Systematic review of strategies for rural tourism regeneration in the post-epidemic era-the case of mainland China

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ABSTRACT

This paper aims to summarise the methods of rural tourism revitalization in the post-epidemic period in the existing literature and screen out the strategies suitable for China. The method of subject analysis and the stakeholder theory are adopted as the main approaches to achieve the goal by analysing the methods to help rural tourism development from four dimensions: local government, local community, travel agency, and residents. According to China's conditions and experience from other countries, the paper finally puts forward four strategies for China's rural tourism regeneration. Specifically, for the government, the accessible strategies are to provide low-interest loans to tourism practitioners, for communities, it is proper to help scenic spots install disinfection facilities. Considering the travel agencies, to develop Virtual Reality (VR) and Augmented Reality (AR) programs could help, and residents in rural tourism destinations can participate in the environmental protection to help the revitalisation. The practical significance of this study is mainly to provide theoretical basis for the development direction of rural destinations in China in the post-epidemic period. At the same time, other countries with similar situation to China's rural tourism can also make selective reference. Despite the problems of a single database and neglect of regional differences within China, the research results still have particular value.

1. INTRODUCTION

1.1. The Rationale for the Research

COVID-19 refers to pneumonia caused by the 2019 novel corona virus and its symptoms are fever and cough, which can lead to syncope or even death in severe cases (Baig, 2020). Because it is highly contagious, the only way to reduce the risk of infection was to keep people at home when it first started (Baig, 2020).

In the early stage of COVID-19, in order to prevent the rapid spread of the virus, most countries, such as China, the UK and the US, implemented lockdown measures for about three months, which had a great impact on the tourism industry (Baig, 2020). This is reflected in a 65% decrease in average global airline attendance, a 23% decline in hotel business and an 85% drop in ticket sales at tourist attractions (Yang, Zhang, & Rickly, 2021).
However, with widespread vaccination and the use of masks, tourism industry is recovering after good control of COVID-19 (Baig, 2020). Iceland, the United Kingdom and Singapore cancelled restrictions on travel in June, August and November 2021 respectively, which meant inbound and outbound travel were gradually resumed (Maidian, 2021). Also, more than 32 countries have announced plans to resume tourism by the end of 2021. In this case, how to quickly restore tourism has become the primary issue that all countries need to consider (Baig, 2020).

Among various tourism types, people tend to choose to travel to rural areas where the risk of infection is low and tourists are scattered because of the remaining isolation requirements and health needs in the post-pandemic era. A total of 217 international tourism destinations announced to develop rural tourism, and United Nations World Tourism Organization (UNWTO) announced that it is urgent to revive rural tourism to drive the economic recovery of local tourism in World Tourism Day (Purwaningsih, Purwandari, Sunarso, & Setiadi, 2021). And international tourist destinations such as Switzerland and Thailand have begun to boost rural tourism by widening roads and increasing the number of rural guides since the lifting of travel bans.

After COVID-19, China has also shifted the focus of tourism regeneration to rural tourism. Since 2020, the General Administration of Culture and Tourism issued a rural tourism restoration document, provided special funds, adopted the guidance of "one village, one policy" to carry out point-to-point help (Pan, Chen, & Shiau, 2022). By the end of 2020, Chinese rural tourism had received 2.6 billion visitors, with a revenue of 600 billion RMB, which has basically recovered to the pre-epidemic level of the same period (Pan et al., 2022). With the good control of pandemic, Chinese rural tourism is promised to reboot and has a good future in following years.

1.2. The Importance and Temporariness of the Research

1.2.1. The Importance of the Research

Firstly, for the industry, the rural tourism reconstruction strategy explored in this study can be applied to other subsectors. With overall global tourism revenues down by about 75% due to the pandemic, all tourism-related sectors need to be revitalized (Villacé-Molinero, Fernández-Muñoz, Orea-Giner, & Fuentes-Moraleda, 2021). According to Baig (2020), various departments within the industry are interconnected, and a strategy targeted at one internal sector is likely to be applicable to other departments as well.

Secondly, for business, reviving rural tourism will generate considerable revenue because it is one of the most modes of travel in the post-pandemic phase. Since the COVID-19 outbreak, with 85% of borders closed, 10% visa restrictions and 5% suspension of international flights (UNWTO, 2020), the global international travel decreased by 75%, which provided an opportunity for domestic tourism. Rural tourism has become one of the most popular forms of post-pandemic domestic tourism because destinations are easy to access and can be reached by car as a means of reducing infection risk (Fotiadis, Polyzos, & Huan, 2021).

Thirdly, for other countries, strategies from theoretical and practical aspects used for rebooting rural tourism after pandemic can be learnt. From the theoretical aspect, foreign countries can learn the methods of finding problem-solving strategies and apply them to other problems. From the practical aspect, countries with the similar reboot problems, especially for those countries and regions with relatively developed rural tourism such as Germany, France and Italy (Nicely & Sydnor, 2015), can directly refer to the relevant strategies derived from the study and apply them to their own countries.

1.2.2. Contemporaneity of the Research

Firstly, the topic focus on post-pandemic era, which is a contemporary period. This research is supposed to find redevelopment strategies for rural tourism after Covid-19, which broke out at the end of 2019 and spread all over the world in 2020. And the post-epidemic era is defined as the period that the overall Covid-19 situation is under control but a few cases occur, which from the end of 2020 to now (Yang et al., 2021).
Secondly, the reconstruction of rural tourism after COVID-19 was first officially proposed in 2020. On the World Tourism Day, UNWTO set 2020 as the year of tourism and rural development, which stressed the importance of international recovery of rural tourism after pandemic (UNWTO, 2020). Since then, countries have gradually realized the importance of rural tourism in the post-epidemic stage and started to make corresponding improvement and promotion measures.

1.3. Contribution to Tourism Studies

The dissertation contribution to tourism studies is mainly reflected in the summary and conclusion of measures for the recovery of rural tourism after the epidemic and the provision of targeted reference strategies for the recovery of rural tourism in China.

To start with, most of the articles on rural tourism revitalization after COVID-19 in Web of Science and Scopus were collected. After selecting and screening, 20 effective rural tourism recovery strategies are summed up. Based on that, other countries that want to resume rural tourism after COVID-19 can effectively figure out suitable strategies by comparing these 20 strategies with the reality of their country. In addition, there is no comprehensive strategies for the future regeneration of rural tourism in China at present, and the existing literature usually only makes suggestions from a specific aspect. The research results of the paper round fill this research gap and provide a reliable reference for the condition of rural tourism development in China after the epidemic.

1.4. Aims and Objectives

The research aim is to investigate strategies to improve rural tourism after Covid-19 and apply them to Hainan Island.

