

The Development of Natural and Cultural Tourism in Buku Limau Island Based on Social Networking

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Abstract

The local authorities are promoting Buku Limau Island as an emerging tourist site. The island's distinguishing features include stunning coral reefs, picturesque white sandy beaches, and its role as a hub for the production of salted and fresh seafood. The objective of this study is to identify and describe the natural and cultural attractions on Buku Limau Island, particularly in the Manggar Subdistrict of East Belitung Regency. Additionally, the study seeks to examine social networks in order to facilitate the development and expansion of natural and cultural tourism destinations in the area. This research employs a mixed-method approach, utilizing data gathering approaches such as observation, focus group discussions (FGD), and surveys administered through questionnaires. UCINET program was used to conduct descriptive qualitative analysis and social network analysis to identify and reveal tourist characteristics. This is followed by the breakdown and study of social networks among stakeholders and interest groups. The findings of this study indicate that Buku Limau Island exhibits attributes of both natural and cultural tourism, with the predominant population of fishermen being of Bugis ethnicity. The identification and study of social networks demonstrate that stakeholders have formed networks to actively support and cultivate tourism attractions, encompassing both natural and cultural aspects. Nevertheless, there are still certain stakeholders who have not been engaged in the network throughout the process of developing and improving the tourism destination. The research limits are deliberately established to enhance the study's focus and depth. The information and data acquired are directly relevant to the fundamental issue of this investigation. The scope of this study is limited to the creation of natural and cultural tourism centered around social networks on Buku Limau Island. Theoretical implications shed light on the ideas of local government assistance, social networks, and tourist attractions. Meanwhile, the practical consequences surely affect the government, tourism stakeholders, and the community in their efforts to promote the growth of natural and cultural tourism through social networks on Buku Limau Island.

Keywords: Buku Limau Island, Local Government Support, Social Networks, Tourist Destination.

A. INTRODUCTION

The province of Bangka Belitung is currently focusing on the development of tourism attractions, including both natural and cultural sites, due to its archipelagic nature. Three factors influence the growth of the tourism industry. First, the depletion of tin resources, which is the primary source of income in the Bangka Belitung Islands Province. Second, tin mining, especially non-traditional mines, contributes to the economic well-being of the community in the Bangka Belitung Islands Province (Sulista, 2019). Furthermore, Bangka Belitung possesses a particular island geography with unique natural features, including beaches, plants, animals, and rich marine biodiversity (Ningsih et al., 2023). The third criterion to be considered is the abundance of social, cultural, and historical features, which work as appealing elements (Muljono & Satrya, 2022); Kusumah et al., 2023).

The implementation of strategic initiatives aimed at promoting regional income includes the advancement of natural and cultural tourism. The tourism sector has the potential to stimulate a rise in

regional income (Oka & Yoeti, 1999). The commitment of the Bangka Belitung Provincial Government to the development of the tourism sector is evident in Regional Regulation No. 2 of 2014, which focuses on the spatial planning plan of the Bangka Belitung Islands Province for the period 2014–2034. The objective is to establish a comprehensive, equitable, and impartial spatial planning framework centered around the agro-maritime industry. This framework will serve to promote tourism and effectively manage mining areas to achieve sustainable development. Furthermore, Regional Regulation No. 7, Ld. 2016/Number 7 Series E pertains to the Master Plan for the Development of Tourism in the Bangka Belitung Islands Province from 2016 to 2026.

The local government of Belitung manages and develops Buku Limau Island, a natural and cultural tourist attraction that has become a prominent destination in East Belitung. The well-preserved coral reefs and transparent seawater create an optimal location for snorkeling (Saputra et al., 2023a). Moreover, the vast stretch of white beach on Buku Limau Island has emerged as a hub for the trade of salted and fresh fish in the East Belitung Regency. In response to the advancements and growing number of tourists interested in Buku Limau Island's natural and cultural attractions, the local administration will develop a dive facility. Additionally, the community will integrate the fishing culture into exploration efforts (Saputra et al., 2023b). Bugis culture and ethnicity, which are distinctive features, exemplify Buku Limau Island's cultural tourism. The region is enchanting, with a focus on maritime tourism that revolves around the exploration of nature and culture. The Bugis ethnic group primarily inhabits it. An example of the community's resilience is their capacity to flourish in a maritime setting and safeguard it by desalinating seawater to meet their daily water requirements. In addition, there are community initiatives aimed at enhancing the salted fish business hub, which has served as a vital economic pillar for the Bugis community. According to Ansar et al. (2022), the Bugis fishing community consistently diversifies their fishing activities by including dried fish in their catch.

Tourism potential is the allure that makes people want to visit specific tourist destinations. It is expected that mapping the potential and developing the attractiveness of tourism can assist and boost efforts in both conservation and economic potential (Arida & Adikampana, 2016). To understand the synergy among tourism development systems, social network analysis (SNA) must be conducted on each subsystem involved in tourism development. Furthermore, according to Runturambi (2017), SNA can provide knowledge and understanding, as well as practical application of networks for broader coverage and scope. A community group can achieve specific goals by utilizing existing social networks and maximizing tourism development.

