MANAGING DISASTER-PRONE DESTINATIONS THROUGH CREATING NEW FORMS OF EDUCATIONAL TOURISM

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ABSTRACT

The concepts of disaster education need to be balanced with the high risk of natural disasters in the North Bandung Areas as a tourism destination in order to promote sustainable development. This study aims to develop new forms of educational tourism for disaster-prone areas in order to promote destinations for sustainable tourism. This qualitative study in the North Bandung Areas focused particularly on the region around the Cimahi River. Interviews with stakeholders involved in the growth of tourism in the North Bandung region included representatives from the West Bandung Regency Tourism Office and managers of tourist attractions. While exploring tourist attractions, observations and documentation occur in order to determine their coordinates. To collect secondary data, literature, legal records, and earlier research were consulted. The data was then subjected to a content analysis and a qualitative descriptive analysis. Following an examination, six tourist destinations that are part of the geological diversity were identified and categorised as geotourism. A geotourism analysis has been performed on each tourist attraction that aims to inform visitors about disasters. Finding the coordinates of tourist attractions also helped create a geotourism route with the Cimahi Rivertrek concept. The Tangkubanparahu Volcano's disaster-prone location presents opportunities for the growth of new educational tourism along with issues. For managers of regional, national, and international destinations situated in disaster-prone locations, the introduction of geotourism as an entirely novel form of tourism has implications.

Keywords: Cimahi River, Disaster Risk Reduction, Geotourism, Educational Tourism, North Bandung Area

INTRODUCTION

Sustainable tourism growth contributes favourably to economic development on a local to global level, yet this growth is extremely susceptible to natural calamities (Ma et al., 2020; Zhu et al., 2022). Disasters have impacted tourist destinations over the past 20 years and are now one of the issues restricting the development of sustainable tourism (Chen et al., 2006; Rindrasih et al., 2019; Wulung, 2022). Education has a role as a technique to inform tourists about disaster risks in popular destinations (Becken & Hughey, 2013; Wahyuningtyas et al., 2020). disaster educational tourism for sustainable development has emerged as a result of the convergence of catastrophe risk, tourism, and education (Lin et al., 2018, 2021). As a result, a number of studies on the value of education in efforts to lower the risk of disaster in tourist destinations have drawn particular attention for the development of educational tourism in disaster-prone areas (Tanaka et al., 2021).

It is nothing new for academic and popular media to pay attention to features of tourism and disaster education (McGladdery & Lubbe, 2017). Disaster education tourism is an efficient strategy to increase visitor literacy while visiting disaster-prone locations, according to a number of earlier research (Martini & Sharma, 2022). Pre-disaster and post-disaster education packaged by local communities through engaging stories geared towards the tourist market segment can be achieved through educational tourism in disaster-prone locations (Lin et al., 2021; McGladdery & Lubbe, 2017; Tan et al., 2022). Furthermore, because it explains the origins and effects of the event, post-disaster educational tourism is frequently called dark tourism (Jang et al., 2021; Kunwar & Karki, 2020). After a number of disasters, including the Yogyakarta and Lombok earthquakes, the Pangandaran, Sunda Strait, and the Aceh Tsunami, disaster education tourism began to develop in Indonesia (Rindrasih & Witte, 2021; Subekti et al., 2020; Tan et al., 2022; Wahyuningtyas et al., 2019; Wulung & Abdullah, 2020).

The North Bandung region is a protected area, a place of cultivation, and it has a great deal of potential to grow into a tourist destination (Abdullah & Wulung, 2021; Ervina et al., 2020; Wulung, 2022). In addition, the North Bandung region is vulnerable to geological natural disasters such as earthquakes, landslides, and volcanic disasters. Tourist activities are centred around these geological natural disasters (Novianti et al., 2021; Rasmid, 2014; Wulung & Brahmantyo, 2019). High risk and tourist vulnerability to catastrophes go hand in hand with the area's high tourism activity in North Bandung. The appeal of travel places with higher disaster risk is the reason for the rise in visitor numbers and activities (Lin et al., 2021; Ural, 2016). To encourage sustainable development, the government has worked to promote tourism in disaster-prone areas. But as more natural disasters have struck tourist locations over the past ten years, there is growing interest in disaster risk reduction. Educational tourism in disaster-prone locations offers the chance to lessen the degree of vulnerability of visitors, local residents, and tourism actors in the North Bandung area. With the help of this research, disaster-prone places can develop tourism sustainably by creating a new kind of instructional tourism.

