

EDU-TOURISM: IMPROVING CIVIC EDUCATION LEARNING BY UTILIZING GEOGRAPHIC INFORMATION SYSTEM

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Abstract

Edu-Tourism is a tourism concept that combines education and tourism, with the aim of increasing tourists' understanding of culture, history and the environment in the destinations visited. In Bali, the focus of tourism is often concentrated on beaches, so that cultural and historical aspects are neglected. Therefore, efforts are needed to integrate the learning of civic education with the introduction of museums through an innovative edu-tourism approach. Geographic Information Systems (GIS) can be used for civic education learning through digital maps that display historical and cultural information at various locations in Bali. Tourists can access relevant information and develop a better understanding of Pancasila's values and national history. In addition, GIS can also be used to promote museums in Bali and provide detailed information about the collections and exhibitions offered. Combining civic education learning with the introduction of museums through an edu-tourism approach and the use of GIS provides multiple benefits. First, this approach increases tourists' awareness of Bali's cultural and historical riches, as well as enhances the preservation of valuable cultural heritage. Second, this approach provides opportunities for tourists to gain meaningful learning experiences, involving direct interaction with local culture and museum collections. An edu-tourism approach that integrates civic education learning with the introduction of museums using GIS will provide diversification in the choice of tourism activities. By directing tourists' attention to cultural and historical aspects, Bali can broaden its tourist appeal more holistically and promote a deeper understanding of its rich cultural heritage among tourists.

Keywords: Edu-Tourism, Geographic Information System (GIS), civic education, museum

1 INTRODUCTION

The development of information technology has brought significant changes in education, including in learning Civics education. Civics is an important subject in shaping students' character and understanding of national values, democracy, and national and state life. One way to make Civics learning more interactive and enjoyable is to take advantage of technological developments in introducing museums. The introduction of museums is an important part of learning Civics because museums are places that display and maintain the cultural and historical heritage of a nation. However, museum introduction is often limited to the hands-on experience of visiting a physical museum, which may be difficult for all students to access. Therefore, the use of information technology, especially Geographic Information

Systems (GIS), can be an innovative solution in expanding access and experience of introducing museums in Civics learning.

GIS is a system that combines geographic data with information technology, enabling the visualization, analysis and understanding of information related to geographic locations. In the context of Civics learning, GIS can be used to map museum locations and provide immersive virtual experiences to students. Students can explore museum collections, study history, and understand the cultural values presented by the museum through one of the GIS technologies, namely WebGIS. WebGIS, also known as web-based GIS or online GIS, is a type of Geographic Information System (GIS) accessed via a web browser or internet connection. It enables users to visualize, analyze and share geographic data and information in a web environment (ESRI, 2022). WebGIS is becoming increasingly popular because of its ease of access, cost-effectiveness, and flexibility. This has made GIS technology more accessible to a wider range of users, including government agencies, private companies and individuals. WebGIS provides users with access to a variety of geospatial data and tools, including maps, satellite imagery, and real-time data (Liang, Li, & Yang, 2018) The use of GIS in the introduction of museums in Civics learning provides various benefits. First, GIS technology allows access to museums that may be difficult for students to reach physically, such as museums in remote locations or museums that have limited visits. Second, the use of GIS enriches students' learning experience through interesting, interactive, and in-depth visualization of the cultural and historical heritage represented by the museum. In the tourism context, the use of GIS in introducing museums also provides the potential for the development of sustainable edu-tourism.

Edu-tourism provides many benefits to the surrounding environment, both in terms of the economy, cultural exchanges and other social activities (Alipour, Fatemi, & Malazizi, 2020). Edu-tourism can become a role model for foreign tourists and local tourists who have started to have an identity crisis (Rozak, Kosasih, Kembara, Budiyaniti, & Hadian, 2020) so that they can learn various things such as philosophy of life, social systems, cultural values, architectural concepts, etc (Brent W Ritchie, 2003). By utilizing GIS technology, the edu-tourism approach can broaden tourism options in Bali by incorporating museum introduction experiences. This will provide added value for tourism in Bali, because tourists are not only limited to beach attractions, but can also enjoy and understand cultural and historical riches through the introduction of museums facilitated by GIS. In this study, we will explore the use of GIS in

introducing museums in Civics learning, with the aim of increasing students' understanding of Pancasila values, national history, and the role of museums in preserving cultural heritage. Through this approach, it is hoped that there will be an increase in Civics learning, the introduction of museums, and the development of sustainable tourism in Bali.

