

## Conference Paper

### Readjustment of "Kalanganyar" Area as A Tourism Village With The Basis of Coastal Architecture Satellite Images Data

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#### Abstract

Coastal areas are seafront areas, which are a unique and dynamic part of the city that portrays the condition of Kalanganyar Village in Sidoarjo. With the existence of marine culture and the production of milkfish ponds, Kalanganyar Village has the potential to become a tourist destination. However, referring to the criteria of tourism village, Kalanganyar Village is very far from being categorized into tourism village. Nevertheless, the coastal natural resource and the wisdom of the local architecture can be developed into an asset of tourism village which will potentially improve the living standards of its people. The method used in this research are explorative and descriptive, which means exploring the natural physical potential, associated with existing urban elements, and the non-physical potential related to the socio-cultural community. The results, from mapping the authenticity of the form and character of the area in Kalanganyar Village, are described using synchronous reading (synchronic reading) and interpreted qualitatively. To describe the non-physical potential, the data obtained from the respondents' interviews were processed using simple quantification. The results of this study are then becoming the basis of development concept for Kalanganyar area as a tourist village, which includes the adjustment of spatial areas, regional morphology identification and building typologies based on the Coastal Architecture. These adjustments are performed in a schematic design and is expected to reflect the identity of the region.

**Keywords:** Coastal architecture, Kalanganyar, spatial adjustment, tourism village

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#### INTRODUCTION

Coastal areas are shore or seaside areas, which is a dynamic and unique area of a city (Djumiko, 2010). This area is mostly located in the southern and northern areas of the Java coast, one of which is Kalanganyar Village, located in Sedati District, Sidoarjo Regency. With an area of 13.5 hectares where 2/3 of the area is fish farm land, the community relies on tidal aquaculture activities as a livelihood (Widiyanti, 2017). This aquatic potential is quite promising, with typical coastal scenery and also a growing center of milkfish production. With such natural and cultural potential, this can be a tourist attraction for the Kalanganyar Village so that it can improve the lives of its people (Arida & Pujani, 2017).

Referring to the criteria for tourism villages (Minister of Culture and Tourism Regulation, 2010) the tourism aspect in Kalanganyar Village is still very low. This can be seen from the lack of facilities that can support the advancement of tourism potential in the region, which are the potential of milkfish production and pond tourism. Many physical facilities have not yet been developed and arranged in this village, including tourist vehicle parking facilities, reorganizing the fish markets, ponds and so on. Some areas considered to be slum area and suspected to be

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unmaintained, existing fish waste may affect the visual and the environmental quality of the people. Some of the potential found in Kalanganyar Village are as follows:

- The location of the village located on the coast has very good natural potential to be developed into a coastal tourism village which has the potential to becoming the regional tourism identity or even the tourism identity of Sidoarjo City.
- There are several buildings with local architectural styles which has a high architectural value that can potentially be an attraction of village tourism as well as giving an architectural identity to the village.

Meanwhile, the problems that can be found in Kalanganyar village are:

- Although Kalanganyar area has been designated to be a tourist village area, it has not met the standards of a tourist village. This is due to the absence of adequate physical development of the area and also the socio-economic aspects of the community.
- The Kalanganyar area placed into slum category due to the lack of sewage and sanitation arrangement especially the ones in the fish market area.
- Lack of effort from the community to participate in the village development and also minimal attention from the Government in the village development process.

From the formulation of the above problems, the research questions obtained from the Kalanganyar Village area are:

1. How to develop the Kalanganyar Village area socially, economically and culturally?
2. What is the physical potential of the area related to the architectural value of the area and buildings so that it can improve the quality of non-physical areas based on the needs of the community in utilizing the potential of their villages?.
3. How to arrange a residential space equipped with aspects of infrastructure so that it can increase the vitality of the area?
4. What is the suitable schematic design concept in accomplishing the design of Kalanganyar tourism village based on coastal architecture?

### **Tourism Village Aspects**

According to Spillane (in Tahir 2005) a tourist or destination object must include 5 (five) important elements so that tourists feel satisfied in enjoying the trip, and those are:

#### 1. Attractions

It is the centre of the tourism industry, which according to its definition it can attract tourists who want to visit it. The characteristics that may attract tourists are (Cullen, 2012):

- a. Natural beauty.
- b. Climate and weather.
- c. Culture.
- d. History.
- e. Ethnicity - tribal nature.
- f. Accessibility - ability or ease of walking or certain places.