In order to achieve the research aim, three objectives are set:

- Conduct systematic review to identify existing contemporary research on strategies for rural tourism redevelopment.
- Examine key relevant papers to identify useful strategies for mainland China.
- Determine practical suggestions to mainland China regarding rural tourism redevelopment after COVID-19.

2. LITERATURE REVIEW

This section involves the theory and current research results related to the dissertation topic. Considering the comprehensiveness of policy implementation, stakeholder theory will be introduced. Moreover, to date there are a number of studies on rural tourism regeneration after pandemic, which may more or less broadly demonstrated possible strategies and the relevant materials will be summarized below.

2.1. Related Theory

2.1.1. Introduction to Stakeholder Theory

According to Freeman and Phillips (2002), a stakeholder is defined as "any group or individual who can affect or is affected by the achievement of the organization's objectives". Stakeholder participation is characterized by diversity, including governments, communities, travel agencies, entrepreneurs and local residents and so on. In tourism projects, stakeholder participation is presented in different forms in different time periods (Wanner & Pröbstl-Haider, 2019).

Some scholars (Waligo, Clarke, & Hawkins, 2013) extend the definition of stakeholders to those who are interested in regional development and may benefit from it directly or indirectly, which is consistent with the main direction of stakeholder theory and can still reflect stakeholders' important position and influence in production activities.
2.1.2. Stakeholder Engagement after COVID-19

Folayan, Brown, Haire, Babalola, and Ndemi (2021) believes that during post-pandemic period, the stakeholder theory will be used widely since it can help maximize the interests of all parties. Faced with the stagnation in various industries, the cooperation of stakeholders is considered to be one of the most effective means for enterprises recovery in the post-epidemic period (Attanasio, Preghenella, De Toni, & Battistella, 2022) because they can solve problems from multiple angles and achieve sustainable development (Kyaw, Olugbode, & Petracci, 2022). COVID-19 has refocused the responsibility of enterprise development on all stakeholders, making stakeholder theory the reference theory of many industry strategies in this period (Attanasio et al., 2022).

For example, in the treatment of infected people after COVID-19 in China, the stakeholders are the government, local communities, hospitals and patients. In the process, patients report to the community, the government allocates treatment sites, and hospitals provide therapy. The comprehensive participation of stakeholders makes the process smooth and efficient.

2.1.3. Stakeholder Theory in Rural Tourism

Stakeholder theory is highly relevant to rural tourism development (Hardy, Beeton, & Pearson, 2002) since their participation are considered to have a symbiotic relationship with destination development (United Nations Environmental Programme and The World Tourism Organisation (UNEP and UNWTO), 2005), which will bring sustainable development to rural tourist attractions. Especially for rural tourism after COVID-19, if individuals or groups capable of helping the development of destinations can be united, it will help the efficient development of scenic spots and bring considerable revenue to all stakeholders (Wanner & Pröbstl-Haider, 2019). Moreover, stakeholder participation can obtain more transparent and easily accepted tourism strategies and results since they increase the fairness of decision-making and include marginalized groups (Hartley & Wood, 2005).

Rural tourism stakeholders involve local governments, foreign investors, local operators, farmers and tourists. The close cooperation between these stakeholders can greatly promote the development of rural tourism and bring considerable income. For example, the town of Machimura, in Japan's Gunma Prefecture, was benefited from stakeholders' cooperation. Under the policy of the Japanese government, foreign investors brought 6 million yen and attracted more than 200 villagers to join the tourism service work (Ohe & Kurihara, 2013). With the cooperation of the above stakeholders, the town of Machimura established a complete tour model in just one year, including embroidery experience hall, characteristic accommodation and embroidery history museum, bringing 1.2 million yen in tourism revenue (Hatipoglu, Alvarez, & Ertuna, 2016).

2.2. Research on Global Rural Tourism after COVID-19

Known from Figure 1, COVID-19 caused the global tourism industry to loss at least 22 billion dollars, of which North America lost 52.575 billion dollars, European tourism lost 87.763 billion dollars, and Asian tourism lost 75.485 billion dollars (People's Think Tank, 2020). In order to encourage global tourism destinations and raise rural tourism awareness, UNWTO announced on World Tourism Day that it would increase promotion and provide support to rural tourism in the post-covid-19 stage (Purwaningsih, Purwandari, & Hidayanto, 2021). In order to revitalize rural destinations as soon as possible and maintain the normal operation of local tourism market, countries such as Portugal and Thailand allocated human resources and tourism facilities originally invested in international tourism to rural tourism development (Kontogeorgopoulou, Churyen, & Duangsaeng, 2015). This is not difficult for countries with rich tourism resources in rural areas like Switzerland (Thao, Von Arx, & Frölicher, 2020), but for developing countries such as Nepal, the major challenge is to separate and reallocate local tourism resources.
During the World Tourism Day, Prime Minister Hun Sen said that rural tourism has now become an important source of income for 60% countries (UNWTO, 2020). Since the pandemic, the rural tourism sector has created about 3.3 billion jobs, equivalent to 10% of the world's total, and contributed about 10.3% of the world's gross domestic product (Purwaningsih, Purwandari, Sunarso, et al., 2021). Some countries like Cambodia, have recorded the highest income in rural areas through rural tourism, which is 100 million dollars (Purwaningsih, Purwandari, Sunarso, et al., 2021). According to the UNWTO (2020), given the current situation and policies of the pandemic, rural tourism can be seen as the beginning of the recovery of tourism. The next stage is the resumption of domestic tourism, and the final stage is the return of global tourism to the same vitality as before the pandemic (UNWTO, 2020).

2.3. Research on Rural Tourism in China

2.3.1. The Development Process

As shown in Figure 2, the rural tourism began in China during the Spring and Autumn Period, when people picnicked in the forest and appreciate natural plants and animals (Su, 2011). Although rural tourism activities have been in China since then, they have not been systematically studied or explored. The first time that rural tourism is confirmed as a tourism type was in 1998 by tourism Bureau (Su, 2011), in the document of "China Rural Tourism
Year”. By 2000, China’s rural tourism has expanded rapidly, and more than 20,000 rural tourism villages have been built, covering 31 provinces and autonomous regions (Shao, 2007). The tourist attractions receive more than 300 million tourists every year, creating an income of 40 billion yuan (Su, 2011). Especially in traditional holidays, 70% of tourists choose rural tourism, bringing a market of 60 million tourists (Shao, 2007). The construction and global expansion of scenic spots in this stage have laid a solid foundation for the development of rural tourism.

In the following decade, more local folk activities were added to rural tourism, which not only included traditional programs such as picking, but also involved traditional performances (Li, Liu, Zhu, & Zhang, 2018). Some villages also displayed unique local flora to visitors to maximize the utilization of natural resources and helped tourists better understand the local culture (Li et al., 2018).