2 METHODOLOGY

The research locations are museums in the Province of Bali, Indonesia. The Province of Bali has 9 cities/regencies which are geographically located at 08°03'40"- 08°50'48" S and 114°25'53"- 115°42'40" E (BPS Bali, 2023) (Figure 1). Considering that Bali is a tourist area that has many museums but their existence is still not recognized, this research will use a qualitative method approach by conducting literature studies and descriptive analysis via the internet. To map a museum using WebGIS, we need data about the location of the museum and other information related to the museum. Here are some data that can be used:

1. Museum location: museum location data can be obtained from public data sources such as Google Maps or the website of the National Museum of Indonesia. This information includes geographic coordinates and the address of the museum.
2. Types of museums: information about types of museums such as art, history, science, and others. This can help in mapping museums based on the desired category.
3. Museum description: description of the museum such as history, collections, facilities, and services. This information can help in creating a description of the museum in the WebGIS application.

After the above data is collected, we can use WebGIS to map the museum. Literature studies from various online sources were conducted to collect information on the location, type, and description of the museum. Next, data visualization was performed using ArcGIS to make the museum points into a shapefile format. The museum points are then uploaded on the CircleGeo website. Circlegeo helps clients and stakeholders to build earth-related products or services such as digital maps, data processing, task automation, data centers, and custom application development (Circlegeo, 2023). After the data has been uploaded to the Circlegeo platform, the

museum map can be digitally visualized. The digital map can then be used as a student learning and edu-tourism tool.

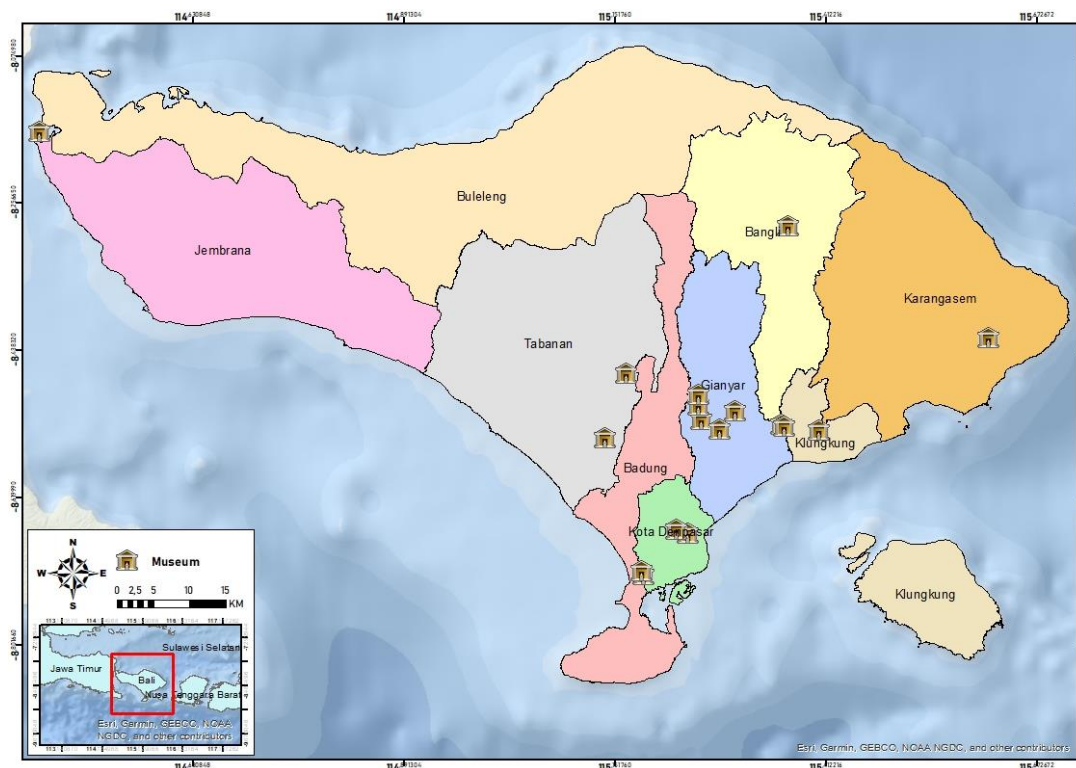


Figure 1. Research Location

3 FINDINGS AND DISCUSSION

In this study, it was found that there are 30 museums in Bali with Gianyar Regency having the most museums, with 12 museums (Figure 2). These museums cover various aspects of history, culture and local wisdom that can support students' understanding of Pancasila values and citizenship. Denpasar which is the capital of Bali Province only has 4 museums. The small number of museums can make tourists visit other areas and will make tourism and economic progress in Bali more evenly distributed and spread, so that the center of tourism in Bali Province is not only in Denpasar.