#### 2. Facility

Facilities which oriented do the attractions. To support the activity around the attractions the facilities must be close to where the attractions is located, in Kalanganyar Village case, the facility is best to be located near the traditional market. Facilities will support the growth and the development of the attractions, whether it's on the same time or after the attraction was built (Darjosanjoto, 2006).

#### 3. Infrastructure

Attractions and facilities cannot be easily achieved if there is no basic infrastructure. Infrastructure includes all construction under and above the land within a region.

4. Transportation
5. Hospitality

Tourism village is a rural area that offers an overall atmosphere that reflects rural authenticity both from socio-economic life, socio-cultural, customs, and daily life. It has an authentic architecture and a typical village spatial structure, with unique and interesting economic activities which has the potential to be developed for various tourism components (Pariwisata Inti Rakyat in Soetarso and Mulyadin, 2001).

Referring to the definition of tourist village, the villages which can be developed with a village tourism program will provide a good example for other villages. The requirements for a tourist village are as follow:

1. Good accessibility, so it can be easily visited by tourists with various types of transportation.
2. Contain interesting objects which might come in the form of nature, culture, legend, local food, and so on to be developed as a tourist attraction.
3. The community and village officials receive and provide sufficient support for tourist villages and tourists who come to their villages.
4. Security in the village is guaranteed.
5. Accommodation, telecommunications and labor are available.
6. Cool or cold climate.
7. Has relatability with other tourism objects that are already known to the wider community.

Whereas Wiendu (1993) explained that several criteria for tourism villages include:

1. Tourist attractions;
2. Mileage
3. Village size
4. Availability of infrastructure

### **Typology Analysis**

Antariksa (2010) mentioned that typology is a study that classifies objects with the same formal structure characteristics and similarities in basic characteristics into certain types by sorting out forms of diversity and similarity of types. Classification aspects are based on certain aspects / rules, such as: functions, geometric shapes and styles / styles. Karen (1994) in Mochsen (2005), in their discussion about types and typologies, suggests that types resemble aspects of clarification, which is combining the same characteristics of groups of architectural works in detail that are different from one another. While typology is used as a tool for analysing objects.

With the typology of an architectural object we can analyse the changes which are related to the basic building, the nature, and the process of development of the basic building. Furthermore, typology can also be used to explain changes of a type, because a type has certain characteristics that distinguish it from other types. So in other words typology is the study of classification of types by learning the characteristics that are more specific than a building. Therefore, typology is not only distinguished from its shape but rather towards the character of the building (Duerk, 2008).

### **Typology - Morphology of Coastal Architecture**

According to Egam and Rengkung (2016) the physical characteristics of settlements as coastal settlements are characterized by the collective activity of the fishermen. Fishermen's activities are used as residential identities of fishermen's settlements which are implemented in the utilization of space both personally, in one dwelling, as well as communal space along the coast in residential areas. Therefore, it can be concluded that the utilization of natural potential in the form of water banks is the main focus of coastal architectural characteristics, while the culture of coastal city communities is a manifestation of the behaviour patterns and social structures of coastal communities that form the architecture of the coastal city. The architecture of coastal cities has specific characteristics with various forms of combination from the form of a mixture of immigrants' cultures (Chinese, Arabic and Dutch) and Javanese culture.

According to Alamsyah in Putri (2013) the type of residential building according to the culture of the island settler community in Indonesia is divided into 6 types that are as follow:

1. Non-Stage Houses located on land

2. Stage houses on fresh water
3. Floating houses on fresh water
4. Stilt houses found in the tide area
5. Stilt houses above sea level
6. Floating houses above the sea

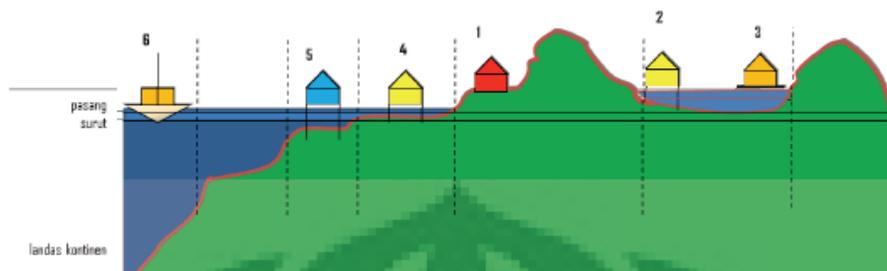


Figure 1. Type of housings according to Indonesian settler culture Source: Alamsyah in Putri (2013)

In the context of settlements, the typology of functions as coastal settlements through fishing activities, shows a fairly thick difference. The farther the position of residential buildings from the coast, the weaker the characteristic of coastal settlements (Egam and Rengkung, 2016).

