

FINAL REPORT

FEASIBILITY STUDY ANALYSIS OF EMPOWERMENT AND ECONOMIC IMPROVEMENT ACTIVITY OF COASTAL PEOPLE IN KUBU VILLAGE, SUNGAI BAKAU VILLAGE, TELUK BOGAM VILLAGE, AND KERAYA VILLAGE KUMAI DISTRICT WEST KOTAWARINGIN REGENCY THROUGH ALTERNATIVE BUSINESS OF PEOPLE IN ORDER TO SUPPORT DUGONG AND SEAGRASS CONSERVATION



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PREFACE

Writer's praise and gratitude be to Allah SWT who always pour out grace and gifts so writer could finish Study Report Alternative Livelihood (AL) for Kumai's Coastal People as a form of responsibility in "Feasibility Study Analysis of Empowerment and Economic Improvement Activity of Coastal People Kubu Village, Sungai Bakau Village, Teluk Bogam Vilage, and Keraya Village Kumai District West Kotawaringin Regency Through Alternative Business of People in Order to Support Dugong and Seagrass Conservation" activity.

Writer realize that this writing will not finish without any input, suggestion, and mant parties either directly or indirectly that summarized in the results of this writing. Therefore, in this occasion the writer expressed its deepest gratitude to :

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Author hopes this article can be part of the information for all readers and can be useful for all of us. Finally, the authors hope inputs, criticisms, and suggestions from all readers to be materials for writers to be able perfecting writings in the future.

Pangkalan Bun, April 2018

UNTAMA STUDY TEAM

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CHAPTER I

INTRODUCTION



Study of Empowerment and Economic Improvement of Coastal People of Kubu, Sungai Bakau, and Teluk Bogam Village, Kumai District, West Kotawaringin Regency Through People's Alternative Business in Order to Support Dugong and Seagrass Conservation

1.1. Background

Fisherman is part of group of people that lives in coastal areas. Generally, they are a group of underdeveloped people who are at the lowest level, either underdeveloped economically, socially, nor culturally. Because their income is still dependent on natural condition, it is hard for them to change their lives for the better. As a traditional fisherman, not only faced with the uncertainty of income and the pressure of long fish famine season, but they also faced the financial and marketing management of their products.

In addition to the prosperity and economy problems of coastal fisherman, the utilization of marine resources is also intersect with sustainability of the marine resources itself. Fish resources sustainability is a very popular term in the management of captured fisheries. Sustainable fish resources is always be the key words as one of the objectives of fisheries management. This goal always comes along with the prosperity of fisherman. Fish sustainability and prosperity of fisherman are the meaning of sustainable fisheries. If the fish is sustainable, the fisherman can always catch fish, which is the present fisherman and also the next generation fisherman, because fish remain in the sea now and in the

future. One of the fish resources that currently require more intense conservation handling is dugong fish.

Various efforts have been made by government to try improving prosperity level of fisherman community, either through the distribution of fishing equipment, easy access to funding, or through coastal community empowerment program, where all these programs aim to improve prosperity of coastal people, including fisherman. However, not all programs are right on target and the results obtained are not as expected.

Environmental conservation activity as an effort to sustainability also have to be balanced with the improvement of the community's economy, because conservation program will not run without the prosperity of the people in conservation area.

Therefore, a thorough study is needed to know the factors that will hamper conservation program that related to prosperity of surrounding society and to formulate business alternatives for coastal people West Kotawaringin Regency especially in Kubu, Sungai Bakau, Teluk Bogam, and Keraya Village, Kumai District which directly intersect with dugong fish and seagrass conservation program in West Kotawaringin Regency.

Along with the efforts of all stakeholders to maintain the sustainability of dugong species and seagrass from extinction, but can provide alternative fisherman activity who located in dugong and seagrass habitats and areas, therefore a study is needed to picture and find alternative livelihood for fisherman and people around planned conservation area. This will be able to be an option for the run of conservation activities and also the life of fisherman around.

The making of the AL study has reach at final report, which contains the results of study in the form of potential alternatives livelihood study in Kubu, Sungai Bakau, Teluk

Bogam, and Keraya Village, including external and internal factor, and also SWOT analysis for the region, scoring analysis and alternative livelihood analysis for Kubu, Sungai Bakau, Teluk Bogam, and Keraya villagers.

1.2. Intents, Aims, and Objectives

1.2.1. Intents

The intents of making the Final Report AL study in coastal areas are as a report for the development and design of alternative livelihood enhancement for coastal communities, especially in the Kubu, Sungai Bakau, Teluk Bogam, and Keraa Village as the areas that directly related to the habitat and location of dugong and seagrass conservation in West Kotawaringin Regency.

1.2.2. Aims

The purpose of making the Final Report AL study in coastal areas are as an explanation of the purpose of study and make technical plans for alternative livelihood coastal people as a substitute activities in seagrass habitat. While the purpose of AL study in coastal area of Kubu, Sungai Bakau, Teluk Bogam, and Keraya Village Kumai District are as follows :

- a. Looking for alternative livelihood for fisherman affected by dugong and seagrass conservation activities.
- b. Improving people's economy through business alternatives for coastal people.
- c. Creating a friendly dugong and seagrass conservation area to people's economic activity.