Several reviews on SNA have been published, including Li et al. (2022), Seok et al. (2021), and Chung et al. (2017). Those studies conclude that the research underscores the pivotal role of tourists' perceived image in destination marketing, particularly emphasizing its significance for a major tourist destination like the tropical forest park. The study aligns with the findings of Barnett and Nam (2021), revealing the evolving structure of international tourism over time, marked by a gradual decentralization of outbound and inbound networks. Furthermore, the investigation conducted by Chung et al. (2017) sheds light on the exploration of backpackers' routes in Europe, emphasizing the importance of understanding tourists' movement patterns for gaining valuable insights. Overall, these studies collectively contribute to a comprehensive understanding of destination marketing, international tourism structures, and the intricacies of tourists' behaviors.

Various actors, including the Village Government, Pokdarwis (local tourism awareness group), cultural enthusiasts, government agencies, culinary entrepreneurs, hotel (accommodation) entrepreneurs, travel agents, and the local community, actively participate in the development of natural and cultural tourism in the Manggar Subdistrict, East Belitung Regency. In this study, the researcher will focus on the development of natural and cultural tourism on Buku Limau Island with the aim of identifying

synergies among elements or institutions in the development of natural and cultural tourism. Additionally, the study aims to identify the characteristics of the local community that have the potential to significantly contribute to the development of the tourism sector. Moreover, the social network in environmental-based social development is considered robust, as there are several actors involved in information dissemination (Saputra et al., 2022). The centrality of the actors lies with the leaders of the tourism awareness group and the local government. The centrality and closeness of the local government indicate a strong relationship with other stakeholders (Cahyana & Nugroho, 2019). Additionally, the leader of the tourism awareness group is crucial in disseminating information about environmentally based tourism development in Manggar, East Belitung. This indicates that each actor is involved in spreading information to achieve sustainable and environmentally friendly tourism (Saputra et al., 2022). This study contributes to drawing attention to the government and the community in formulating tourism development policy programs (Hayati & Bahtera, 2020; Saputra et al., 2022).

The difference between the upcoming research and previous studies lies in the fact that the first research focuses on the use of SNA on tourists' perceptions. Tourists' perceived image is at the core of destination marketing. As a crucial, specific tourist destination, analyzing tourists' perceptions of tropical forest parks holds significant value. The second study focuses on how SNA investigates longitudinal changes in the structure of international tourism. International tourism remained relatively stable from 2002 to 2014. The international tourism network's outbound and inbound connections have gradually decentralized. According to the Quadratic Assignment Procedure (QAP) analysis, each of the four years in the study of the international tourism network was found to be correlated. Groups formed based on CONCOR analysis showed similarities in terms of continents, languages, cultures, economies, and populations (Seok et al., 2021). The third study emphasizes recent developments in information and communication technology, leading to an increasing number of individual tourists enjoying self-guided travels without suggestions from travel agents. These tourists can visit more destinations and create more complex travel patterns compared to mass tourism. The movement patterns of these tourists play a crucial role in understanding their behavior and provide crucial information for tourism marketers.

The number of natural and cultural tourism destinations in the Bangka Belitung Islands Province has reached 401, prompting it to become a primary sector in local revenue, replacing the mining sector. Currently, with 401 tourism destinations, it has not yet made a significant contribution to the local budget (Saputra et al., 2023b). The same applies to natural and cultural tourism destinations on Buku Limau Island, which has considerable development potential. However, the development process has not yielded significant empowerment outcomes. Therefore, this research is crucial to identify the tourism development process, both natural and cultural, how the development process takes shape based on social networks on Buku Limau Island, and the characteristics of the tourism resources and potential.

B. LITERATURE REVIEW

Tourism Development

The focus of tourism studies in Indonesia has reached the stage of destination analysis, its influence, and tourist (Suwena & Widyatmaja, 2010). Understanding this aspect will help to integrate the development of cultural tourism research, avoiding ongoing debates about the dichotomy of tourism and culture. The development of cultural tourism research should not only be anchored in the past but also in the future. Cultural tourism should be seen as a process that is not stagnant but dynamic, adapting to changing times. Future developments in technology will also impact the cultural foundation of cultural tourism. Particularly, the increasingly borderless world and unstoppable globalization will create global cultural patterns due to more complex mobility (Puja et al., 2021). One factor that has received attention with technological advancement and modernization is the natural and cultural tourism sector. This is

because the tourism sector is an asset in supporting regional development with its attractions and the natural and cultural potential of the local community. Several studies on tourism, both natural and cultural, have garnered researchers' attention, including Muljono & Satrya (2022), Lestari & Firdausi (2017), and Ningsih et al. (2023).