## METHODOLOGY

The study in Kalanganyar Village is a study to increase the vitality of the area as a tourist village that highlights its identity as a coastal area. This research is classified as qualitative research. According to Groat and Wang (2002) qualitative is a research with a multi-method focus that seeks to interpret the meaning or meaning given by the community, so that it focuses on interpretation and meaning by prioritizing scientific settings.

Observation of the village is done by descriptive method, which was done by describing or analysing a research result but not for creating broader conclusions (Sugiyono, 2005). The qualitative approach chosen is phenomenology. Researchers apply subjectivity to illuminating the "essence" of experience as a place (Groat & Wang, 2002).

Phenomenology according to Norberg-Schulz (1980) can be seen as a tool to see symptoms that can be absorbed by the senses as a phenomenon. This phenomenology approach is used as a means to "see" Kalanganyar Village as a space phenomenon that is experienced directly by the first person, namely the researcher. The captured spirit of place will be recorded and presented in a descriptive pattern and analysed in the same way.

Table 1. Stages of Research Depiction

Reserarrh Method	Analysis Technique
Descriptive qualitative research	1. Technique of analysing statistical data / information regarding related communities;
Initial statistical review of economic - socio-cultural data of the community and the potential of the region	2. Diachronic and synchronic analysis techniques;
First, making observations in the field by distinguishing the history by physical studies through reading the entire urban space; Second, analyzing and / or seeing the potential and development opportunities that exist.	3. In order to make a description of the authenticity of the shape and character of the object under study, character appraisal analysis and typo-morphological analysis are carried out;

Source: Researcher Analysis (2018)

## RESULT AND DISCUSSION

This research is located in the village of Kalanganyar, Sidoarjo, East Java. In general, the research focused on the case studies of coastal areas located in Kalanganyar Village with the character of areas dominated by aquaculture areas. This existing gives a strong indication of coastal character, showing great potential for the development of coastal tourism with local wisdom, both culturally and socially.



Figure 2. Research Area in Kalanganyar Village, Sidoarjo Source: Google Earth and illustrated by the researcher (2018)

Kalanganyar village does not have many land use variety. Basically there are 3 main land use found in Kalanganyar Village, those are settlements, ponds and mangrove forests. Settlements in Kalanganyar Village only approximately fills about 2% of the area of Kalanganyar Village. Whereas 15% are mangrove areas, so the rest, which ranges from 83% of the total area of Kalanganyar Village, are a pond area.

From the social demographic aspect, the population of Kalanganyar village numbered approximately 5437 people, consisting of 1657 household. The number of the male citizens are 2661 people and female are 2776 people. From the population data, it appears that the majority of Kalanganyar village are in the productive group with a number of 3374 people or 62% out of the total citizen. This is a human resource (HR) asset that can be developed as a potential for regional development.

The daily social-cultural life of the community is influenced by many factors such as: religious life, traditions carried out by the people from generation to generation, and the influence of cultural arts that are currently developing in adaption to the needs and behavior of everyday people. The majority of the people in the Kalanganyar village are predominantly Muslim, which approximately add up to  $\pm$  5437 people, so this has an effect on carrying out the traditions of everyday life. The activities of the cultural arts aspect that developed in the Kalanganyar village community were also influenced by Islamic nuances, such as the collection of Qasidah music groups, Rebana groups, and Patrol Music, which often appeared and were invited to enliven an event or celebration.

With the above physical and non-physical conditions of Kalanganyar Village, there are several development that can be proposed in increasing the quality of Kalanganyar Village in becoming the Tourism Village, and the proposals are:

1. Establishment of a more adequate road network infrastructure.

Road network planning opens up opportunities for regional development potential. Without adequate road infrastructure, the development of the region will be stopped at the available road endpoints. Therefore it is necessary to develop roads that accommodate the needs of the population and tourists first before developing other infrastructure.

2. Development of tourism supporting facilities at a strategic point.

The most recreational activities in the Kalanganyar village area are fish fishing ponds, which are owned by individual residents and are visited by many people from outside the village of Kalanganyar. Besides that, the development of culinary business in the form of food stalls with a special menu, namely Bandeng Bakar, can be an attraction for visitors to come by and have some culinary tours. So that the existence of food stalls that exist, can support tourism aspects.