- d. Produce a alternative livelihood formulation for people as a guide for developing coastal villages.

1.2.3. Objectives

The objectives for this AL study are the coastal people of Kumai District especially fisherman in Kubu, Sungai Bakau, Teluk Bogam, and Keraya Village.

The goals of final report making are :

- a. Examine the formulation of existing conditions, potentials, and problems about alternatives business for the people, based on information that was extracted from the people through FGD and discussions with people, village apparatuses, and other stakeholders;
- b. Reviewing the formulation, results of analysis, as input and reference in making alternative business plans for coastal people.

1.3. Scope

The scope of AL study of coastal areas are : Scope of territory, scope of activities, and scope of time. Detail of scope of activity are as follows :

1.3.1. Scope of Territory

The territory scope of this Alternative Livelihood study is coastal area that focused to Kubu, Sungai Bakau, Teluk Bogam, and Keraya Village, Kumai District, West Kotawaringin Regency.

1.3.2. Scope of Activity

The activity scope of this AL study consist of several stages of process, including :

1) Preparation, including :

- a. Work preparatory phase, such as : provision of resources and activity executor that consist of several experts both from economic experts, fisheries experts, surveyors, and also administrative personnel.
- b. Preparation of initial survey

2) Data Collection, including :

The collection of primer and secunder data, information, and studies that already and currently held related to AL study.

3) Study/Analysis

Analysis of data from survey and collected information are done using SWOT analysis to get comprehensive data and able to be a guide in empowerment of coastal people that attend the conservation program.

4) Formulation of AL concept:

5) Making of Middle Report and Activity's Final Report

1.3.3. Scope of Time

The AL study was done in 2 months or 60 days and resulting a recommendation of activities of alternative livelihood for people to support dugong and seagrass conservancy in West Kotawaringin Regency.

1.4. General Definitions

General definitions that related with the making of AL study could be explained in interpretations below.

- 1). **Plan** is the process of structuring, utilization, and controlling, utilization in this regard is space;
- 2). **Space** is a container that includes land, sea, and air, including space on the earth as a unity of territory where humans and other creature lives, do activities, and maintain their survivals.
- 3). **Regional Government** is the Governor or Mayor, and the regional apparatuses as an element of the regional administration;
- 4). **Spatial Planning Arrangement** is an effort to form legal basis for the government, regional government, and society in spatial planning;
- 5). **Territory** is a space which is a geographical entity with all elements related to it which limits and the systems are determined based on aspects / observations of government administration and / or functional aspects / observations;
- 6). **Area** is an area having function and / or certain functional aspects / observations;
- 7). **Protected Areas** are designated areas with the primary function of protecting the environment which includes natural resources and artificial resources;
- 8). **Nature Preserve Area** is a nature reserve area due to its natural condition has its own peculiarities of plants, animals, and certain ecosystem, which need to be protected and natural development;
- 9). **Nature Park Area** is a nature conservation area that is mainly used for nature tourism;

- 10). **Nature Reserve Area** is a region with certain characteristics, both on land and in waters that have basic function that has a Urban Spatial Detail Plan Guideline (RDTRK) function for preserving the diversity of plant and animal species and their ecosystems;
- 11). **Cultivation Area** is a designated area with main function to be cultivated based on conditions and potentials of nature resources, human resources, and artificial resources;
- 12). **Habitation Areas** are part of the environment outside the protected area, both in urban and rural areas that function as residential environments and places of activities that support livelihoods. Also with structured infrastructure and facilities;
- 13). **Water Resources Conservation** are all efforts to preserve, protect, secure, defend, and strive for the sustainability of harmonious and useful water resources throughout the time;
- 14). **Society Participation** is a variety of community activities arising from the will and desire in the community, to be interested and move in the implementation of spatial;

CHAPTER II

DESCRIPTION OF STUDY'S LOCATION

Study of Empowerment and Economic Improvement of Coastal People in Kubu, Sungai Bakau, and Teluk Bogam Village, Kumai District, West Kotawaringin Regency Through People Business Alternatives in Order to Support Dugong and Seagrass Conservation

2.1. Profile of Kumai District

2.1.1. Condition of Geography and Administration

As one of the district located in West Kotawaringin Regency, Kumai District is the most populated second after South Arut District. It's located pretty close to business center and the government of Pangkalan Bun City and that makes this district becomes a deal place for natives and immigrants to settle. Even many transmigrants are stationed in this area.

In addition, Kumai District has commercially marine port facilities and pretty crowded industrial ports that make Kumai very strategic to be visited. One of the most well known internationally in Kumai District is Tanjung Puting National Park (TPNP) that located in Sungai Sekonyer Village. Every year thousands of foreign tourist come to travel to TPNP.

