Building Banyuasin Village, Bangka Regency as green and agro-tourism village that sustainable using information technology

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Abstract. Tourism is currently one of the state's income to support the economy. Therefore, almost all countries develop their regions so that they can become destinations for tourists. Indonesia is one of the countries that encourages and supports the development of tourism to the village, so that each village designs so that its village can become a tourist destination. Now, every village in Indonesia have been race to developing their village into green and tourism village in order to improve the welfare of the village. Banyuasin village is one of the villages in Bangka Regency which has agro-tourism potential because of many agricultural and plantation potentials that can be used as agro-tourism destinations and also development to become an environment-based village. Banyuasin village also has a plan to become a green village by doing good waste and waste management by using information technology. To support Banyuasin village plan for achieve the goal, the use of information technology and building an information system that helps to develop the Banyuasin village in the future. This information system will design and process data related to the potential of Banyuasin village to become a Green and Agro-tourism village as well as to process the data to help Banyuasin Village.

1. Introduction
Indonesia is one of the countries that encourages and supports the development of tourism to the village, so that each village designs so that its village can become a tourist destination. Bangka Island is an island in Indonesia and in Province of Bangka Belitung Archipelago and Bangka is one of the largest island beside Belitung islands. Indonesia is one of the countries that encourages and supports the development of tourism to the village, so that each village designs so that its village can become a tourist destination by building infrastructure and fund for every Province, city until village for building the tourism.

Villages in Indonesia are currently receiving special attention from the government with the amount of budget given to each village to advance rural villages in Indonesia. Each village is competing to develop and build their villages to be better and be able to prosper the community. One of the most developed is the concept of a green village to keep the village environment from experiencing environmental damage and the development of the village tourism sector to increase village income so that many who visit the village to drive the village economy [1]. One of the villages that has a concept for developing a green village and agro-tourism to support tourism is the Banyuasin Village, Bangka Regency, Bangka Belitung Archipelago Province. Banyuasin
village has an area of 3,354 hectares (Ha), which is one of the villages in Riau Silip District, Bangka Regency [2]. The distance to the district capital is 41 kilometers and the distance to the provincial capital is 49 kilometers. In the north it borders Pangkal Niur Village, in the south with Maras Senang Village, in the east it borders with Kapuk Village, and in the west it borders Kelapa Village.

Agro is defined as agriculture or plantation and tourism means tourism / tourism. So agro-tourism is the concept of traveling to agricultural or plantation areas with a natural environment so that it can attract tourists to visit [3]. Agriculture that can be used for agro-tourism in a broad sense includes smallholder agriculture, plantations, livestock and fisheries which have their own uniqueness. Agro-tourism is one of the potential alternatives to be developed in the village. Then the limitation regarding agro-tourism states that agro-tourism is a type of tourism that specifically makes agricultural products, livestock, and the other as an attraction for tourists [4].

Agro-tourism has been a priority in the present for developing tourism in villages a means for improving the livelihood of agriculturist developing countries. Pragmatically, this promotion is associated with multiple functional agriculture in the context of local agricultural occupation [5]. Banyuasin village has been designed for a number of years as an agricultural tourism village (agrotourism). This is reflected in the agreed vision of “The realization of the Banyuasin Village Towards an Independent and Cultured, Smart, Healthy and Prosperous Agricultural Tourism Village Through Resilient Human Resources and Providing Excellent and Harmonious Services Based on Faith and Devotion to God Almighty”. Banyuasin village has the potential as an agricultural tourism village. Because it has a component of tourism products, namely tourist attractions (facilities) and tourist services (amenities), hospitality (hospitality) [6].

In terms of tourist attractions, this village that has a population of 1,604 people has natural tourist attractions such as the Maras Hill, the Dampas River, the Semubur River and the forest, the man-made tourist attraction (man-made tourist attractions) which include cultural tourist attractions such as dances, traditional ceremonies, besawang (gotong royong) and dambus, while the tourist attraction of creative works in Banyuasinatara is rice fields covering an area of 106 ha or 3.16% of the area of this village.

From the aspect of amenities (tourist facilities and services), even though until now Banyuasin Village has no home stay, hotels or the like, transportation capital to and from Banyuasin Village is classified as very smooth. The village can be reached in less than 2 hours from the City of Pangkal Pinang, the capital city of the Bangka Belitung Islands Province (See Figure 1).

If examined from the 15 components of the Regional Tourism Object Operations Analysis and Attraction (ADO-OTDWA) Directorate General of Forest Protection and Nature Conservation in 2003,
it came to a conclusion that the Banyuasin Village was worthy of being an agricultural tourism village [7]. The 15 components of the ADO-OTDWA analysis are attraction of land attractions, market potential, levels of relationship / accessibility, conditions around the area, management and services, climate, accommodation, supporting facilities and infrastructure, availability of clean water, relationships with attractions in surrounding areas, security in the area, visitor management, marketing and market share.

Specifically in terms of the component of Relationship with Nearby Tourism Objects, which, according to the Director General of PHKA (Forest Protection and Nature Conservation) requires that an object of tourism needs to pay attention to other objects of the same type or not in the environment (within a 50 km radius of other attractions).

This position is very supportive in making travel plans (itinerary) tour packages, which at the same time make tourists satisfied when visiting the tourist destinations of Banyuasin Village and its surroundings (see Figure 2).