3. Provision of public facilities to accommodate tourist arrivals.

The movement of mobilization towards attractors also needs to be anticipated with adequate public facilities. Not only good road access, but need to be supported by transportation modes and other public facilities such as:

- Worship Buildings (Mosque, Church, etc.),
- Rest area / resort facilities - culinary restaurants / food stalls
- Souvenir kiosk which provide processed seafood products
- Adequate parking area
- Availability of the security facilities (including the security officers).

With the existence of these facilities, tourists will feel safe and may repeat their good experiences in the future by coming again to Kalanganyar Village.

Along with the concept of tourism development, it is necessary to support the development of spatial areas to improve the economy. Addition and development of land use along with the development of road networks which become the main point of mobilization of visitors and will stimulate the emergence of new economic activities, which are supported by adequate means of transportation. Development of the trade areas and services as well as public facilities can be used to create new tourist areas, which will then be supported by touristic activity (attractors).

The tourist point in Kalanganyar Village is placed at the end of the beach so that the mass mobilization will occur to the end of the village area of Kalanganyar. Thus, developments will also be awakened along with the movement of tourist mobilization to the point of tourist building. Attractors that can be developed include:

- Adding a Fish Fishing Pool
- Water-based Tourism planning, such as: Swimming pool, Water Park, lagoon (artificial lake with water bicycle), etc.
- Adventurous tourism: boating, riverbed, adventure of mangroves and mangroves, etc.

The morphology of space in the Kalanganyar Village area can be observed in the relationship between buildings and its open space, which shows a character of settlements that are far from the coast. The relationship between buildings and its open space is centred or oriented to the existence of open spaces in the form of roads or fields. Meanwhile, the settlements located on the shore or coast, these buildings are more oriented / facing the coast / sea,

with linear patterns following the coastline. If you observe the composition of Solid - Void, which is the area of the building when compared to the area of the site, it ranges from 60 - 70%, the rest in the form of outer space that is not covered by buildings. Whereas from the aspect of the road and the profile of the environment, it shows that the accessibility and circulation that develops form the character of linear patterns in line with the coastline. While the circulation in the aquaculture area forms Grid patterns with pathways.