Most residents of Kumai District work on agriculture, forestry, fisheries, and the mining sector. In the plantation sub sector, there is 1 palm oil plantation company located in Kumai District. The mining sector is quite stretched in this district because of the considerable high number of traditional miners in this area.

Geographically, Kumai District located in the south of West Kotawaringin Regency. In 2003 Kumai District was divided into 3 districts which are : Kumai District, Pangkalan Banteng District, and Pangkalan Lada District. Kumai District is adjacent to South Arut District, Pangkalan Bateng District, and Pangkalan Lada District in the north, adjacent to Java Sea in the south, adjacent to Seruyan Regency in East, and adjacent to South Arut District in the west. While topography of the surface of this district relatively flat, some of the villages are located in coastal area with few hills.

Kumai District is the widest district in West Kotawaringin Regency with 2,921 km² area or 27,15 % of the regency area. Sungai Sekonyer Village is the widest village with 791 km² area or 27,08 % of the Kumai District area. While the smallest is Kelurahan (Village) Kumai Hulu with 18 km² area or 0,62 % of Kumai District.

The boundaries of the Kumai District with surrounding region :

- The northeren part borders with Arut Selatan, Pangkalan Lada, and Pangkalan Banteng Districts.
- The souteren part borders with Java Sea
- The eastern part borders with Seruyan Regency
- The western part borders with South Arut District.

Kumai District Area consist of 15 villages and 3 kelurahan, which are :

1. Kelurahan located in Kumai District Area

- Kelurahan Kumai Hulu
- Kelurahan Kumai Hilir
- Kelurahan Candi

2. Village located in Kumai District Area

- Sungai Tendang Village
- Sungai Kapitan Village
- Batu Belaman Village
- Bumi Harjo Village
- Pangkalan Satu Village
- Kubu Village
- Sungai Bakau Village
- Teluk Bogam Village
- Keraya Village
- Sabui Village
- Sabui Timur Village
- Teluk Pulau Village
- Sungai Sekonyer Village
- Sungai Cabang Village
- Sungai Bedaun Village

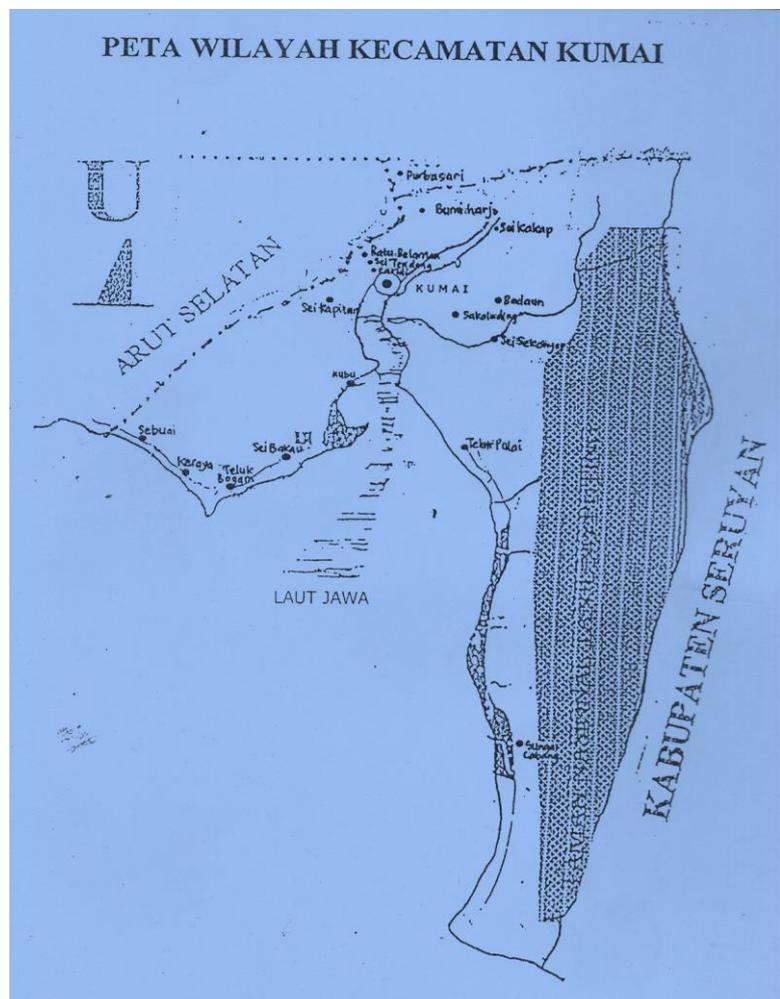


Figure 1 Map of Kumai District Area

2.2. Profile of Coastal Area of Kumai

2.2.1. Stratigraphy

West Kotawaringin Regency is one of the regency in Central Kalimantan that by BATAN- Alcomin (1972-1973, see Hermanto, *et al.* 1994), so most of the Central Kalimantan area is included in the Cekungan Barito and the other part is the east west of Paparan Sunda. According to Nila, *et al.* (1995) stated that Cekungan Barito's stratigraphically formed by Kwarsit (quartzite) stones and Gunungapi stones. Fresh state quartzite stones are yellowish brown and after oxidation will change color to redness. Based on the similarity of stones in Tewah sheet (Sumintadipura, 1976 in Nila, *et al.* 1995), the quartzite stones are estimated to be Triassic.

