4: Reliance on other sources of income after COVID-19

Table 4. Result of SWOT analysis

Strengths	Weaknesses	Opportunities	Threats
 Location: Amaltari Homestay at Baghkhor is the only gateway to Chitwan National Park for the Nawalpur district. Cultural Uniqueness: Ethnic communities like Tharu and Bote offer a cultural experience, including traditional dances (Lathi Naatch, Jogedaa, Goliyaan), local cuisine, and beverages such as chichhaad. Scenic Landscape: Surrounded by lush flora, the Gundrahi River, and a community forest, the area offers natural attractions. Wildlife Viewing: Species like one-horned rhinoceroses, tigers, and crocodiles. Village Setting: Visitors can experience life in Tharu, Bote, and Musahar communities. Entertainment Options: Activities like bull cart rides, bird watching, fishing, and wooden boat safaris. Support from WWF enhances capacity building and technical and Religious Attractions: Sites like Gundrehi and Kottaandi. A c c o m m o d a t i o n Capacity: Each homestay accommodates up to four guests. 	 Most homestays can only host four guests, restricting their capacity to cater to larger groups. Flood Risk: The proximity of the Gundrahi River poses a flooding threat. 	homestay households can supply local food, crafts, and services.	 Pandemic Uncertainty: The evolving nature of COVID-19 and future pandemics poses ongoing risks. Economic Impacts: Global economic challenges may reduce tourism spending. Cultural Dilution: Exposure to foreign cultures could lead to a loss of local identity, especially among youth. En v i r on m en t a 1 Damage: Increased tourism can strain the local ecosystem, even with sustainable practices. Sensitive Location: As a buffer zone, the homestay area is ecologically fragile and prone to disturbances. H u m an - W i 1 d 1 i f e Conflicts: Crop raiding and livestock theft by wild animals' present ongoing challenges. Safety Risks: Incidents of wildlife attacks, such as a rhinoceros-related fatality in 2015, could deter potential visitors.

Overall, the analysis investigated the economic impact of the COVID-19 pandemic on homestay operators in the study area with a focus on income sufficiency and coping strategies. The results reveal profound challenges for homestay operators, exacerbated by their financial vulnerability and limited preparedness for the crisis. These findings offer critical insights into the need for increased support, strategic interventions, and policies to sustain community-based tourism, particularly during a crisis.

Decline in Income Sufficiency

Before the pandemic, 87.1% of respondents reported that their homestay income was sufficient to cover household expenses; however, this figure plummeted to just 19.4% after the pandemic. A Chi-Square test ($\chi^2 = 19.7$, p = 0.001) confirmed a statistically significant difference in income sufficiency before and after the COVID-19 crisis. These findings are consistent with Kunwar (2021), who observed a significant decline in income sufficiency in tourism-dependent communities due to decreased tourist numbers and limited income diversification during the pandemic. The sharp decrease in income sufficiency among homestay operators highlights the sector's vulnerability, which was closely tied to the tourism industry's collapse.



The average monthly income of homestay operators dropped dramatically from NPR 33,417.54 before the pandemic to NPR 5,453.92 post-lockdown, as confirmed by a paired sample t-test (t = 3.42, p = 0.001). This decline in income was much more severe than in other regions such as Sikles, where income remained relatively stable (Gautam & Khatri, 2021). The difference can be attributed to Sikles' appeal as a low-density, socially distanced tourism destination, which drew visitors seeking safer outdoor experiences (Zenker & Kock, 2020).

Financial Vulnerability and Coping Strategies

The pandemic's impact was compounded by the lack of preparedness among homestay operators. Only two respondents reported feeling confident in managing the crisis, and more than half (54.8%) did not have insurance coverage for their properties. This underscores the urgent need for improved financial preparedness and support systems. Government interventions like soft loans and tax subsidies, which were shown to be effective in other studies (Neupane et al., 2021), are essential for mitigating financial strain during crises.

Further analysis revealed that 64.5% of respondents resorted to taking loans to cope with the pandemic, often reallocating funds initially intended for renovations. This pattern is consistent with findings from Khatiwada et al. (2021), who reported widespread financial distress among tourism-related businesses in Nepal during the pandemic. As noted by many respondents, the shift towards alternative income sources during this period further emphasizes the need for diversified income strategies to sustain livelihoods in the absence of tourism. The study also underscores the critical role of conservation programs, such as those led by the World Wildlife Fund (WWF), in supporting homestay operators. WWF's efforts in building local capacity and promoting ecotourism were seen as essential in helping operators adapt to the pandemic's challenges. These findings align with Neupane et al. (2021) research, which highlighted the importance of conservationdriven initiatives in maintaining the resilience of community-based tourism during crises.

Further analysis of the key informant interviews provided valuable qualitative insights into the socio-economic and cultural impacts of COVID-19 on the homestay sector. Local leaders emphasized the significant decline in tourism during the pandemic, which led to reduced household income and increased financial stress. Homestay operators highlighted challenges such as maintaining properties during the lockdown and difficulty adhering to new health protocols. Teachers and health workers discussed the broader community impacts, including disruptions in education and health services education and health services disruptions. Ward officials noted that while the pandemic posed challenges, it also presented opportunities for resilience-building and diversifying income sources within the homestay program.

Conclusion

The COVID-19 pandemic had a profound and adverse impacts on the homestay tourism industry of Nepal. The pandemic underscored the need for improved financial preparedness and risk management strategies to support homestay operators in times of crisis. The homestays in the buffer zone of Chitwan National Park have unique cultural offerings, rich Tharu traditions, and significant strengths and opportunities for ecotourism. However, challenges such as poor road conditions, inadequate health and communication facilities, and long-term uncertainties related to pandemics pose ongoing threats to the sustainability of these ventures. The heavy reliance on domestic tourists during the pandemic demonstrates the need for a more robust, diversified approach to attract a broader range of visitors.

To ensure resilience and sustainability in the face of future disruptions, homestay operators need to diversify income sources and strengthen local partnerships. A multi-faceted approach to risk management, including disaster preparedness, financial support, and capacity-building programs, is essential. Addressing the vulnerabilities of community-based tourism, particularly homestay tourism, requires a concerted effort from stakeholders and the government to develop strategies that can support rural tourism development and enhance long-term resilience.

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