METHOD

The Cimahi River area, in particular, was the site of this qualitative study, which was carried out in the Tangkubanparahu volcanic disaster-prone region. The results of the classification of tourist attractions, the synthesis of tourism products, and the interpretation of geotourism are used to determine the data sources required for the supply side of educational tourism in disaster-prone areas (McGladdery & Lubbe, 2017; Ritchie, 2003; Wulung et al., 2021). Through observation, documentation, and primary data collection methods. The West Bandung Regency Tourism Office and tourism destination managers participated in the interviews. A survey of the tourist destinations along the Cimahi River and their coordinates was done through observations and documentation. The management of tourism destinations in disaster-prone areas in North Bandung is addressed in policy papers and prior studies, which provide secondary data.

Both qualitative descriptive analysis and content analysis are used in this study. The opinions provided by participants on disaster management in the North Bandung Areas were investigated using qualitative analysis through interviews, observation, and documentation. The phases of data analysis, including data analysis prior to fieldwork, data reduction, data presentation, and conclusion drafting, were done using secondary analysis methodologies.

RESULTS AND DISCUSSION

Five key educational tourism product indicators—attractions, activities, tour packages, local guides, and travel planning communities—will be used to promote educational tourism products in the North Bandung region. The indicators used to create educational tourism products are sometimes referred to as the industry's supply chain. Due of the allure and uniqueness of a location or object, tourist attractions are the primary components for tourists on a vacation. The Cimahi River in the Tangkubanparahu Volcano disaster-prone area is the main tourist attraction at the study site. Due to the distinctiveness of geological processes and shapes, which are intimately tied to natural phenomena, the inventory of tourist attractions in disaster-prone locations is divided based on geological diversity. Curug Cimahi, Curug Tilu Leuwi Opat, Curug Aseupan, Curug Bubrug, Curug Putri, and Curug Layung are some of these tourist attractions.

Land activities make up the majority of the variety of tourist activities available at the study site. Trekking and exploring the Cimahi River's are examples of activities that fall under the category of rivertrek in this area. When it comes to indications for tourism packages, the Cimahi River region tends to offer general or non-disaster education-focused tour packages. For the Tangkubanparahu Volcano disaster-prone area, an educational tour package was created. Students in the Tourism Education Study Programme at Universitas Pendidikan Indonesia organised the creation of catastrophe educational tour packages (Figure 1).

Figure 1. Disaster Educational Tour Organized by the Tourism Education Study Program

The fourth indicator, local tour guides, shows that each tourist destination in the Cimahi River area offers local tour guides. Through their interpretation of tourism attractions and its connection to tragedies, local tour guides at tourist destinations give value for visitors. The community that helps plan and create learning programmes for tourists, the disaster education travel planning community, is the last indicator. The North Bandung area has educational travel planning communities that frequently organise open trips or organised travels, which are typically conducted on weekends. The Indonesian Geotourism Guides Association, theTourism Education Study Programme from Universitas Pendidikan Indonesia, and Cerita Bandung are some of these organisations.

Trekking is a permissible activity, and the tourist attraction as a whole is focused on geological diversity. This is due to the natural phenomena brought about by Tangkubanparahu Volcano's eruption when it was still known

as Mount Sunda Purba, which created a distinctive and beautiful scenery that is now an increasingly popular tourist attraction in the shape of a waterfall in the Cimahi River area. Tourist attractions frequently offer tour packages, local guides, and travel planning communities.

A reference for developing new types of educational tourism in accordance with their characteristics has emerged from the research of the key indicators of educational tourism in the Cimahi Curug Area, particularly tourist attractions. Because the geological processes and formations in the Cimahi River area might be understood as a lesson for tourists, geotourism is suggested as a type of educational tourism for disaster-prone areas. Geotourism is natural tourism that entails visiting geosites for recreational objectives that include a sense of amazement, admiration, and learning (Ólafsdóttir, 2019). Through guiding and understanding of the distinctive processes and forms of geology-based tourist attractions, educational tourism through geotourism is realised. Geotourism and disasters go hand in hand because the majority of geology-based tourist destinations are found in disaster-prone areas, especially when these destinations are the causes of natural disasters.

Through interpretation, tourist attractions can be made clear to them. Tourist satisfaction can be produced by interpretation that emphasises geological features, which helps to preserve geotourism destinations (Brilha, 2018). To evaluate tourist destinations in disaster-prone areas as geotourism destinations, they must be reinterpreted (Wulung et al., 2021). The term geotourism box, which encompasses the concepts of process, form, tourism, geohistory, geobasic, and geo+ is used to describe a reinterpretation of geotourism. The tourism destinations that have been evaluated are those that fall under the category of geological diversity. There are six tourist destinations based on geological diversity that are interpreted to assist instructional tourism content on disaster mitigation.