2.2.2. Topography

Topography Regency of West Kotawaringin is classified into four parts, which are, flatland, choppy flatland, hilly wavy areas, and hilly terrain that consist of :

- Northern side that is hilly area, and kind of lotosal land resistant to erosion.
- Central side is a lowland area, 25-100 meters above sea level. This area is a tropical forest area.
- Southern side is a vast sea area, which is a lowland with height of 0-10 meters above sea level.

Topography consist of coastal area and swamps with height of 0 – 50 meters from sea level with slope 0 – 8 %, while the hills have an average height 25 %. For coastal areas and swamps is in the southern area, flatland and hills is in the central area, while the mountains is in the northern area.

2.2.3. Bathymetry

Based on Physical Map of Sea and Coast area of Central Kalimantan that issued by Archiegama in 2001, it was found that the waters under the sea West Kotawaringin Regency generally have relatively low bathymetry condition with average depth less than 30 m.

2.2.4. Patterns of Ocean Currents

Indonesia's sea have ocean currents pattern that influenced by the southwest monsoon (October – March) and southeast monsoon (April – September). The influence of these two monsoon is clearly visible on the beach which is precisely located in the southern part of the Kalimantan Island.

Simulation results show the pattern of average currents movement monthly generated by the wind. Changes in the direction of currents that generated by shorter tidal (daily) in comparison with wind period (seasonal). Thus, to know monthly average currents pattern in South Kalimantan sea waters, the force generating current that reviewed (as input model) is only wind. The monthly average flow generated by the model shows the dominant flow happened that month.

2.2.5. Tidal

Based on the results of tidal forecasting of several stations located in South Kalimantan waters, can be informed variations of tidal upside-down. Results of the study shows tidal upside-down range from 47,35 cm in Tanjung Keluang (Tanjung Penghujan), until 321,54 cm in Sampit Bay. Generally, the lowest tidal upside-down is in western waters and get higher as goes to east. Central Kalimantan waters generally have mixed tidal type, tend to diurnal (mixed tide prevailing diurnal). The occurrence pattern of this

type of tidal is in 1 day can occur 1 times at high tide and 1 time during low tide but also can occur 2 times during high tide and 2 times during low tide with very different high elevation between peaks.

2.2.6. Waves

The general pattern of wave propagation in west and east season could be described as follows :

East Season, the general pattern of wave propagation in West Kotawaringin waters follows the prevailing happening seasonal winds, which is east season wind. The results of model simulation shows that waves move in accordance with the movement of the east season wind, which is from east to west with tendency to move in a perpendicular to the beach when the wave approaches the coast, with inner wavelengths in the range of 0,5 – 1 m.

West season, waves characteristic of deep water in West Kotawaringin strengthened in accordance with the west monsoon that tend to blow faster than the east season. Significant wave heights in West Kotawaringin waters ranged between 0,75 to 2 m, with the direction of propagation from west to east.

2.2.7. Human Resources

Table 1. Demography of Coastal Villagers, Regency of West Kotawaringin

No	District	Village	Areas (Km ²)	Population (people)	Number of KK	Population Density (People/Km ²)
1	Arut Selatan	1. Tanjung Putri	19,0	1.602	619	84,32
2	Kumai	2. Sei Cabang Timur	333,0	879	170	2,67
		3. Teluk Pulai	478,0	366	76	0,77
		4. Kubu	122,0	2.724	574	22,3
		5. Sungai Bakau	111,0	1.436	305	12,9
		6. Teluk Bogam	82,0	1.069	241	13,0
		7. Keraya	78,0	531	121	7,4
		8. Sungai Bedaun	403,0	2.644	601	6,6
		9. Kapitan	90,0	3.619	772	40,2
		10. Kumai Hulu	18,0	7.910	1.586	439,4
		11. Kumai Hilir	82,0	1.512	7.337	18,4
		12. Sungai Sekonyer	791,0	318	70	0,4
		13. Sebuai	97,0	792	168	8,2

Source : Processed from district and regency in numbers, 2007

Characteristic of people in the coastal area of West Kotawaringin Regency, Central Kalimantan is dominated by Banjar, Mendawai, and Bugis ethnic people. Other ethnic are Dayak, Jawa, Sunda, and Madura ethnics.

2.2.8. Health and Education

Educational facilities in coastal area of West Kotawaringin Regency are Primary and Madrasah Ibtidaiyah, Junior High School and Senior High School. People who continue to the next level must go to the city of district nor regency. Health facilities are generally Puskesmas Pembantu (Pustu), Meanwhile in regency there is puskesmas already.