The research conducted by Muljono and Satrya (2022) shows that the Manggarai Regency has the potential and a sufficient financial system for the sustainable development of tourism post-COVID-19 pandemic, especially in the cultural, natural, and religious fields. Moreover, during the global COVID-19 pandemic, tourist preferences shifted towards small-group tourism, particularly focusing on natural and cultural destinations. The local community's role is significant because they are at the forefront of every tourism development. Common challenges include the community's lack of understanding of the meaning of tourism and the perception that it is not essential in their lives. The local community is the subject, not the object, of receiving the impact of this sustainable tourism development. Not only the community but also the government, businesses, academics, the tourism community, and other tourism stakeholders must understand the foundations of tourism to collectively aim for the direction of sustainable tourism development (Aswita et al., 2017).

Furthermore, in the study by Lestari and Firdausi (2017), it is proven that there are strategies to enhance and advance tourism in the city of Batu. The Batu City government has formulated various policies and programs for the improvement and growth of tourism. Using Edward III's model, which encompasses communication, resource systems, disposition, and bureaucratic structure, we can consider the implementation of various policies by the Batu City Government to be successful based on these indicators. Moreover, the implementation of these development policies has been in line with the principles and goals of sustainable development, such as supporting economic prosperity, environmental sustainability, social justice, and environmental conservation. Additional research results by Ningsih et al. (2023) indicate, based on SWOT analysis, the need for the implementation of aggressive strategies by applying mangrove conservation support, creating professional business management, building cross-sectoral cooperation to support infrastructure and facilities, optimizing the role of policymakers in enhancing the capacity of business actors and tourism-aware groups, and finally, overseeing the government's commitment to mangrove development.

Tourism is a dynamic activity that enlivens various business sectors and involves many individuals and groups in the local community, whether it is natural or cultural tourism. Tourism is a collection of phenomena (events) where foreigners temporarily or permanently relocate to a place without the intention of engaging in a dominant or important activity (a major activity) that provides benefits. Tourism is a dynamic activity that enlivens various business sectors and involves many individuals and groups in the local community, whether it be natural or cultural tourism. Tourism is a collection of phenomena (events) where foreigners temporarily or permanently relocate to a place without the intention of engaging in a dominant or important activity (a major activity) that provides benefits (Isdarmanto, 2017). According to Suryadana (2013), the tourism industry can trigger positive and rapid economic growth and development. This is evident in several aspects, such as the employment opportunities created and the improvement in income and living standards for the local population. Furthermore, the revenue and foreign exchange earnings from tourist visits have demonstrated the potential to uplift and stimulate other aspects and sectors. In simple terms, the tourism industry, both natural and cultural, as a field that generates various goods and services, plays a significant and crucial role in formulating policies and programs regarding employment opportunities, and it continues to do so for the future.

Environmental institutionalization encompasses the government's role and functions in conducting supportive activities, empowering citizens, and establishing policy regulations to govern and control potential impacts arising from the presence of tourist activities (Dolci et al., 2023). The government

must develop accommodation facilities that support natural and cultural tourism. Furthermore, the role of the community, or the object or actor directly involved in the implementation of service functions and goals, is to form and build harmonious relationships with tourists and create tourism activities that are safe, comfortable, and enjoyable (Sutata et al., 2023). The industrial sector's role can involve developing natural and cultural tourism based on the needs of tourists, including financing accommodation such as hotel facilities, lodging, restaurants, clean water services, communication channels, attractions, and entertainment.

In the literature review, there are five academic approaches that have developed and become major themes in cultural tourism research: First, cultural tourism as a form of cultural consumption is a topic that has emerged prominently in sociological research; second, understanding the motivations of tourists in engaging in cultural tourism activities; third, cultural tourism has a very substantial economic dimension because the income generated from tourism supports cultural preservation and heritage; fourth, the theme of cultural heritage is widely discussed and is one of the focal points in cultural tourism research, cultural heritage is often developed in various approaches such as preservation issues, arts, lifestyle, and authenticity; and fifth, creative economy is just one of the various terms that have been applied to enhance the role of creative processes and knowledge in the economy in a holistic way. As cultural tourism evolves towards contemporary culture, it presents an opportunity to strengthen the connection between tourism and the creative economy (Puja et al., 2021). Generally, tourism journeys with various purposes, such as recreation, business, and others, are conducted within a period and timeframe not exceeding one year. Visiting tourists typically stay at least one night in collective or private accommodations at their destination (Saputra et al., 2023). In conclusion, tourism, whether natural or cultural, is a comprehensive phenomenon that involves relationships beyond the permanent residence of individuals or groups without the intention to settle, and it is not associated with jobs that generate economic impact due to temporary stops or long-distance travel.

Social Network

Social networks are the connections between actors to achieve common goals. Furthermore, according to Lawang (2004), a network is defined as a combination of the words "net" and "work," resulting in "network," with the focus on the word 'work' rather than the word 'net' and interpreted as a verb (working) as a relationship between nodes like a net. To put it succinctly, we illustrate a network as a map of connections between its members, also known as nodes. The structural characteristics that a network map can depict include size or shape, centralization, density, homogeneity, and various types of emerging norms (McLeod & Lee, 2012). In general, a social network is a structure or pattern of relationships between individual members or groups in society that come together. According to Agusyanto (2014), the components that can depict a social network include: (1) there are several groups of objects or events, at least three, that function as endpoints, with multiple connections linking one point to another; (2) depicts flows connecting one point to another; and (3) shows flows connecting one point to another through channels and paths outside the network.