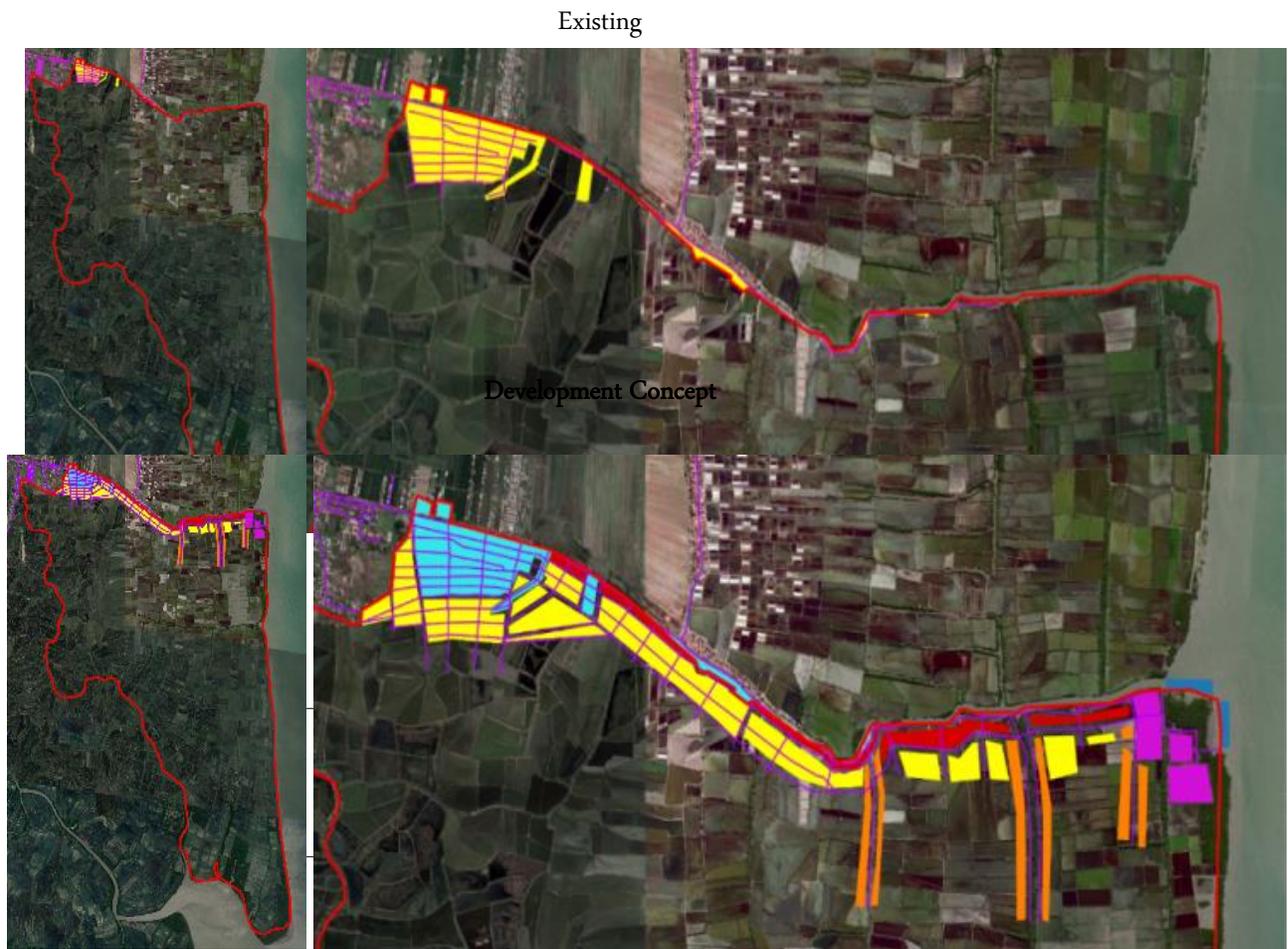


Figure 3. Spatial Readjustment Concept for Kalanganyar Village; Source: Researcher (2018)

In analysing the building characteristic, the shape of the building mass uses square or rectangular geometry, which is found in existing buildings, such as: community residences, souvenir shops, culinary stalls, restaurants, fishing pond sitting areas, gazebos, and so on. Mostly, the building's entrance is facing the highways or residential / residential roads, and some restaurant buildings and gazebos have a view which oriented to the coast / sea. There are two types of building descends system, first is the one that stands on the ground (landed), this is found in the buildings that are distant from the water / sea. Second is the one that floats, which is mostly located near or above the water/ sea. Some of the floating buildings are actually floating with a floating device, or stands on a column which pierce down to the bottom of the sea. These two building types are some the characteristics of Coastal Architecture, furthermore, some of the residential buildings located in the village of Kalanganyar are heritage buildings with the

style of Colonial Architecture, although there are also some shops, which has a modern facade. Most of the modern buildings located on the residential are showing less ornaments which are one of the character in modern architecture. The appearance of various style buildings are possible because it is located quiet far from the beach (approximately 4 km).

Nevertheless, tropical architectural characteristics can still be found in the use of sloping roofs and long roof extension. Therefore it can be concluded that the "local context" of coastal areas, can still be developed to form the characteristics of Coastal Architecture which also supported by the use of local materials and technology.

## CONCLUSION

Through an analysis of the non-physical aspects of Kalanganyar Village, it can be concluded that the activities of citizens in interacting are highly adapted to their natural geographical coastal conditions. While physically, as a form of adaptation, the river border room is also used as an open space, residential area, as well as a boat leaning place, with various physical constructions and customized designs. The formation of villages or villages is oriented to the factors of urban spatial structure that approach the centre of the crowd. So that the natural orientation of the coast does not affect the orientation of residential communities, especially those whose located far from the coast. Except for a number of buildings on the banks of the river or the coast which has a system of floating type of coastal architecture. With both physical and non-physical condition of Kalanganyar Village, it is highly suitable for Kalanganyar Village to be developed into Tourism Village with several adjustments on its physical aspects. The adjustments will includes the addition of touristic attractors as well as urban planning which oriented on the coastal area development. These development and readjustment orientation are expected to stimulate an economic growth and built a sustainable system for Kalanganyar Village to become an everlasting and locally oriented Tourism Village. Eventually, The Kalanganyar Village readjustment is expected to direct towards its development by providing various tourist attractions and facilities with the support of the Coastal characteristics building facade. Therefore, the readjustment of this area is prospectively improve the quality of the spaces of Kalanganyar Village.

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