From 2010 to the outbreak of COVID-19, the progress of rural tourism in China is mainly reflected in the integration of technology platforms, reflecting in successfully cooperating with online booking sites to attract more visitors. In 2018, China’s rural tourism received 3 billion tourists through online booking, accounting for more than half of domestic tourists (5.54 billion). Thus, it can be seen that the rural tourism industry in this period of time kept up with the digital trend and got positive results. After the outbreak of COVID-19, the situation of rural tourism in China has changed greatly, which will be explained in detail in 2.3.3.

2.3.2. Characteristics of Rural Tourism in China

Compared with the mature rural tourism in European and American countries, China’s rural tourism is still in the stage of rapid development and extensive exploration. According to the current literature, rural tourism in China has three main characteristics: short duration (Gao, 2009), unique accommodation buildings and uneven development in different provinces.

The first characteristic is the short visitors’ duration. Known from Figure 3, 63% of tourists hoped to complete the tour in one day, 22% were willing to spend a night and only less than 3% chose to visit for more than 5 days (Gao, 2009). Compared with the situation in Europe and the United States where a single vacation in the countryside usually lasts about a week, travelers in the Chinese countryside usually end their visit within two days. The possible reason is that rural tourism is considered by Chinese families as a good way to spend weekends, so excluding time on the road, they can only spend a day and a half at most in touring (Cheng, Yang, & Liu, 2020).

The second characteristic is unique unique accommodation buildings. Different from rural hotels or villagers’ houses in Europe and America, Chinese rural accommodation usually has local features. For example, Yuanjia
Village in Liquan County, Shaanxi Province, has used cave dwellings as resting places for tourists (Figure 4). Also, Tujia Village in Yuanling County, Hunan Province, has provided stilted houses as accommodation (Figure 5) and villagers in the Helinger village in Hohhot have turned Mongolian yurts into inn (Figure 6).

Figure 4. Cave dwellings in Yuanjia village.
Source: Su (2011).

Figure 5. Stilted houses in Tujia village.
Source: Su (2011).
The third feature is unbalanced regional development. According to Li et al. (2018) Lorenze curve of crucial rural tourism villages in China, the growth rate of rural tourism in Zhejiang and Shanghai is more than 90%, but less than 20% in Hubei and Xinjiang. Moreover, in Northeast China and South China, the growth rate is relatively stable (Li et al., 2018) and the development index of Southwest and Northwest China is in leading position, while the average index of East China is only half of that of these regions (Li et al., 2018).

2.3.3. Rural Tourism in China after COVID-19

The COVID-19 outbreak led to border restrictions (Kastenholz, Carneiro, Marques, & Lima, 2012) and partial suspension of public transport which made China's tourism industry lose 550 billion yuan during the Spring Festival in 2020 (Li & Sheng, 2020). Besides, the number of domestic tourists decreased by 15.5% in 2020 (China Tourism Academy, 2021) and the income of the tourism industry decreased by 20.6% (Zhu & Deng, 2020). In addition, due to the risk of infection, people were unwilling to travel (Zhu & Deng, 2020).

Although China's rural tourism has also been affected by COVID-19, it has maintained a positive trend in the overall environment of the negative domestic tourism market. In 2020 Rural Tourism Data Report (Maidian, 2021), 48% of tourists choose to travel to rural areas within the city, while only 12% choose to travel to rural areas in other provinces. Among the main expenses of rural tourism, the expenditure on accommodation is the least, accounting for about 20%, catering accounting for 43.68%, and shopping accounting for 39.3% (Maidian, 2021).

Overall, although the number of rural tourists fell to about 140 million in 2020, with a decrease of 10% compared with 2019, the number of tourists recovered by 55% from January to May 2021 (China Tourism Academy, 2021). According to China Tourism Academy (2022), after the adjustment of the rural tourism market, the number of people choosing rural tourism during the May Day holiday in 2022 has recovered to 66.8% of the same period before the epidemic. And in the interview survey of domestic tourists, 89.5% said they had participated in rural tourism activities during the holidays (China Tourism Academy, 2022).

Two possible reasons for the popularity of rural tourism are China's travel restrictions and people's health concerns. First of all, since the end of February 2020, the growth rate of confirmed COVID-19 cases in China has
decreased significantly, thus China has also gradually loosened the traffic control in the province (Maidian, 2021) and provincial tourism can be carried out with negative covid test results, but there are still have strict restrictions on going abroad (China Tourism Academy, 2021).

Another reason is that after COVID-19, people pay more attention to health. Rural tourism destinations with good air (Hadfield, 2022), natural food ingredients (Rayman, 2020) meet consumers' demand for health living environment and food. Besides, as rural tourism destinations are located in the countryside and usually cover a huge area, a large interpersonal distance can be guaranteed and the probability of tourists being in the same space are reduced (Mallapaty, 2021). Such a situation is thought to be effective in reducing infection of COVID-19, because the virus is mainly spread by people's saliva and interpersonal contact (Mallapaty, 2021).

As can be seen from the information above, although China's tourism industry is still in the post-disaster recovery stage, rural tourism is developing well. Compared with other forms of tourism, it is more popular with tourists because of its superior natural environment and it is regarded as a promising branch of tourism.

3. METHODOLOGY

The research aims at investigating strategies for redeveloping rural tourism after COVID-19 and find appropriate ones for mainland China. To realize the aim, three objectives are set. Firstly, relevant research paper will be identified through systematic review. Secondly, useful strategies in research will be clarified. Thirdly, practical suggestions for mainland China will be given. To achieve the research aim and objectives, systematic review will be used as the research methodology.

The dissertation reflects epistemology and the philosophy is interpretivism because the targeted audience will interpret the strategies in particular business environment (Williams & May, 2000). Also, based on research onion (Aleksandras, 2018), the research is inductive because the aims are clarifying strategies rather than testing.

A systematic review works for the research topic for two reasons. On the one hand, it is effective for collecting information in a new area (Torgerson, 2003). It has only been two years since the outbreak of COVID-19 and there are few specific strategies for Chinese rural tourism regeneration. By applying the systematic review, abundant information can be earned (Dalgetty, Miller, & Dombrowski, 2019), which lays a good foundation of selecting proper strategies for China. On the other hand, the system review helps solve the problem that can't be answered by first-hand information (Grant & Booth, 2009). Accessible strategies for revitalizing rural tourism are hard to gather through primary sources due to the high degree of specialization and pertinence (Kitchenham & Brereton, 2013), while the systematic review can efficiently provide with related material from professional scholars, which can be directed used for further analysis.

The data collection part will not cause ethical problem, since it only involves secondary data from journal articles and conference report (Dalgetty et al., 2019) and does not include human-contacted methods like interview or questionnaire.