SNA was used by Li et al. (2021) to observe how tourists flow within the regional structure of Gulangyu, China. The study found that the results of SNA indicated that tourists tend to spend long holidays in various areas and tend to concentrate on shopping areas and destinations with famous landscapes. This implies that this analysis can aid in defining the travel patterns of tourists, thereby assisting policymakers and businesses in crafting tourist destinations that appeal to them. Study by Voydanoff (2001) relates the concept of social networks to the organization of social groups in society. Society in the network concept involves some elements of social networks consisting of overlapping individual networks within society that show the quality of social ties influenced by the high or low level of interaction. Interaction is one of

the strongest factors in the formation of social networks and achieving common goals. The interconnection and linkage between components in the network are based on several principles, including: (1) relationships with relatively permanent ties over time; (2) these connections result in different connected point groups; (3) regular channel patterns rather than random; (4) the emergence of rules that regulate relationships between each point in the network; and (5) relationships between one point and another and the relationship of all points to the central point (Agusyanto, 2014). According to Prell (2012), in analyzing communication networks at the individual level, there are three indicators that can be used, such as degree centrality, betweenness, and closeness. Degree centrality is like the concept of sociometry to identify individuals or someone who occupies a central or main position as a star. Betweenness indicates the frequency with which an individual or someone makes connections with other individuals. Additionally, this degree shows and explains the individual's ability to act as a connector between individuals in a group. Closeness indicates the number of ties needed by an individual to connect with other individuals in the group (Scott et al., 2005). In analyzing networks in this study, all three indicators are used namely degree centrality, betweenness, and closeness.

C. RESEARCH METHOD

To examine the results of this research, a mixed methods approach was employed, combining both qualitative and quantitative methods. Researchers used qualitative research to investigate the natural condition of an object, rather than conducting experiments, with the researcher serving as the primary instrument. Data collection involved triangulation (combination) of techniques, inductive data analysis, and research that emphasized meaning over generalization (Sugiyono, 2019). Additionally, descriptive qualitative methods aim to discover understanding and knowledge about the essence and subject at a specific moment and time (Mukhtar, 2013). This method was used to analyze in-depth the development of nature and cultural tourism in Pulau Buku Limau, identifying the characteristics of the community's nature and cultural tourism and analyzing the ability of the tourism sector to become a primary sector in the economy. Quantitative research methods were used to illustrate the social network or map important knowledge relationships in the social network. The actors (institutions) involved in tourism development are part of SNA (Prell, 2012). It was designed to guide beginners through the core aspects of collecting, visualizing, analyzing, and interpreting social network data. Using simple language and equations, it provides clear and expert insights into each step of the research process, including the basic principles of mathematics, without assuming prior knowledge. With a specific focus on NetDraw and UCINET, it introduces relevant software step-by-step in an easily understandable manner. In addition to the basics of network analysis and the research process, the study focuses on digital data and social networks for use in SNA, such as QAP and ERGM (Borgatti et al., 2017). This research was conducted on Pulau Buku Limau, Manggar District, East Belitung Regency. This research location was chosen based on the island's strategic potential for development and the government's efforts to develop nature and cultural tourism. Despite its strategic potential, the island has not attracted significant visits.

Secondary and primary data sources were required for this activity. The population was the entire subjects to be measured from the unit under study; therefore, the population for this research was stakeholders who had interests and influence in the development of nature and cultural tourism. The determination of the sample uses non-probability techniques, and the sample was drawn using purposive sampling, considering certain considerations in sample determination. The research sample included local governments, business actors, Pokdarwis, cultural observers, and local communities.

The data collection techniques used include observation, interviews, questionnaire distribution, and focus group discussions (FGD). The purpose of observation is to obtain an overview of the issues studied by monitoring and overseeing the object under study in Pulau Buku Limau, Kecamatan Manggar,

Kabupaten Belitung Timur. Additionally, we conducted interviews and Focus Group Discussions (FGD) with various respondents such as local government, business actors, Pokdarwis, cultural observers, and local communities. The final data collection technique involved distributing questionnaires to the participants. In social science studies, questionnaires were a well-constructed method for data collection. The distribution of questionnaires aimed to obtain data on the network among stakeholders, which was analyzed with SNA.

Descriptive qualitative analysis provided detailed explanations or interpretations of the collected data, making the depiction of the study results clearer and more meaningful. The stages of qualitative descriptive data analysis include data reduction, data presentation, and drawing a conclusion. Social network analysis was a tool used to create maps of important and essential knowledge relationships in social networks among individuals and groups. In information extraction, which included friendship relationships and interactions among actors in SNA (Pryke, 2012), Social network analysis was used in this study to identify social relationships or networks among actors in the development of nature and cultural tourism in Pulau Buku Limau. The data analysis technique used was sociometric analysis, with the aim of seeing how social networks occur in the development and improvement of nature and cultural tourism. In the data analysis stage, we created a matrix containing network and relationship data from sociometric questions in structured interviews using questionnaires. Next, we processed this matrix using UCINET software to create a sociogram, which provided an overview of the social network. This sociogram was used to see patterns of networks and relationships in the roles of actors in the social network of the development of nature and cultural tourism on Buku Limau Island.