The use of geographic information systems (GIS) in education and tourism, especially in the concept of "edu-tourism" in Bali, has significant potential benefits. By integrating data from 30 museums in Bali into webGIS-based digital maps, this approach can effectively enhance Civics learning. Edu-tourism also brings the potential for introducing local culture to tourists, stimulating their interest in visiting museums in Bali and having a positive impact on the local

economy. A digital map of museums in Bali made via the Circlegeo platform can be accessed from the link <https://museumbali.gis.co.id/> (Figure 3). On the left side of the page, there is a map legend containing symbols for the location of the museum and administrative boundaries. On the right side of the page, there is a complete information map containing the address and description of the museum. When we click on the museum we want to see, there is also a "get route" button that connects the museum location with Google maps, so users can immediately get a route to the museum.

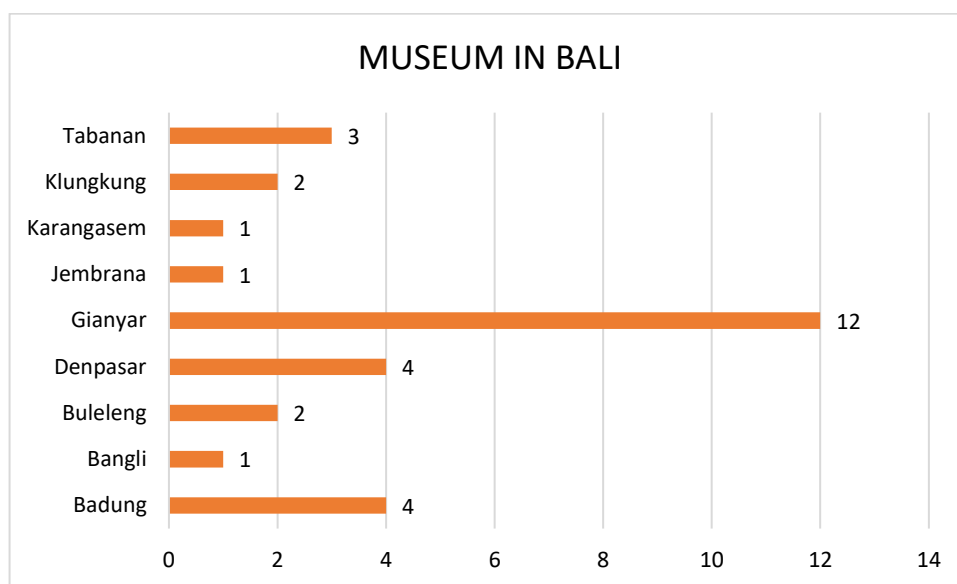


Figure 2. Museum in Bali by City/Regency

The use of webGIS in enhancing Civic Education learning through edu-tourism has several benefits. First, students can get a more real and enjoyable learning experience by visiting these museums directly. This helps students to better understand the concepts of Civics in the context of Indonesian history and culture. Second, teachers can use this digital map as an innovative learning tool to teach Civics with a more engaging approach. Digital maps created using webGIS allow users (students, teachers, tourists) to easily access information about the museums. The map can display the location of the museum, a brief description, contact information, and even show the best route to reach the museum. In addition, the use of this technology can also have a positive impact on the tourism sector in Bali. Educational tourism like this can attract tourists to visit museums and indirectly contribute to the local economy.



Figure 3. Digital Map of Museums in Bali with WebGIS

However, there are several challenges that need to be overcome in implementing this edu-tourism. One of them is ensuring the accuracy and sustainability of the data presented in digital maps and ensuring that the information remains relevant and up to date. In addition, close cooperation between educational institutions, museums, local government, and the community is very important for the success of this edu-tourism concept. The continuity of the development and maintenance of webGIS technology must also be considered so that the application continues to function optimally. Finally, efforts to ensure equitable access to technology among students and teachers also need attention so that this approach can be adopted more widely.

By addressing these challenges, the use of GIS in education and tourism has very positive implications. This not only supports more interactive and interesting technology-based education, but also encourages the development of sustainable educational tourism and promotes local wisdom and Indonesian culture. Through cross-disciplinary collaboration and joint efforts, the concept of edu-tourism using WebGIS can provide broader benefits for society, education, and tourism in Bali. This study is expected to provide insight into the use of WebGIS to develop educational media that enhance student learning. It will also identify the advantages and disadvantages of using WebGIS and how it can be integrated into the existing curriculum to improve student learning outcomes. The findings of this study will be useful for educators

and curriculum developers who wish to integrate WebGIS into their teaching and learning activities.

4 CONCLUSION

The use of WebGIS in education and tourism has great potential to enhance Civic Education learning through the concept of edu-tourism in Bali. By combining elements of education, culture and tourism, the use of GIS can provide a richer and more meaningful learning experience for students and support the development of educative tourism in the area. Collaborative efforts from various parties are needed to optimize the utilization of this technology to achieve better results in education and tourism in Bali. We recommend further research to provide detailed descriptions of each museum and photographs inside the museum and around the museum environment. Therefore, a field survey is needed to obtain this data. After that, we recommend introducing this application directly to students to get findings regarding the effectiveness of this method in supporting student learning outcomes.

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