2.2.9. Culture

With the application of uniform system of village government in New Order era, it urged the existence of the system of tradition government. However, in villages, there are

informal leaders outside the formal leader (Village head), such as religious leaders, shaman, etc.

Community grouping based on fishing technology are found in these coastal people, such as fisherman group of sungkur users, group of basic lampara users, and group of ponds farmers. Each group usually has an elderly character. Through these figures settlement is done if a problem occurs between groups.

2.2.10. Social-Economy of Coastal People

Economy activities of coastal people can be seen from the size of the existing economic sectors and economic institutions that are subsystems that support the region's economic activities.

Economic activities of coastal communities mostly include agriculture, fisheries, and trade sectors. The trade sector includes marketing/commerce of agricultural and fishery products from coastal areas to market centers (urban areas) and marketing industrial goods produced in urban areas to markets in coastal areas. As seen from existing social institutions, fishermen generally don't have customary rules in fishing, such as Sasi in Maluku or Panglima Laut in Aceh. Fishermen in this region can freely catch fish according to their ability throughout the year. Thus the applicable rules in catching fish adhere to the principle of *First Come, First Serve*.

The institutional system that exists in efforts to catch fish in this area is in the form of an economic institution that is the relationship between performer (actor) in fishing organization from fisherman level up to the consumers. Fishing institutions related to fishing business include fisherman groups, fishing input facilities, and fish sellers. Fisherman/Farmer group is one of the smallest organizations of fisherman/fish farmer, with

the formation of these groups, it is easier for the relevant institution in doing technical development nor business management in hope of technical improvement business management and also could increase income level.

Types of guidance to fisherman/fish farmer groups, which include: technical training in fishery field (fishing, fish cultivation, processing), pilot and business management also striving for providing package of facilities production, fishery tool such as ship engine, fishing tools, cool box, seeds, fish feed, equipments, and also strengthening funds for the development of fishery business.

2.2.11. Artificial Resources and Environmental's Service

Artificial resources and environmental services can be a ports, markets, freight and people terminals, shipyards, restaurants, lodging/hotels, marine tourism areas, conservation areas (marine conservation and national park).

Facilities and Infrastructure that support fishery business in coastal area of West Kotawaringin Regency, Central Kalimantan included :

- FLB (Fish Landing Base) of 1 unit
- Modern Processing (Cold Storage) of 2 units
- Ice Factory of 5 units
- Mini Ice Flake machine capacity of 1,5 ton of 5 units
- Fish meal processing factory
- Pond irrigation channels
- Road access production

2.2.12. Shore/Beach Tourism

Coastal/beach tourism objects that are widely known are nature tourism, beach tourism, and Tanjung Puting National Park. Tanjung Puting National Park is famous for primate / orang utan, beach tourism is located at Kubu Beach and Tanjung Penghujan. Another potential beach tourism objects to be developed are in Tanjung Keluang, Senggora(diving tourism), Tanjung pandan. These potential objects are still in development, so it is expected to attract domestic tourists.

CHAPTER III

BUSINESS ACTIVITY OF COASTAL PEOPLE

(KUBU VILLAGE, SUNGAI BAKAU VILLAGE, TELUK BOGAM VILLAGE, AND KERAYA VILLAGE)

Study of Empowerment and Economic Improvement of Coastal People in Kubu, Sungai Bakau, and Teluk Bogam Village, Kumai District, West Kotawaringin Regency Through People Business Alternatives in Order to Support Dugong and Seagrass Conservation

3.1. CATCHING ACTIVITY

Physically, West Kotawaringin Regency is a fish bag of Central Kalimantan, especially fish from the catch in the sea waters and in public waters. This fact is an opportunity for the fishery business to improve marine development and fishery. On the other hand, in order to business diversification, cultivation business and the management also has a strategic role for increasing the quantity of business so that equity and development can be achieved.

Table 2. Quantity of Catching Fleet in West Kotawaringin Regency

No	Village	Type of Ship/Boat			
		Ship Without Engine	Motor Boat 0 – 3 GT	Motor Boat 3 - 5 GT	Motor Boat 5 - 15 GT
1	Sungai Cabang	5	62	10	10
2	Teluk Pulai	8	45	5	--
3	Kumai Hulu	10	21	15	10
4	Kumai Hilir	10	92	15	15
5	Sei Kapitan	11	59	22	14
6	Kubu	15	64	25	47
7	Sungai Bakau	13	81	14	55
8	Teluk Bogam	9	126	28	15
9	Keraya	10	45	2	4

10	Sebuai	8	28	10	7
11	Tanjung Putri	5	35	27	-
	Jumlah	104	658	173	177

Source. Marine and Fisheries Agency 2011

The general waters of West Kotawaringin Regency that consisted of tidal swamps area have potential of 10.800 ton/year and only 1.040,06 ton/year (9,63%) is utilized, meanwhile in sea waters is ± 25.00 ton/year and only 8.014,92 ton/year (32,06%) is utilized.