D. RESULTS AND DISCUSSIONS

Buku Limau is an island and village located in the Maggar District, East Belitung Regency, Bangka Belitung Islands Province. It is an archipelagic region consisting of 18 relatively distant small islands, collectively known as Buku Limau Island. Only three of the 18 small islands, situated around Buku Limau Island's periphery, exert significant influence. The Bugis ethnic group, predominantly Islamic, has historically inhabited Buku Limau Island. One unique aspect of the Buku Limau Island village is that the entire layout and settlement pattern are remnants of ancient times. Approximately 70 percent of the island and village area consists of marine and aquatic areas, making Buku Limau Island the administrative center. Most of Buku Limau Island's population relies on the fishing sector for their livelihoods. Economically, the residents are not extremely wealthy, but the wealth distribution is relatively even, resulting in less visible socioeconomic disparities.

Buku Limau Island's typology is a coastal area where half of the population works as fishermen. Besides the fishermen's harvest, which is the main source of income, the area is also developing its tourism sector. The extensive marine area, which spans 390 hectares, positions Buku Limau Island as having excellent fisheries potential. Annually, dried fish production reaches 936 tons, complemented by fresh fish production at 468 tons. Buku Limau Island's natural beauty, beyond its fishing potential, makes tourism a potential economic source for the community. This is evident in the increasing number of tourists, both domestic and international, visiting Buku Limau Island to experience its marine beauty, sunbathe, engage in fishing activities, as well as dive and snorkel. The study of fishing culture's integration into the community becomes essential. The Bugis culture and ethnicity have emerged as key features in describing Buku Limau Island's cultural tourism landscape. One should not overlook the island's potential and its tourism resource systems, which encompass both natural and cultural aspects.

Buku Limau Island harbors fascinating natural attractions, including (1) white sand and mangrove trees. Being a cluster of small islands, Buku Limau Island has the potential for maritime tourism, with white sandy beaches and mangrove forests along the coastline. Various types of mangrove wood, such as vatica,

dipterocarpus, and others, adorn the island's nature, and the calm sea water is a distinctive feature of Buku Limau Island. (2) Coral Reefs: various coral reefs can be found on the island, playing a crucial role as habitats and shelters for many fish species. (3) Exquisite Ornamental Fish: various species of ornamental fish inhabit the waters around Buku Limau Island, including Siganidae, Pteridae, Labradae, and others. These coral fish enhance the marine environment's beauty. However, local fishermen do not capture these ornamental fish, allowing their populations to thrive.

Buku Limau Island is home to an intriguing maritime-based natural and cultural tourism experience, which is shared by the Bugis ethnic community. One notable aspect is the community's ability to survive in a maritime environment, which it protects by converting seawater into freshwater for daily needs. Additionally, community efforts to strengthen the traditional salted fish industry, which has been an economic pillar for the Bugis community, are noteworthy. Sustainable development should be applied to the island's richness, encompassing environmental protection, cultural preservation, and economic development. Those who recognize the island's richness and work to safeguard its maritime areas drive tourism development. Another fascinating aspect is how a small island community comfortably lives, maintains its routines and habits, and has access to electricity. Overall, Buku Limau Island presents a unique and fascinating way of life. The local government actively promotes Bugis culture, traditions, and local cuisine to enhance Buku Limau Island's cultural appeal, aiming to strengthen and empower various aspects of community life, including social, economic, and local wisdom.

Social Network Analysis in the Development of Natural and Cultural Tourism in Buku Limau Island

Elements to consider in the tourism sector include visitors, tourism-based service organizations, tourist destinations, and government institutions. Casanueva et al. (2016) conducted a study that demonstrates the use of SNA as a method in tourism studies. The use of SNA in tourism studies, unlike most other social studies, provides a comprehensive analysis that connects every actor in the network. This analysis can explain the complexity of relationships between actors, between actors and organizations, and between organizations, predicting and anticipating various possibilities and opportunities in the future. In summary, Casanueva et al. (2016) increasingly use this analysis as a powerful tool to explain the tourism development process.

Figure 2 shows the results of data processing using the SNA method in UCINET 6 software. In this representation, each colored point represents every actor involved in the development of natural and cultural tourism. The arrows represent the relationships among actors in the development of natural and cultural tourism, including the dissemination of information, collaboration, and policy interconnections among stakeholders in the tourism development process. The analysis of data processed using UCINET 6 software shows that there are connections or networks in the growth of natural and cultural tourism on Buku Limau Island, based on the numbers of respondents. These relationships or networks originate from institutions such as the Department of Culture and Tourism, the Regional Planning and Development Agency, the Department of Marine and Fisheries, the Department of Labor, Cooperatives, and Small and Medium Enterprises, the Department of Social Affairs, Community Empowerment and Village Development, the Village Government, restaurant operators, hotel operators, local tourism awareness groups, cultural enthusiasts, and the local community. On the other hand, within this pattern, there are weak connections or networks among some actors, such as the Regional Planning and Development Agency with the Department of Labor, cooperatives, and small and medium enterprises, and between the Department of Marine and Fisheries and the local community. Strengthening these less-established relationships among actors is advisable and necessary to achieve goals in the process of developing natural and cultural tourism on Buku Limau Island.