![Banyuasin Village Mainstay attraction of Bangka Regency](image)

**Figure 2.** Banyuasin Village Mainstay attraction of Bangka Regency

However, the development of the Banyuasin village into an agro-tourism village is still very minimal for use in the field of information technology, especially the use of the Internet for marketing and promotional media while an information system to help manage existing tourist destinations. The development of information and communication technology is currently growing rapidly and has touched almost all levels of society. With the advancement of information technology, sending information is getting faster and unlimited with time and space [8]. Whereas for management and promotion requires information technology, especially information systems to help the performance of the village government in providing information about tourism potential to the community and facilitate the management of data and information. This information system will provide complete information and facilitate the dissemination of information in the digital age with the use of the Internet.
2. Literature Review

2.1. Agro-tourism

The potential contained must be seen in terms of the natural environment, geographical location, types of products or agricultural commodities produced, as well as facilities and [9]. The development of agrotourism is in essence an effort towards exploiting the potential of agricultural tourism attractions. Definition of Agro-Tourism Agro-tourism is a series of tourism activities that utilize the potential of agriculture as a tourist attraction, both potential in the form of natural landscapes of agricultural areas as well as the uniqueness and diversity of agricultural production and technology activities as well as the culture of farmers [10]. Agro-tourism activities aim to broaden knowledge, recreational experiences and business relationships in agriculture which include food crops, horticulture, plantations, fisheries and animal husbandry. In addition, what is included in agro-tourism is forestry and agricultural resources [11].

2.2. Information System

Information systems where of hardware, software, and telecommunications networks that combines that use by people to build and use to collect, create, and distribute data or can be called information, usually in organizational settings [12]. Information systems are components working together to collect, process, store, and disseminate information that interrelated to support decision making process, coordination, control, analysis, and visualization mechanism in an organization [13]. Information is data that has been processed into a form that is meaningful to the recipient and is useful in making decisions now or when it arrives. The definition of another information system is an integrated and complementary data processing unit that produces output both in the form of images, sounds and writing [14].

3. Results and Discussion

The waterfall model is a classic model systematic, sequential in building software. The name of this model is actually the "Linear Sequential Model" [15]. This model is often referred to as well with the "classical life cycle" or the waterfall method. This model belongs to generic models on software engineering and firsts introduced by Winston Royce around 1970 so often considered ancient, but is the model most widely used in Software Engineering (SE).

The methods and stages of design, development and implementation of management information of Banyuasin village the use the waterfall method so that the sustainability of the system that has been provided can be sustainable. The next phase of digitizing system development of agrotourism information system Village of Banyuasin data using the waterfall method website-based that will show in Figure 4.
1. Planning Phase and Requirement Analysis
   a. Define and collect data related to Agrotourism for Banyuasin village;
   b. Make a data collection schedule and planning for database;
   c. Gathering related information with Banyuasin Village as Agrotourism village and preparation digitizing data;
   d. Analyze the requirements needed on system, digitizing Banyuasin Village data that it can be accessed via the Internet;
2. General System Design Stage
   a. Prepare design applications that contain Data about Banyuasin Village, how the system works and its implementation;
   b. Design a database structure to be used on a digitizing system on the website and application;
   c. Design of a digitizing system interface websites;
   d. Application and website design;
   e. Database design for data storage digital and accessing
3. Implementation Stage
   a. Making an Banyuasin Village website;
   b. Digitalization data from data land, tourism calendar, data and others related to Banyuasin Village;
4. Testing Stage
   a. Verifying and experimenting the system;
   b. Make documentation;
   c. Install the system;
5. Maintenance Phase
   a. There are requests for modifications and changes.

For technology products to be implemented in the Banyuasin Village Cooperative are shown in Figure as follows:
In the Figure 4 above you can see the Agro Tourism information system architecture in Banyuasin village which was built with a database of village history, agriculture, festivals, rivers and conservation where the village will be trained to become an admin to be able to manage the information system which has been where this information system will be accessible using the website and the internet.

In Figure 5 until Figure 7 its show the design interface and main page for the information system in Banyuasin Village.

In main page is description of Banyuasin village and the potential of become agro tourism village. This website will give a complete information about Banyuasin and how to visit the village.
Figure 7. Information and News in Banyuasin Village

At Figure 7, is information and news of Banyuasin village with complete information about Banyuasin.

Figure 8. Potency Of Agrotourism in Banyuasin Village

In Figure 8, the fact mentions the Banyuasin Agro tourism village surrounded by many tourist objects under a radius of 50 km, both cultural and artificial natural attractions such as Kampung Gedong Desa Hakka China, Penyusuk beach, Romodong Beach, Tanjung Belinyu Tanjung Port, Batu Batu Beach, Maria Belinyu Cave, PhakKak Liang, and Pantai Matras.

4. Conclusion
Banyuasin village can be develop as agro tourism and green village with a lot of potency that can attracting tourism to visiting. To promote and introduce Banyuasin Village, information technology and internet support is needed so that more people will know Banyuasin Village, Bangka. With the information for the management of agrotourism in Banyuasin village, Banyuasin Bangka village is expected to be a village visited by many tourists and can carry out good management using this information system. Therefore, new additions and features are needed so that this information system can run well and smoothly and provide more benefits for the Banyuasin Village in the future.

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