Fish Production in marine waters continues to grow if supported by the addition of fishing fleet and better fishing gear. Due to the fish season, many outer fisherman entering the water territorial of West Kotawaringin Regency to catch fish by better boat and fishing tools. Fishery Household (FH) of fishing business in sea waters are as much as 1.604 FH or 4.302 people in 2015. We can show distribution of fishing activities in the following figure.

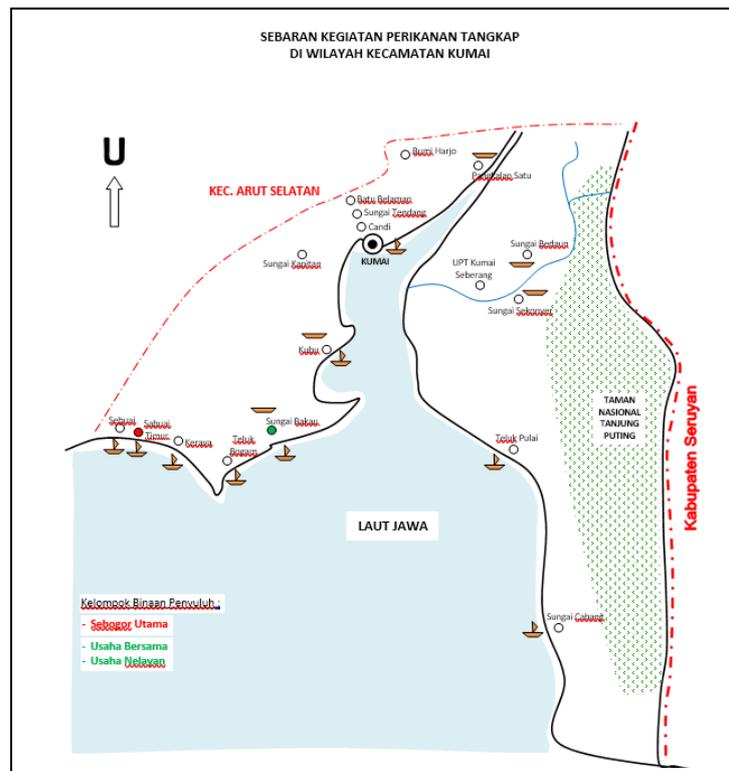


Figure 2 Catching Areas of Kumai Coast

Some of fish types from fishing in ke coastal area of West Kotawaringin Regency are as follows :

Table 3 Types of Marine Fauna in West Kotawaringin Regency

No.	Types	Local Name	Latin Name
1	Fish { <i>Pisces</i> }	Tongkol	<i>Katsuwonus Pelamis</i>
		Petek	<i>Leloganathus Splendens</i>
		Petek	<i>Leloganathus spp</i>
		Petek	<i>Secutor spp</i>
		Biji Namgka	<i>Upeneus Sulphurens</i>
		Kiper	<i>Scatophagus argus</i>
		Kurisi	<i>Nemipterus Hexodon</i>
		Buntal	<i>Tetrodontidae</i>
		Bloso	<i>Saurida spp</i>
		Sebelah	<i>Psettodes Erumei</i>
		Bawal Putih	<i>Pampus Argenteus</i>
		Alu-Alu	
		Daun Domba	
		Kuro	<i>Polynemus spp</i>
		Gulamah	<i>Sciamida</i>
		Layur Remang	<i>Congrseox Talaban</i>
		Selangat	<i>Anadontostoma Chacunda</i>
		Lidah	<i>Cynoglossus spp</i>
		Sriding	<i>Apogonidae</i>
		Mata Bulan	<i>Priacuanthus spp</i>
		Gerot-Gerot	<i>Pomadasyis spp</i>
		Kerong-Kerong	<i>Therapon spp</i>
		Kacangan	<i>Silago Sihama</i>
		Manyung	<i>Airus spp</i>
		Bambangan	
		Cucut	
		Selar	
		Kembung	<i>Rastrellinger Brachysom</i>
		Teri	<i>Stotephorus Brachysom</i>
		Talang-Talang	<i>Chorinemus spp</i>
Tenggiri	<i>Scomberomorus Ommersion</i>		
Japuh			
Tenggiri Papan			
Kerapu			
Ekor Kuning	<i>Albuba Vulves</i>		
Bandeng	<i>Fomio Niger</i>		
Bawal Hitam	<i>Tlygam Pepae</i>		
Pari	<i>Evinephalus Paurina</i>		
Kakap	<i>Isthopanus sp</i>		
Layaran	<i>Dugong-Dugong</i>		
Duyung	<i>Pugi Chelapus</i>		
Belanak	<i>Penaeus Indicus</i>		
2	Shrimp (<i>Crutacea</i>)	Udang Putih	<i>Penaerus Monous</i>
		Udang Windu	<i>Penaerus Monodon</i>
3	Crab	Crab	<i>Partunus Velagius</i>
4	Squid (<i>Chepalopoda</i>)	Cumi	<i>Loligo Vulgaris</i>
5	Sea Turtles	Penyu Hijau	<i>Chelonia Mydas</i>
6	Jelly Fish	Ubur-Ubur	<i>Jelly Fish</i>