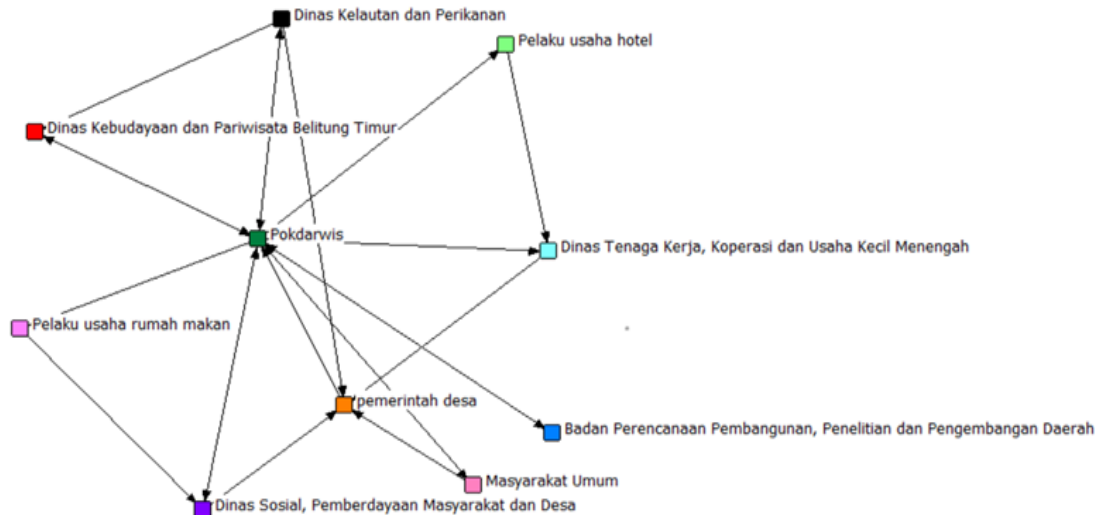


Figure 2. Social Network Conditions

Source: Data analysis conducted using Ucinet software (2023)

Buku Limau Island holds potential that can yield maximum benefits for both the local community and stakeholders, provided that each actor (stakeholder) interconnects and collaborates in the development process to fully harness this potential. According to Cahyana & Nugroh (2019), there are three pillars (stakeholders) that must actively participate in the development of natural and cultural tourism: the local community, the government, and local entrepreneurs. Chang's (2021) study confirms that the social networks formed can shape attitudes towards tourism development. Intelligence, friendship, and advice are social network variables that can contribute to attitude changes in tourism development, such as cognitive beliefs, affective feelings, and behavioral tendencies, study emphasizes the importance for observers and policymakers in tourism development to understand the conditions of social and cultural networks in preparing appropriate promotions.

Analysis of Network Structure

The method used in analyzing relationships and information dissemination is the social network method, which aims to examine how the patterns of information dissemination are carried out by actors within a group or community. According to Prell (2012), social networks are divided into three indicators and measures that can be used to identify and analyze networks and communication at the individual level, including: degree centrality, betweenness, and closeness. These indicators offer a comprehensive overview of the information dissemination network among the actors involved in tourism development. Empowerment-oriented development will be maximized if each involved actor establishes relationships for building natural and cultural tourism.

Degree Centrality

Based on the results of distributing questionnaires to each respondent, the Degree of Centrality value is used to assess the popularity of actors in the social network, both in terms of the number of outgoing links from the actor (Out Degree) and the number of links directed toward the actor (In Degree) (Eriyanto, 2014, in Paramita, S. & Irena, I., 2020). Table 1 reveals that, among the 10 selected actors, the Pokdarwis (Tourism Awareness Group) of Buku Limau Island actively disseminates information about the development of natural and cultural tourism on the island to other actors, achieving an In Degree value of 6.000. Meanwhile, the Pokdarwis of Buku Limau Island are the most active actors in receiving information

disseminated by all actors, with an Out Degree of 8.000. The dominance of the Pokdarwis of Buku Limau Island indicates a significant influence in the process of developing natural and cultural tourism carried out by the Pokdarwis of Buku Limau Island. For example, in motivating the village head, chairman, or members of Pokdarwis, and the local community, especially the people of Buku Limau Island, to actively participate in the process of developing natural and cultural tourism, Development that leads to empowerment, supported by the active participation of the community and the government, will achieve success in reaching its goals. This is further emphasized by Ratnaningsih & Mahagangga (2015), who state that in the development of natural and cultural tourism, the involvement of the local community is crucial because the local community is familiar with the characteristics of the tourist area.