Systematic review is “an objective, reproducible method to find answers to a certain research question (Ahn & Kang, 2018)”, which works by collecting all available studies related to the question and reviewing the results (Kim, Bai, Kim, & Chon, 2018). Considering the research aim and objectives, PICO framework is adopted in terms of population, intervention, control and outcome (Table 1). PICO framework is applied because it can help sort out the key points of the search questions (Cooke, Smith, & Booth, 2012), try to make the search results consistent with the research objectives, and avoid wasting time on irrelevant results and drawing wrong conclusions (Frandsen, Nielsen, Lindhardt, & Eriksen, 2020).
Table 1. PICO framework.

<table>
<thead>
<tr>
<th>No.</th>
<th>Concept</th>
<th>Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rural</td>
<td>&quot;Non-urban&quot; OR &quot;countryside&quot;</td>
</tr>
<tr>
<td>2</td>
<td>Tourism</td>
<td>&quot;Trip&quot; OR &quot;travel*&quot; OR &quot;journey&quot; OR &quot;tour*&quot;</td>
</tr>
<tr>
<td>3</td>
<td>COVID_19</td>
<td>&quot;Pandemic&quot; OR &quot;epidemic&quot; OR &quot;virus&quot; OR &quot;coronavirus&quot;</td>
</tr>
<tr>
<td>4</td>
<td>Reboot</td>
<td>&quot;Redevelopment&quot; OR &quot;after_covid&quot;</td>
</tr>
<tr>
<td>5</td>
<td>Regeneration</td>
<td>&quot;Develop*&quot; OR &quot;redevelop*&quot; OR &quot;recover*&quot; OR &quot;renaissance&quot; OR &quot;revital*&quot; OR &quot;economy_development*&quot;</td>
</tr>
<tr>
<td>6</td>
<td>China</td>
<td>&quot;Mainland_China&quot;</td>
</tr>
</tbody>
</table>

According to the PICO framework, a total of 6 concepts and related terms were conceived for use in the trial (Table 2). For concept 5, although there is subtle difference between "develop" and other terms, it still be included because regardless of how rural destinations were developed before the pandemic, they were severely affected and all need to be vitalized.

Table 2. Concepts and items for trial.

<table>
<thead>
<tr>
<th>No.</th>
<th>Concept</th>
<th>Terms</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>6</td>
<td>China</td>
<td>&quot;Mainland_China&quot;</td>
</tr>
</tbody>
</table>

Note: * is a type of wildcard character that can represent any string. For example, a search for travel* returns literature that includes the words traveller, travelled, etc.

In the search process, the various keywords were linked with the Boolean operator "OR," while the four search concepts were linked with "AND". Three search combinations were applied in Scopus and Web of Science (WoS), where the first and third string brought few results, while the second combination yielded a sufficient number of results (Table 3). Thus, the combination of "Term 1 AND 2 AND 3 AND 5" was selected for meta-analysis and the specific search string and results in two databases are shown in Table 4.

Table 3. Trial results.

<table>
<thead>
<tr>
<th>Search string and syntax</th>
<th>Results in Scopus</th>
<th>Results in WoS</th>
<th>Total results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terms 1 and 2 and 3 and 4</td>
<td>9</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>Terms 1 and 2 and 3 and 5</td>
<td>327</td>
<td>319</td>
<td>646</td>
</tr>
<tr>
<td>Terms 1 and 2 and 4 and 6</td>
<td>8</td>
<td>12</td>
<td>20</td>
</tr>
</tbody>
</table>

Table 4. Research result for selected terms.

<table>
<thead>
<tr>
<th>Terms</th>
<th>Search string and syntax</th>
<th>Database</th>
<th>Result</th>
<th>Total result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terms 1 and 2 and 3 and 5</td>
<td>(TITLE-ABS-KEY (&quot;rural&quot; OR &quot;non-urban&quot; OR &quot;countryside&quot;) AND TITLE-ABS-KEY (&quot;tourism&quot; OR &quot;trip&quot; OR &quot;travel*&quot; OR &quot;journey&quot; OR &quot;tour*&quot;) AND TITLE-ABS-KEY (&quot;COVID_19&quot; OR &quot;pandemic&quot; OR &quot;epidemic&quot; OR &quot;virus&quot; OR &quot;coronavirus&quot;) AND TITLE-ABS-KEY (&quot;regeneration&quot; OR &quot;develop*&quot; OR &quot;redevelop*&quot; OR &quot;recover*&quot; OR &quot;renaissance&quot; OR &quot;revital*&quot; OR &quot;economy_development&quot;) )</td>
<td>Scopus</td>
<td>327</td>
<td>646</td>
</tr>
<tr>
<td></td>
<td>TS= (&quot;rural&quot; OR &quot;non-urban&quot; OR &quot;countryside&quot;) AND (&quot;tourism&quot; OR &quot;trip&quot; OR &quot;travel*&quot; OR &quot;journey&quot; OR &quot;tour*&quot;) AND (&quot;COVID_19&quot; OR &quot;pandemic&quot; OR &quot;epidemic&quot; OR &quot;virus&quot; OR &quot;coronavirus&quot;) AND (&quot;regeneration&quot; OR &quot;develop*&quot; OR &quot;redevelop*&quot; OR &quot;recover*&quot; OR &quot;renaissance&quot; OR &quot;revital*&quot; OR &quot;economy_development&quot;)</td>
<td>Web of science</td>
<td>319</td>
<td></td>
</tr>
</tbody>
</table>

Note: * is a type of wildcard character that can represent any string. For example, a search for travel* returns literature that includes the words traveller, travelled, etc.
Searching in the two databases yielded 646 results ranging from 2020 to 2022. Following the PRISMA procedures (Liberati et al., 2009), the four-phrase flow PRISMA diagram was applied (Figure 7) by using Zotero.

Figure 7. PRISMA diagram.

After removing duplicates, 510 articles were screened based on two exclusion criteria. Firstly, the search generated many reports discussing the rural tourism condition before covid-19 and 464 articles were excluded so that only articles related to post-pandemic rural tourism were chosen for full text assessment. Secondly, the focus of this topic was on rural tourism redevelopment strategies instead of merely introducing current situation, so among 46 full text assessed articles, 14 of them were excluded. Finally, 22 articles remained for meta-analysis.

The meta-analysis began with reading and familiarizing with the 22 articles. Then, bibliometric analysis was carried out, which studied publication details and summarized key themes Table 5. After that, articles with the same key theme were classified together for thematic analysis. Ultimately, strategies mentioned in the article was clarified for preparing for developing strategies suitable for post-epidemic rural tourism in China.

The methodological limitation mainly originated from the shortage of data source (Kimber, Siegel, Cohen, & Thomopoulos, 2020) and subjectivity of article exclusion (Dalgetty et al., 2019). On the one hand, the research only generated articles from two databases, which might result in loss of relevant literature in other databases. On the other hand, because all literature exclusion was done by the author alone, there were possibilities that some articles might be wrongly removed due to subjectivity (Dalgetty et al., 2019).