Source. Marine and Fisheries Agency West Kotawaringin Regency

However, caught fisheries business in West Kotawaringin Regency have many problems and obstacles, some of those problems are :

A. Fisherman's Internal Problems

(1) Traditional Capture Technology

Although there are a lot of coastal fishing fleet in Kotawaringin Regency, however it dominated by small fishing fleet. The total fleet above consist of 54 % boats without engine, 25 % patched motor boat, 21 % motor boat. With such a fleet structure, it will be difficult to expect Indonesia's fisheries production to be increased quickly. Boats without engine and patched motor boat only able operated in coastal waters. This has implication for (i) low production due to low productivity, (ii) the possibility of overfishing in coastal waters due to high capture density, and (iii) potential conflicts among fishermen due to high density and the extension of catch areas that are only horizontal (neighboring territorial waters) and not vertical.

The relatively large fishing fleet in the form of motor boat still dominated by size below 5 GT (67 %) and only 3% of fleet catching with size above 5 GT GT. That indicate that the range of these ships is also limited. Though one alternative to solve over fishing in coastal waters and increased marine fisheries production is to direct the target of catching into exclusive Economic Zone waters which have not been utilized optimally.

(2) Insufficient Fund

One of the reasons undeveloped capture fishery business optimally, is due to limited funding, either investment funding or venture funding. Yet if viewed from the necessary fund that needed, capture fishery business needed relatively huge funding, for example if compared to agriculture food crops.

Some of the problems in funding of capture fishery business are :

- Attachment to ship owner
- The inability of banks to provide credits
- Failure of government's programs for providing credit schemes

(3) Human Resources

In quantity, the number of fishermen in West Kotawaringin Regency keep increased. However, this escalation is not in line with the quality of fisherman because the escalation number of fishermanis not coming from special skill resources and generally low educated. Judging from the level of education, most fishermen are elementary school graduates and even never received formal education at all. This condition, of course, has implications for the acceptability for new technology – although it is to help them. Especially on the mastery of advance and sophisticated technologies that can increase the productivity of the catch.

B. Fisherman's External Problems

(1) Changes in Potential of Fish Resources

The declined in resources stocks mainly occurs in coastal waters where fishing operations are concentrated with such intensive fishing. As for the territorial offshore waters and ZEEI sea, that potential is still relatively large.

The alternative to solve those problems is, inevitably, have to divert the destination of his capture to more distant waters, which is to the waters of ZEEI.

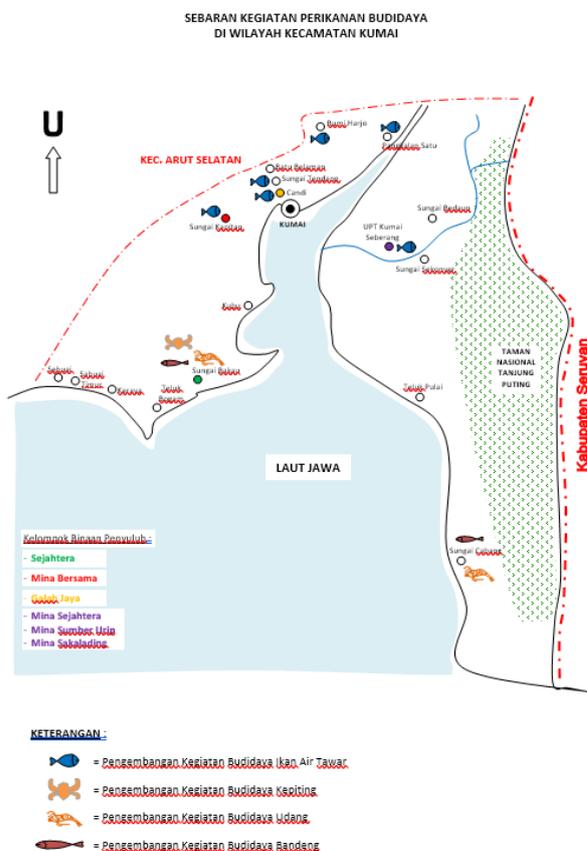
(2) Limited Supporting Facilities and Infrastructure

(3). The policy for fishing field remains unclear and has not provided significant results for increased fisheries production and fisherman's prosperity

3.2. FISH CULTIVATION ACTIVITY

The development of fish farming in the coastal area of West Kotawaringin Regency is depends on development of seawater and freshwater aquaculture products, although in recent years people have been working on fresh water fish cultivation. The development of marine aquaculture is located in Kumai District. Marine aquaculture that has been developed includes the cultivation of sea cucumbers and seaweed. Sea cucumbers and seaweed cultivation activity developed in Sungai Bakau and Teluk Bogam Village. Cultivation of sea cucumbers has 34 Ha potential, but only used for 4 Ha which managed by 25 RTP in Sungau Bakau Village. Seaweed cultivation activity is managed by 55 RTP with 25 Ha land area consists of 225 units with production of 400 tons. Production and productivity of seaweed in West Kotawaringin Regency is strongly influenced by the season, in high rainfall and waves season is the biggest problem in seaweed production.