Closeness Centrality

Closeness centrality describes how apparent the proximity and closeness of an actor (node) are to all other actors in the network. The closeness of relationships for each actor is measured and calculated based on the number of steps (paths) an actor can connect to or be connected to by other actors in the network. The smaller the closeness value obtained by an actor, the closer that actor is to other actors in a social network. According to the data processing results, the actor named Pokdarwis Pulau Buku Limau has the lowest closeness value, which is 13.000. This means that the actor has proximity to other actors in the efforts to develop natural and cultural tourism. In a network, the closeness between actors is an indicator of the establishment of relationships and the network itself. Actors located at the center of the network, or the main network, are likely to have higher potential closeness centrality compared to actors at the periphery of the network.

Betweenness Centrality

Betweenness centrality indicates the actor's position and role as an intermediary (betweenness) in the relationships between actors in the network. It assesses whether information received by an actor comes from several other actors or if the recipient directly receives the information. Thus, the purpose of betweenness analysis is to identify actors with strategic positions in disseminating information within the network. According to Table 3, the betweenness analysis results show that actor Pokdarwis Pulau Buku Limau has the highest score, amounting to 63.000. This means that the actor plays a significant role in disseminating information about the development of natural and cultural tourism on Buku Limau Island.

The study revealed the existence of relationships or networks in the development of nature and cultural tourism on Pulau Buku Limau. These relationships or networks involved institutions such as the Department of Culture and Tourism, the Regional Planning and Development Agency, the Department of Marine and Fisheries, the Department of Labor, cooperatives, small and medium enterprises, the Department of Social Affairs, village government, restaurant business owners, hotel business owners, Pokdarwis (Tourism Awareness Group), cultural observers, and the local community. However, within this pattern, there were some networks among actors that did not have strong connections, such as between the Regional Planning and Development Agency and the Department of Labor, cooperatives, small and medium enterprises, the Department of Marine and Fisheries, and the local community. It was advisable and necessary to strengthen these less-established connections among actors to achieve the goals in the process of developing nature and cultural tourism in Pulau Buku Limau.

If each actor in the development process interconnected and collaborated to harness Pulau Buku Limau's potential, it could maximize benefits for both the community and stakeholders. According to Cahyana & Nugroh (2019), there are three pillars that must actively participate in the development of nature and cultural tourism, namely the local community, the government, and local entrepreneurs. Furthermore, Chang (2021) discovered that the social networks formed could influence attitudes towards

tourism development. Intelligence, friendship, and advice were social network variables that contributed to changes in attitudes in tourism development, such as cognitive or trust, affective or emotional, and behavioral or response tendencies. Chang's study emphasized the importance for observers and policymakers in tourism development to understand the conditions of social and cultural networks in the local community in preparing appropriate promotions. Eriyanto (2014) used the degree of centrality to assess the popularity of actors in the social network, considering both the number of out-degree and in-degree links associated with the actor. The study found that out of the 10 selected actors (Table 1), Pokdarwis Pulau Buku Limau was the actor with an active role in disseminating information about the development of natural and cultural tourism in Pulau Buku Limau to other actors, with an In Degree value of 6.000. With an Out Degree of 8.000, Pokdarwis Pulau Buku Limau emerged as the most active recipient of information from all actors.

Tabel 1. Score of Degree Centrality

No	DC	Actor	Outdegree	InDegree
1	6	Tourism Awareness Group (Pokdarwis)	8.000	6.000
2	2	Department of Marine Affairs and Fisheries	3.000	1.000
3	7	General Public	2.000	1.000
4	4	Department of Social Affairs, Community Empowerment, and Village Development	2.000	2.000
5	3	Regional Development Planning, Research, and Development Agency	1.000	1.000
6	1	Department of Manpower, Cooperatives, and Small and Medium Enterprises	1.000	2.000
7	5	Department of Culture and Tourism of East Belitung	1.000	2.000
8	8	Restaurant Owners	1.000	1.000
9	9	Hotel Owners	1.000	1.000
10	10	Village Government	1.000	4.000

Source: Data analysis conducted using Ucinet software (2023)

The Pokdarwis Pulau Buku Limau actor's dominance demonstrates a significant influence in the development of natural and cultural tourism. For example, in motivating the village head, chairman, or members of Pokdarwis and the local community, especially the Pulau Buku Limau community, to actively participate in the process of developing natural and cultural tourism, Development that fosters empowerment and receives active support from both the community and the government is likely to succeed in achieving its objectives. Ratnaningsih & Mahagangga (2015) further emphasized this, stating that the local community's involvement in the development of natural and cultural tourism was crucial because they understood the characteristics of the tourism area.