4. RESULT

The section presents the key insights emerging from the 22 sources fully reviewed. Table 5 offers an overview of these sources, including their author, publication year, geographical focus and key findings. Also, the complete meta-analysis table is presented in the Appendix.
Table 5. Overview of the 22 fully reviewed sources.

<table>
<thead>
<tr>
<th>No.</th>
<th>Key theme</th>
<th>First author</th>
<th>Year</th>
<th>Geographical focus</th>
<th>Key findings (Detailed strategy mentioned)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Government reducing tax for rural tourism organizations can help rural tourism regeneration</td>
<td>Pan et al. (2022)</td>
<td>2022</td>
<td>China</td>
<td>Reduce taxes or exemptions for rural tourism organizations</td>
</tr>
<tr>
<td>2</td>
<td>Maidian (2021)</td>
<td></td>
<td>2021</td>
<td>China</td>
<td>Tax exemptions for rural tourism organizations for a certain period of time can help them recover</td>
</tr>
<tr>
<td>3</td>
<td>Utomo (2021)</td>
<td></td>
<td>2021</td>
<td>Indonesia</td>
<td>The government should get state-owned banks to quickly introduce preferential lending policies for rural tourism business companies</td>
</tr>
<tr>
<td>4</td>
<td>Santos and Moreira (2021)</td>
<td></td>
<td>2021</td>
<td>Portugal</td>
<td>Tourists willing to travel to rural areas in post-epidemic areas should be given financial incentives</td>
</tr>
<tr>
<td>5</td>
<td>Santos and Moreira (2021)</td>
<td></td>
<td>2021</td>
<td>Portugal</td>
<td>Rural tourist attractions should be equipped with disinfection equipment</td>
</tr>
<tr>
<td>6</td>
<td>Vaishar and Šťastná (2022)</td>
<td></td>
<td>2022</td>
<td>South Moravia, Czech Republic</td>
<td>Rural tourist attractions should be equipped with disinfection equipment to ensure the hygiene of public places</td>
</tr>
<tr>
<td>7</td>
<td>Utomo (2021)</td>
<td></td>
<td>2021</td>
<td>Indonesia</td>
<td>Rural tourist attractions can be selectively equipped with ultraviolet disinfection device</td>
</tr>
<tr>
<td>8</td>
<td>Zhu and Deng (2020)</td>
<td></td>
<td>2020</td>
<td>China</td>
<td>Rural tourism destinations should prepare alcohol disinfectant for tourists to use</td>
</tr>
<tr>
<td>9</td>
<td>Åberg and Tondelli (2021)</td>
<td></td>
<td>2021</td>
<td>Swedish, Island</td>
<td>The construction of roads connecting stations to rural destinations can help revitalize destinations after the epidemic</td>
</tr>
<tr>
<td>10</td>
<td>Castanho, Couto, Pimentel, and Sousa (2021)</td>
<td></td>
<td>2021</td>
<td>Portugal</td>
<td>The construction of roads connecting airports to rural destinations can help revitalize destinations after the epidemic</td>
</tr>
<tr>
<td>11</td>
<td>Sunarti et al. (2021)</td>
<td></td>
<td>2021</td>
<td>Kendal, The US</td>
<td>Widening roads inside the countryside could help attract more rural tourists</td>
</tr>
<tr>
<td>12</td>
<td>You (2022)</td>
<td></td>
<td>2022</td>
<td>China</td>
<td>Introducing rural tourist attractions with VR devices can help with post-epidemic recovery</td>
</tr>
<tr>
<td>13</td>
<td>Guo and Wang (2021)</td>
<td></td>
<td>2021</td>
<td>China</td>
<td>Equipping rural tourist attractions with AR devices can help with post-epidemic recovery</td>
</tr>
<tr>
<td>14</td>
<td>Purwaningsih, Purwandari, Sunarso, et al. (2021)</td>
<td></td>
<td>2021</td>
<td>Not mention</td>
<td>VR can help attract more customers by providing immersive Tours</td>
</tr>
<tr>
<td>15</td>
<td>Purwaningsih, Purwandari, Sunarso, et al. (2021)</td>
<td></td>
<td>2021</td>
<td>Indonesia</td>
<td>VR devices, which allow tourists to watch virtual rural folk performances, can satisfy their curiosity and attract larger passenger flows</td>
</tr>
<tr>
<td>16</td>
<td>Duque et al. (2021)</td>
<td></td>
<td>2021</td>
<td>Spain</td>
<td>AR and VR technology can attract tourists by letting them experience the local culture</td>
</tr>
<tr>
<td>17</td>
<td>Agustin, Martini, and Setiyono (2022)</td>
<td></td>
<td>2022</td>
<td>Indonesia</td>
<td>It is tempting to add rock climbing to rural tourist destinations</td>
</tr>
<tr>
<td>18</td>
<td>Shrestha and</td>
<td></td>
<td>2023</td>
<td>Nepal</td>
<td>Backcountry hiking can bring more</td>
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</tbody>
</table>
According to bibliometric analysis, two findings can be summarized from Figure 8. First, most of the research focused on 2021. The possible reason is that in 2020, COVID-19 just begun to spread around the world and there was not enough time for researchers to study recovery strategies in such a situation (Ying, 2020). The reason for fewer search results in 2022 may be that this paper was completed before June 2022, so relevant articles in the latter half of the year were not included and analyzed. Second, the main research is geographically concentrated in Asia. The possible reason is that rural tourism in Asia is in a period of rapid development and the epidemic suddenly stagnated the process. Thus, these regions urge to find ways to get rural tourism back on track (Agustin et al., 2022).

Four key themes arose from reviewing these articles (Table 5), which are directly linked with the search concepts, namely:

- Government reducing tax for rural tourism organizations can help rural tourism regeneration.
- Local communities improving infrastructure do good rural tourism redevelopment.
- Travel agency developing new tourism activities can revitalize rural tourism.
Local residents’ engagement can regenerate rural tourism. The detailed findings and relevant proposed strategies will be explained and discussed in Section 5.

5. DISCUSSION

Based on the meta-analysis, the current study on the recovery of rural tourism after pandemic mainly focus on four aspects including government, local community, tourism agency and villagers. Based on the contents and patterns observed from the review, four suitable strategies are selected for applying to mainland China.

5.1. Provide Financial Support

From the first key theme, the government is supposed to make policies in order to provide fund or lessen financial burden for tourism industry. Based on the results from meta-analysis, five papers mention about the important role of government on monetary support after COVID-19.