Table 2. Reinterpretation of Tourist Attractions in the Cimahi River Area

Tourist Attraction	Indicators	Analysis
 Curug Cimahi	Process	Fractures in the earth's crust due to volcanic activity from Mount Tangkubanparahu, as well as lava flows from lava released by Mount Tangkubanparahu.
	Form	Waterfall (Curug) with a height of 87 meters which has 2 (two) steps on the wall of the waterfall
	Tourism	The Cimahi Waterfall, which is overseen by Perum Perhutani, is a well-liked tourist destination in the North Bandung region. It can be argued that the amenities offered are sufficient and fulfil the demands of travellers. Due to the installation of lighting behind the waterfall flow, Curug Cimahi will be illuminated at night.
	Geobasic	The fundamental science for comprehending Curug Cimahi's tourism attraction is geology and volcanology.
	Geohistory	Cimahi Waterfall has been studied by Brahmantyo & Bachtiar (2009) and van Bemmelen (1949)
	Geo+	Despite being called Curug Cimahi, this waterfall is not situated near Cimahi City. The Cimahi River, whose upstream is at Situ (Lake) Lembang and flows into Cimahi City, which is geographically to the west of the location of Cimahi Waterfall, is the source of the name of the river that flows through it.
 Curug Tilu Leuwi Opat;  Curug Aseupan; Curug Bubrug; Curug Putri	Process	The shape of the rocks in the wall region and around Curug Tilu Leuwi Opat, Curug Aseupan, Curug Putri, and Curug Bubrug indicates that this series of waterfalls was once a lava flow from Mount Tangkubanparahu's eruption.
	Form	Curug Tilu Leuwi Opat, Curug Aseupan, Curug Putri, dan Curug Bubrug berada di satu area yang cukup luas. Didalam area tersebut sudah memiliki fasilitas penunjang pariwisata yang dapat membantu wisatan untuk beraktivitas. Wisatawan dapat melakukan aktifitas berendam, outbond, berkemah, dan juga aktifitas trekking didalam area tersebut
	Tourism	There is a sizable region where Curug Tilu Leuwi Opat, Curug Aseupan, Curug Putri, and Curug Bubrug are all located. Tourism-related amenities are already present in this area to assist visitors with their activities. Visitors can engage in soaking, outdoor activities, camping, and trekking in the area.
	Geobasic	The best basic sciences to grasp information on Curug Layung are geology and volcanology.
	Geohistory	These attraction has been studied by Brahmantyo & Bachtiar (2009) and van Bemmelen (1949)
	Geo+	During Mount Tangkubanparahu's previous eruption, a lava flow gave rise to these group of waterfalls. Curug Aseupan, Curug Tilu, and Curug Cilaki, three existing waterfalls, were used to create Curug Tilu

Tourist Attraction	Indicators	Analysis
 Curug Layung		Leuwi Opat. Moreover, leuwi opat is derived from four rivers: the Baeud, Gentong, Kacapi, and Bagong rivers.
	Process	This waterfall, which is identical to Curug Tilu Leuwi Opat and Curug Cimahi, was a lava flow during an eruption of Mount Tangkubanparahu. The water is still coming from the same source, which is upstream of Situ Lembang.
	Form	The pool that spontaneously formed in front of this waterfall, albeit not very large, can be considered to be wide.
	Tourism	In the vicinity of Curug Layung, there is a pine forest where visitors can camp out and swim in the Curug Layung pool area. There are already tourist-supporting amenities in this place.
	Geobasic	The best basic sciences to grasp information on Curug Layung are geology and volcanology.
	Geohistory	Curug Layung has been studied by Brahmantyo & Bachtiar (2009)
	Geo+	This region was a TNI Kopassus training ground at the base of Mount Burangrang prior to its opening as a tourist destination. But this region has been formally opened as a tourist destination since 2012.

Source: Analysis Findings, 2023

When geologically based tourist attractions are analysed through reinterpretation, they are classified as geotourism attractions. The understanding of geological processes and forms is the foundation of the Cimahi River's geotourism appeal, which has considerable educational value. On the other hand, each tourist destination contains folklore, which makes the educational side of local knowledge essential.

CONCLUSION

The realisation that geological processes and formations are the primary source of natural phenomena led to the development of geotourism as a type of educational tourism for disaster-prone areas. The waterfall in the Cimahi River was created as a result of the phenomenon of Mount Sunda Purba's (now Mount Tangkubanparahu) eruption. The Cimahi River waterfall is now a geotourism destination with the potential to be used as part of a tour that educates visitors about the region's natural history. Through interpretation and guided media, geotourism interpretation teaches tourists about disasters. This study has significance for the national and worldwide use of the geotourism concept as instructional tourism for disaster-prone destinations.

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