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Challenge and opportunity of settlement and infrastructure development in the small island (case study: Pulau Laut Kelautan District, Kotabaru Regency)

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Abstract

Indonesia is the largest archipelago country in the world. Since spatial planning for coastal and small islands development was enacted, it gave a new era and perspective for developing coastal region and small islands in Indonesia. This study aims to identify challenges and opportunities of settlement and infrastructure development in small islands. Research was conducted in Kerayaan Island, Kerasian Island, and Kerumputan Island in Pulau Laut Kelautan district, Kotabaru Regency. Descriptive and evaluative approaches were applied by using SWOT. This study covers settlement systems, infrastructures, and local potentials in physical and/or economic characteristics which can be used for developing each island. This study identified the infrastructure needs, such as roads, waste management system, and drainage system. The result shows that there are two typology of house in these islands, landed-house and *rumah panggung* (stilt house) and has own problem. This result can be used as considerations or recommendations for the government of Kotabaru Regency in their development planning, such as for house-renovation program.

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1. Introduction

Indonesia is the largest archipelago country in the world. It has 17.504 islands which is range from Sabang to Merauke. It makes $\frac{3}{4}$ of Indonesia's area is sea and coastal area. Indonesia contains coastals and natural resources which can be used for increasing the economic conditions, specifically for coastal community. This is also supported by the Indonesian government policy that the regional development is not only focuses on the main land, but also starts to focus in coastal area, such as the government policy about spatial planning for coastal and small islands development was enacted in 2007. Since that time, coastal planning and development becomes one of the strategic sector and aspects to be developed by Indonesian government.

Actually, the coastal planning and development is not different with land spatial planning. The location and their resources have an important role in developing that area. Their resources are used to developing economic activities and their location should give a contribution to make an interaction with other areas. Specifically, planning for coastal and small islands is developed for increasing the their physical, economic, social, and institution conditions using their natural resources which is based on coastal and ocean resources (Regulation Number 1 year 2014). The local and unique potentials of coastal area, such as their natural resources (fish, fish-pond, and others) are potentially used to develop their economic and social conditions.

Besides their natural resources, the physical conditions of coastal and small islands are different with mainland. Coastal area is defined as an interface or transition areas between land and sea which has a diverse in function and form, dynamic and do not lend themselves well to definition by strict spatial boundaries and it is influenced by land conditions and sea conditions (Supriharyono, 2001). Because of this condition, coastal area is directly received influences from sea and land, so it makes an uncertainty condition of coastal area. The uncertainty conditions of coastal area will be changed the community livelihoods, their social conditions, and also their natural and physical characteristics (Dahuri, 2001). Thus, it is required a concept of coastal and small islands spatial planning which is appropriate with their local conditions.

However, spatial planning of coastal area and small islands is not only considered their local potentials, but also their issues and problems. One of the problems which is obstructed the development of coastal and small islands is lack of infrastructures and facilities, such as roads, waste management system, and drainage. Generally, the availability of infrastructures and facilities in coastal and small islands are very restricted. Their conditions are also poor. Moreover, the condition of coastal settlements is not appropriate with standard of proper settlement. Thus, the providing of coastal infrastructures and facilities and the improvement of settlement (housing) conditions are needed in developing coastal and small islands.

This study aims to identify challenges and opportunities of infrastructure development and settlement system at Kerayaan Island, Kerasian Island, and Kerumputan Island in Pulau Laut Kelautan District, Kotabaru Regency. The infrastructures consist of roads, waste management, and drainage system, and also settlement system, such as housing types and settlement patterns in coastal and small islands. The result of this study can be used as considerations for government for developing coastal infrastructures and improving the quality of settlement system.

2. Methods

The data of this research was gathered from field survey by using questioners and in depth interview. Study sites are 5 villages where 2 villages located in the main land, and the rest located in the small island. Variables of this research are settlement (including housing types, housing construction, settlement and patterns), road, waste management, and drainage (those including condition, problems, and potencies). This paper used descriptive approach to describe the variables. Evaluative method was used to indentify current condition to standard especially for settlement. SWOT was applied to give better sight and elicit opportunity and challenge of settlement and infrastructure development in the study sites. SWOT is strategic planning tools. This paper only focuses on identifying strength, weakness, opportunity, and threat. The finding will be summarised. Then, challenges and opportunities can be obtained.

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