According to the existing material, the government can provide financial support through 3 strategies. Firstly, the government can reduce taxes for tourism companies. As mentioned by Pan et al. (2022), the government should reduce the tax they should pay and for some developing rural destinations, they could be exempted from taxes for 2 to 3 months to help them restart and develop businesses (Li, Zhang, Yang, Singer, & Cui, 2021).

Secondly, government departments can cooperate with local banks to offer preferential loan policies to rural tourism companies. The subsidy for loans should be clarified as soon as possible, so as to help them maintain the normal operation of their business as much as possible (Utomo, 2021). Thirdly, the government can offer economic incentives to tourists who are willing to travel during the pandemic. For example, the Portuguese government spared 50 million euros to encourage tourists to travel within the country (Santos & Moreira, 2021).

It is effective for the government to offer low-interest loans to tourism organisations, which can be seen in the success of alcova, a village in Alentejo province, Portugal. After the outbreak of the epidemic, the Portuguese government issued a special loan policy for individuals and organizations involved in tourism, with interest rates ranging from 1% to 3%, only half of the interest rate of ordinary commercial loans (Ahmadreza, De Luca, & Francini, 2020). With the help of loans, tour operators further developed the Star Camp Project, which attracted nearly 10,000 people and brought in over €1.24 million in revenue (Ahmadreza et al., 2020).

This strategy is suitable for China because Chinese government has the capacity to work with state-owned banks to offer discounts to companies on loans. In addition, according to Law of the People's Republic of China on the People's Bank of China, state-owned banks should unconditionally obey the preferential loan policies designated by the government and timely issue notices to ensure that companies in need get the information (Chi & Li, 2019). Meanwhile, the government can adjust the loan policies at any time according to the recovery of these companies, so as to maintain the stability and sustainable development of the overall market (Chen, He, & Liu, 2020).

However, considering China's actual situation in terms of economy and population, the first and third policies are considered unsuitable for China. For the first policy, once Chinese government adjusts the tax rate of one industry, it may have an impact on the overall economic environment and even lead to disorder in national economy (Gao, 2018). As for the offering travel incentive bonus, it is not suitable because of huge population base in China. Despite the impact of COVID-19 on tourism, 612.9 million Chinese travelled from 2020 to 2021 (National Bureau of Statistics of China Statistical, 2022).

If China implements Portugal's average individual subsidy (Santos & Moreira, 2021), the allowance will reach 300 trillion euros, which far exceeds the 400 billion euros potential tourism revenue (National Bureau of Statistics of China Statistical, 2022).
5.2 Improve Infrastructure

Based on the result of the second key theme in thematic analysis, local community is encouraged to enhance basic tourism facilities to solve people’s concern about health and satisfy the surging demand for rural tourism in the post-epidemic stages.

Based on the meta-analysis result, the articles mainly list two strategies, which include purchasing additional disinfection facilities and renovating rural road. On the one hand, communities are supposed to equip public places for rural tours with disinfection facilities (Santos & Moreira, 2021) and ensure disinfection to be carried out at least once a day (Vaishar & Šťastná, 2022). Moreover, for exposed public facilities such as handrails and door curtains, ultraviolet disinfection equipment (Utomo, 2021) and alcohol spray could be placed nearby to facilitate timely disinfection of visitors after contact (Zhu & Deng, 2020).

On the other hand, communities are advised to increase accessibility to rural destinations to cope with the increase in visitor numbers by building direct links to local train stations or airports and widening internal roads in rural areas. As mentioned by Åberg and Tondelli (2021), special roads connecting railway stations to popular rural tourist destinations should be built so that travelers can reach quickly and start generating revenue for the destinations (Castanho et al., 2021). Besides, communities can broaden the current rural main road to provide a more convenient way for self-drive visitors (Castanho et al., 2021).

To install disinfection facilities is considered feasible in China considering the previous success case in Korea. The village of Cheongdo-gun in South Korea featured persimmon picking, but after the epidemic, visitors were worried about virus adhesion on the fruit, which led to sharp decrease in tourists flow (Im, Kim, & Choeh, 2021). To address their concerns, the local community introduced ultraviolet disinfection equipment, promising to sterilize the orchard harmlessly (Im et al., 2021). The action reduced tourist concerns by 67% and tourism revenues in Cheongdo-gun county had almost returned to pre-pandemic level by October 2021 (Im et al., 2021).

The strategy will also make sense in China because according to the survey, what Chinese tourists concern most at present is the infection of COVID-19 during travel, and disinfection facilities installed by communities can solve this problem. Known from Basic Law of the Community of the People's Republic of China, communities have the right to use funds to upgrade public facilities which are beneficial to public health (Zhu & Deng, 2020). In addition, the COVID-19 prevention and control headquarters in Hainan (Office of Wenchang COVID-19 Prevention and Control Headquarters, 2021), Henan (Zhengzhou Municipal People's Government, 2022) and Xiamen (Xiamen COVID-19 Response Headquarters, 2022) have already required communities to install necessary disinfection facilities in tourist attractions to reduce the risk of infection due to the large quantity of people.

However, the transformation of highways is difficult to implement in China because only the Chinese Administration of Highway has the right to build and widen roads and building one route costs more than 10 thousands yuan on average (Ministry of Transport, 2018). Thus, Chinese rural communities are not authorized to make road improvements and community funding is far from adequate.

5.3 Develop New Rural Tourism Activities

From the thematic analysis, there are seven articles suggesting travel agencies could develop new programs in rural tourism destinations to provide a richer experience for first-time visitors and to address their stereotype that rural tourism activities are monotonous.

Based on the information selected, there are three strategies for travel agencies which help enrich rural tourism program: to add AR/VR programs, to develop outdoor adventure programs and to hold local sports events. First of all, You (2022) and Guo and Wang (2021) believe that tourism companies can develop AR and QR codes to present virtual introduction of local characteristic animals and VR facilities help solve the problem of inaccessible forests and lakes in extreme weather (Purwaningsih, Purwandari, & Hidayanto, 2021). Also, visitors can experience the
unique local culture by wearing VR glasses to watch folk performances (Purwaningsih, Purwandari, & Hidayanto, 2021).

In addition, tourism agencies are supposed to create adventure programs suitable for the post-epidemic stage by taking advantage of the natural environment in rural areas. As Agustin et al. (2022) and Shrestha and L’Espoir Decosta (2023) mentioned, travel agencies could design activities such as rock climbing and hiking to satisfy visitors’ need for exercising in a wide open environment. Finally, Durkin Badurina et al. (2021) argued that holding large-scale tournaments in rural tourist destinations can effectively generate live game fan.

Developing AR tourism programs are approachable for regenerating Chinese rural tourism and the successful application of AR in the Belgian town of Brabant could support this idea. In Brabant town, designer Daan used AR technology to screen Van Gogh’s famous paintings on wheat fields, bringing visitors an immersive experience of local culture (Yung & Khoo-Lattimore, 2019). This creative activity has brought more than 25,000 visitors to the local rural tourism industry (Yung & Khoo-Lattimore, 2019), which set a new record.