Closeness centrality depicted how close and connected an actor (node) was to all other actors in the network. The proximity of each actor's relationships was measured and calculated based on the number of steps (paths) an actor can connect or be connected to by other actors in the network. The smaller the closeness value obtained by an actor, the closer the proximity of that actor to other actors in a social network. The study discovered that the actor named Pokdarwis Pulau Buku Limau had the lowest closeness value, which is 13,000 (Table 2). This indicated that the actor had proximity to other actors in the efforts to develop natural and cultural tourism. In a network, the closeness between actors were an indicator of the interconnectedness of the relationships and the network. Actors located at the center of

the network, or the main network were likely to have higher closeness centrality than actors on the periphery of the network.

Tabel 2. Score of Closeness Centrality

No	DC	Actor	inFarness	outFarness	inCloseness	outCloseness
1	6	Tourism Awareness Group (Pokdarwis)	13.000	10.000	69.231	90.000
2	10	Village Government	16.000	17.000	56.250	52.941
3	1	Department of Manpower, Cooperatives, and Small and Medium Enterprises	17.000	24.000	52.941	37.500
4	4	Department of Social Affairs, Community Empowerment, and Village Development	19.000	16.000	47.368	56.250
5	9	Hotel Owners	19.000	30.000	47.368	30.000
6	5	Department of Culture and Tourism of East Belitung	20.000	18.000	45.000	50.000
7	8	Restaurant Owners	20.000	23.000	45.000	39.130
8	2	Department of Marine Affairs and Fisheries	21.000	15.000	42.857	60.000
9	7	General Public	21.000	16.000	42.857	56.250
10	3	Regional Development Planning, Research, and Development Agency	21.000	18.000	42.857	50.000

Source: Data analysis conducted using Ucinet software (2023)

Tabel 3. Score of Betweenness Centrality

No	DC	Actor	Betweenness	nBetweenness
1	6	Tourism Awareness Group (Pokdarwis)	13.000	10.000
2	10	Village Government	16.000	17.000
3	4	Department of Social Affairs, Community Empowerment, and Village Development	17.000	24.000
4	1	Department of Manpower, Cooperatives, and Small and Medium Enterprises	19.000	16.000
5	7	General Public	19.000	30.000
6	2	Department of Marine Affairs and Fisheries	20.000	18.000
7	3	Regional Development Planning, Research, and Development Agency	20.000	23.000
8	8	Restaurant Owners	21.000	15.000
9	9	Hotel Owners	21.000	16.000
10	5	Department of Culture and Tourism of East Belitung	21.000	18.000

Source: Data analysis conducted using Ucinet software (2023)

Betweenness centrality indicated the actor's position and role as an intermediary (betweenness) in the relationships between actors in the network. The analysis examined whether an actor received information from multiple other actors or if the recipient received it directly. Therefore, the purpose of this betweenness analysis was to identify actors with strategic positions in disseminating information within the network. The study discovered that the actor Pokdarwis Pulau Buku Limau had the highest score, amounting to 63,000 (Table 3). This meant that the actor played a crucial role in disseminating information about the development of natural and cultural tourism in Pulau Buku, Limau.

E. CONCLUSION

Pulau Buku Limau is an exceptional tourist destination in the East Belitung District. It offers a variety of natural attractions, such as unspoiled coral reefs, vast white sand beaches, and transparent waters. Additionally, the Bangka Belitung Islands Province is home to a diverse range of marine life. Human resources within the community closely link to the long-term viability of these natural resources, influencing the direction of advancement and promoting community growth based on its strengths and unique advantages. The fisheries sector has significant economic potential because of its access to vast marine areas and huge annual fish production. In addition, Pulau Buku Limau's appeal goes beyond its natural beauty to include its cultural legacy, particularly represented by the Bugis ethnic group and their distinctive customs. The combination of cultural diversity and maritime tourism creates a captivating story that deeply connects with guests in search of a genuine encounter. The combined endeavors of the local administration, along with community initiatives, strive to exhibit and safeguard this cultural history, augmenting the island's allure to tourists.

The collaborative network developed among many stakeholders, including governmental departments, local businesspeople, community groups, and cultural observers, is crucial for the growth of Pulau Buku Limau's tourism sector. This network provides a solid foundation for ongoing collaboration and synergy, even though certain linkages may require reinforcement. Suggestions for future development prioritize the need to cultivate stronger interdepartmental connections within the local government and actively involve local communities and entrepreneurs in the tourism development process. Pulau Buku Limau combines the beauty of nature and cultural heritage, supported by cooperative initiatives focused on sustainable development and equitable growth in its tourism industry. The study's emphasis on Pulau Buku Limau restricts the capacity to apply the findings to other locations. Relying solely on survey data may fail to consider the intricate dynamics within a community. Temporal constraints provide a limited and momentary perspective on the progress of tourism. The exploration of external factors influencing tourism is incomplete. Cultural processes are inadequately scrutinized. Further research on comparative analysis involving similar destinations could uncover optimal strategies. An evaluation of the long-term effects on the ecology and socio-economic aspects of Pulau Buku Limau is necessary. Gaining insight into the perceptions and opinions of locals towards tourism is of utmost importance. Policy analysis and proposals for sustainable policies are crucial. We recommend exploring ways to enhance visitor experiences and build resilience to climate change. Enhancing stakeholder cooperation is crucial for achieving sustainable growth.

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