This approach also works in China because it has similar technology and many villages have rich cultural deposit. By 2021, China’s technology has been able to realize AR visuals in 10,000 square meters of outdoor space (Liu & Zhou, 2021), which could create immersive effects (Lv, 2020) and means China’s rural areas can adopt the way of Brabant town to carry out AR activities in broad areas. Also, traditional skills such as clay sculpture and embroidery, can attract more visitors by combining with AR (Huang & Wang, 2022).

However, it is not considered feasible to develop adventure activities or hold large-scale competitions in rural tourism destinations, given the degree of uncertainty aversion of Chinese tourists and the policy of epidemic prevention and control. The reason why the second policy cannot be implemented is that tourists from China have lower risk tolerance compared with those from other countries (Weifeng, 2005). 85% of family-type and elderly tourists, who account for more than 70% of China’s rural tourists, are unwilling to engage in adventurous activities (Buckley, 2006), which means those activities will only attract less than 20% of visitors. As for the third policy, since 2021, the Office of Epidemic Prevention of the People’s Republic of China has cancelled more than 200 large-scale sports events and banned spectators from attending games that must be held (Par Le Figaro, 2020), making the third method impossible to be implemented.

5.4. Increase Involvement for Rural Resident

Known from the fourth key theme in thematic analysis, the participation of local residents in rural tourism is necessary and important. According to the thematic analysis shown in Table 5, a total of three articles were discussed on this topic, including two specific policies, which are serving as a guide for tourists and participating in environmental protection of rural destinations.

Lin et al. (2022) believes that villagers serving as tour guides is a characteristic service in rural tourism, and their unique knowledge will satisfy tourists’ curiosity and attract more visitors, which will effectively promote the revival of rural tourism in the post-epidemic era. In addition, Kovács et al. (2021) and Srijib (2021) believe that villagers can be involved in the protection of the local environment to help rural tourism destinations remain sustainable and ensure the capacity of scenic spots to receive tourists continuously.

Considering the actual situation in China, it is feasible to involve them in the protection of rural destinations but difficult to hire villagers as tour guides. Hiring villagers to help protect the natural environment of rural tourist destinations is accessible for China because there was a previous successful case in Hezhang Village, Japan. The village recruited 132 people to protect the natural environment after the outbreak to ensure that the surge of tourists does not affect the sustainability of local tourism development (Lin, Kelemen, & Kiyomiya, 2021). Thanks to the villagers’ daily clean-up, the destination’s environmental protection index has not changed significantly and travellers said the environment is clean every time they visit (Lin et al., 2021).
The reason this policy can be applied to China is the similar demographic structure and culture in Chinese and Japanese rural areas. In terms of population composition, more than 70% of residents in Hezhang Village of Shirakawa town are middle-aged and elderly, which is similar to the rural population in China (Wang & Huang, 2014). The similar age means that the Chinese villagers also had the capacity and power (Tungchawal, 2010) to perform the current work of the Hezhang residents. In terms of culture, Japanese people have a sense of belonging to their hometown, which is very similar to the Chinese idea of "returning fallen leaves to their roots" (Torres-Delgado, López Palomeque, Sanz, & Font Urgell, 2023). Such thinking will make villagers more conscientious in their work, as they are believed to have an innate sense of responsibility for working in their hometown (Tungchawal, 2010).

Employing rural residents as guides is not appropriate in China because most of the residents, which can be obtained from the interview results of villagers in rural tourism areas carried in four provinces, including Hebei, Hubei, Zhejiang and Shanxi (Xiao & Li, 2004). 81% of respondents said tour guiding took up their time working in the fields and bought in a much lower income than farming (Xiao & Li, 2004). 13% of the villagers believed they were not physically strong enough to lead tourists around the scenic spots continuously, and about 30% of the respondents thought their educational level and mandarin level cannot meet the standards of guides after training (Xiao & Li, 2004). Though the interview was conducted in only four provinces, they were far away from each other, which is believed to be a generalization of the Chinese villagers’ ideas. From the above results, it can be seen that Chinese rural residents have certain rejection to be tour guides, so this strategy is considered inappropriate.

5.5. Strategy Comparison

According analysis from 5.1 to 5.4, it can be concluded that there are four strategies suitable for redevelopment of China’s rural areas after epidemic, including the government to provide rural low-interest loans to tourism organizations, the community to install disinfection equipment, the travel agency to develop VR and AR related to touring activities, and the villagers to participate in the destination environmental protection.

Among the four strategies, low-interest loans provided by the government are considered to be the most important strategy, because it can help individuals or groups in the rural tourism industry that are in need of money to obtain funds quickly and ensure the normal operation of their business. According to the survey of Shafi, Liu, Jian, Rahman, and Chen (2021), about 60% of tourism practitioners faced the problem of broken capital flow after the epidemic. They do not have enough funds to repay the interest generated by ordinary commercial loans, but if they cannot obtain new funds, 34% of the companies can only maintain their production activities for less than one month (Yang, Wang, Zhang, & Ke, 2020). If the individuals and groups can borrow the loan with a longer repayment period at a low interest rate, they have a great possibility to keep the normal operation of cash flow and repay the loan and interest by obtaining revenue from the continued commercial activities, thus forming a virtuous cycle (Yang & Liang, 2020).

While other three strategies will also help revitalize rural tourism in China after COVID-19, the implementation of them will also require financial support. Large amounts of money are necessary for installing disinfection supplies, developing high-tech tourism projects and hiring villagers for destination protection (Zhang, Zhan, Diao, Chen, & Robinson, 2021). Although communities, travel agencies and villagers may have other ways to receive funds, such as public welfare fundraising and social funding, the amount of money obtained by these means is small and not sustainable, which cannot fundamentally help tourism practitioners alleviate the economic pressure caused by COVID-19.

6. CONCLUSION

In this paper, four strategies suitable for the post-epidemic development of rural tourism in China are preliminary determined through systematic analysis and stakeholder theory. According to China’s policy
restrictions and basic national conditions, it is considered effective for the government to provide low-interest loans, local communities to install disinfection facilities, tourism companies to develop new types of VR and AR tourism programs and local residents to participate in the environmental protection of destinations.

For the government, among several possible strategies for providing financial support, offering low-interest loans is seen as a way to help Chinese rural tourism practitioners solve the urgent shortage of funds, ensuring that they have cash flow to continue normal production activities (National Bureau of Statistics of China Statistical, 2022). The reason why this strategy is more suitable for China is that the adjustment of loan repayment period and interest rate will only have a slight impact on the national economy in the short term, rather than the fluctuation of the whole market like adjusting tax rate (Gao, 2018). In addition, due to China’s huge population base, the issuance of individual tourism incentive money will not help rural tourism to recover, but bring greater economic burden to the tourism industry at risk. Moreover, the benefits gained by normal production activities of the company are much higher than the losses caused by lower interest rates (National Bureau of Statistics of China Statistical, 2022). For local communities, installing disinfection facilities is more suitable than expanding rural roads in China. Considering case study from Korea and Chinese people's attention to health issues, disinfection equipment can relatively resistant to virus, thereby attracting more tourists (Vaishar & Šťastná, 2022). Also, Chinese communities do not have the right and abundant fund to build roads (Ministry of Transport, 2018).

For rural tourism travel agencies, know from Belgium case, developing VR and AR tourism program can make tourists feel the charm of technology and nature at the same time (You, 2022), which is attractive to Chinese tourists. However, it is unrealistic to develop adventure activities or hold sports events in China rural areas because Chinese people prefer low-risk (Weifeng, 2005) and large-scale events are cancelled after the epidemic (Par Le Figaro, 2020).

For villagers, participating in environmental protection in rural destinations is feasible in China (Tungchawal, 2010). Know from Japanese case, villagers are considered to be more responsible for local work, which is similar to Chinese situation. However, it is not accessible for rural residents to serve as tour guides because they usually have farm work and low cultural ability (Wang & Huang, 2014). Among four policies mentioned above, the first is considered to be the most important, as sufficient money is the basis for promoting the remaining work (Zhang et al., 2021). If loans cannot be obtained in time, the work of most rural tourism stakeholders may be suspended, making continuous regeneration impossible (Yang et al., 2020). Limitations of this study include the insufficient amount of literature and the failure to refine policies to different regions in China. In the process of systematic analysis, the data only derived from Web of Science and Scopus, which may lead to the lack of comprehensive results. Besides, in the process of policy analysis, this study considers China as a whole and ignores the development differences of rural tourism in different provinces and the unique conditions of the regions. Although these strategies have certain universality, they are not suitable for some special areas. Future studies can cover larger range of database and divide China into different regions for targeted analysis. In the further analysis, more literature results can be collected from ScienceDirect and ResearchGate, and more sufficient articles can be obtained from these two databases for subsequent meta-analysis. In addition, China could be divided into northeast, south and northwest regions according to the development of rural tourism, and more refined post-epidemic regeneration strategies could be developed based on the characteristics of rural scenic spots in these regions.

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In the application of virtual reality in the marketing of rural tourism, Foerster (2021) explores the effectiveness of using virtual reality technology to enhance marketing strategies in rural areas. This approach aims to attract tourists by providing immersive experiences of rural destinations.

In a comparative study, González et al. (2022) analyze the impact of virtual reality on consumer behavior in the context of rural tourism, finding that virtual reality can significantly influence user engagement and perception of authenticity.

Kovács, Gulyás, and Farkas (2021) discuss the role of virtual reality in the context of sustainable tourism, emphasizing the potential of this technology to promote eco-friendly practices and consumer awareness.

Kim, Bai, Kim, and Chon (2018) conduct a review of the use of virtual reality in tourism, highlighting its potential for enhancing destination immersion and experience.

Kastenholz, Carneiro, Marques, and Lima (2012) report on the application of virtual reality in the context of rural tourism, demonstrating how such technologies can be used to create engaging and realistic virtual simulations of rural environments.

Hardy, Beeton, and Pearson (2002) present a conceptualization of sustainable tourism, discussing the role of virtual reality in supporting sustainable tourism practices.

Lei and Liu (2021) present research finding that virtual reality technology can significantly influence the spatial distribution characteristics and development models of rural tourism in China, supporting the use of virtual reality in sustainable tourism strategies.

Gao (2018) provides an overview of rural tourism development in China, emphasizing the role of virtual reality in enhancing tourism experiences in rural areas.

Kim, Churyen, and Duangsaeng (2015) explore the implications of virtual reality technology for rural tourism, highlighting its potential for enhancing the marketing of rural tourism.

Hatipoglu, Alvarez, and Ertuna (2016) discuss the barriers to stakeholder involvement in the planning of sustainable tourism, identifying the role of virtual reality in overcoming these barriers.

Kontogeorgopoulos (2021) presents a study of virtual reality technology in the context of rural tourism, emphasizing its potential for enhancing tourism experiences and marketing strategies.

Frandsen, Nielsen, Lindhardt, and Eriksen (2020) use the full PICO model as a search tool for systematic reviews, arguing for the need to consider the relationship between PICO elements and effective virtual reality applications.

Grant, Booth, and Kitchenham (2013) conduct a systematic review of systematic review process research in software engineering, discussing the role of virtual reality in enhancing the review process.

Kimber, Siegel, Cohen, and Thomopoulos (2020) report on the wider use of autonomous vehicles in non-commuting journeys, emphasizing the potential of virtual reality technology in supporting autonomous vehicle adoption.

Kitchenham, Brereton, and Tidd (2013) report on a systematic review of systematic review process research in software engineering, highlighting the potential of virtual reality in enhancing the quality and efficiency of systematic reviews.

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Appendix

Table 1. Full Meta-analysis

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<th>No.</th>
<th>Key theme</th>
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<th>Year</th>
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<th>Publication type</th>
<th>Rural Area types discussed</th>
<th>Title</th>
<th>Key findings (Detailed strategy mentioned)</th>
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<td>1</td>
<td>Government reducing tax for rural tourism organizations can help rural tourism regeneration</td>
<td>Pan et al. (2022)</td>
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<td>Exploring post-pandemic struggles and recoveries in the rural tourism based on Chinese situation: a perspective from the IAD framework</td>
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<td>Maidian (2021)</td>
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<td>Urban and rural tourism under COVID-19 in China: research on the recovery measures and tourism development</td>
<td>Tax exemptions for rural tourism organizations for a certain period of time can help them recover</td>
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<td>Utomo (2021)</td>
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<td>Recommendations for the initiation of agro-tourism establishment in Hujungtiwu village, Panjalu District, Ciamis Regency</td>
<td>The government should get state-owned banks to quickly introduce preferential lending policies for rural tourism business companies</td>
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<td>Uncertainty and expectations in Portugal’s tourism activities. Impacts of COVID-19</td>
<td>Tourists willing to travel to rural areas in post-epidemic areas should be given financial incentives</td>
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<td>Local communities improving infrastructure do good rural tourism redevelopment</td>
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<td>Harnessing e-collaboration for rural tourism recovery after covid-19: Dual analysis using swot and porter's diamond model</td>
<td>VR devices, which allow tourists to watch virtual rural folk performances, can satisfy their curiosity and attract larger passenger flows</td>
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<td>It is tempting to add rock climbing to rural tourist destinations</td>
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