Meanwhile the development of brackish water aquaculture is located in Kumai and South Arut Districts. Aquaculture of brackish water fisheries that have been developed include windu shrimp ponds, milkfish, and soka crab. The activity of windu shrimp and milkfish farmings are in Sungai Bakau, Sungai Cabang, and Tanjung Putri Village, meanwhile soka crab farming developed only in Sungai Bakau Village. Pond cultivation business in West Kotawaringin Regency has potential of 35,200 Ha. However, the potential is only open to 766,00 Ha pond and from all opened pond, only 681 Ha or 400 units that are actively operated in Kumai District and 85 Ha or 51 units in South Arut District.



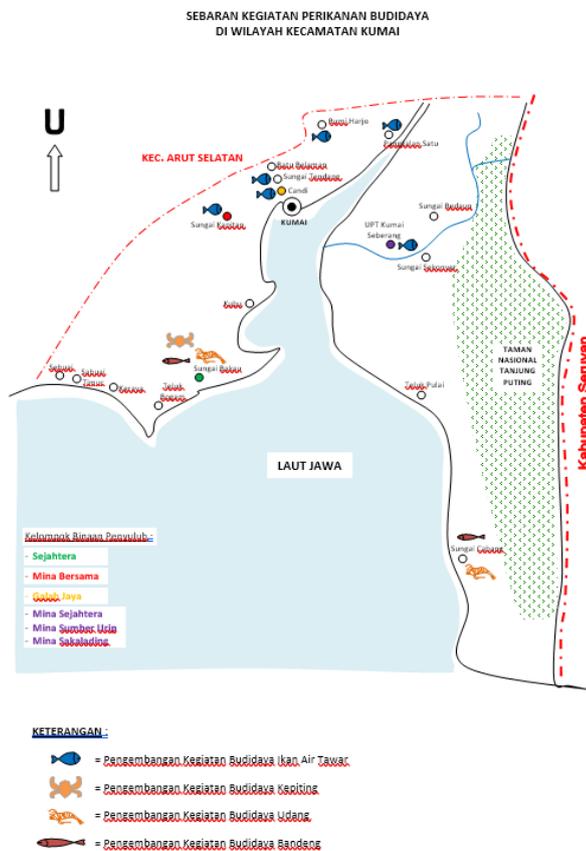


Figure. 3 Fish Cultivation Areas of West Kotawaringin Regency Coast

3.3. FACILITIES AND INFRASTRUCTURE SUPPORTING BUSINESS

Some supporting facilities and infrastructures that can support the fishery business runnign smoothly in West Kotawaringin Regency are as follows :

1) Fish Seed Center

From fish cultivation in ponds and keramba in West Kotawaringin Regency, the need for seeds is 2 million fish per year, which is supplied from Pinang Merah Feed Seed Center (FSC) of 465,917 fish, while the rest is from results of UPR and came from outside

the region by the cultivators which are generally have uncontrolled quality, because in general they don't require the origin and certificate of seed.

To achieve the needs of 6,4 million windu shrimp for farmers, Windu Shrimp Seed Center could only supply 411,000 seeds and the rest is from Java Island which the quality is also uncontrolled. While the need for milkfish (nener) is as much as 2,1 million seeds were all come from outside the region.

Galah Shrimp Seed Center in Sungai kapitan Village, Kumai District has been able to produce 18,367 seeds, but up until now that seed center still have difficulty in marketing to farmers. This is because the farmers are still inexperienced and don't believe in the success of Galah Shrimp farming business. Whereareas the results of the galah prawns in Natai Raya Village, South Arut District shows the development and good production, and also profitable.

2) People Hatchery Unit (UPR)

There are 2 units of UPR in West Kotawaringin Regency that each located in Sagu Village, Kotawaringin Lama District and in Berambai Makmur Village, Pangkalan Banteng District. It is hoped that the both of the UPR could help overcome the problems of fish seeds, considering these two districts located relatively far away with Fish Seed Center.

3) Fish Landing Base (TPI)

There is one unit of TPI located in Sungai Kapitan Village, Kumai District. Up until now TPI still has not been able to run optimally fit with its function because of some

factors. However, improvement and guidance especially on fisherman continue to be done so that TPI could functioning properly and can facilitate the business activities for fisherman.

4) Dealers Fishermen Filling Station (SPDN)

There are 4 SPDN units with 50 – 65 KL capacity each month. The four SPDN are located in Kumai District, which are Kumai Hilir, Kubu, Teluk Bogam and Keraya Villages.

5) Fish Market

West Kotawaringin Regency has 1 unit of fish market located in Kumai Hilir Village and some other general market which also sell fishery products.

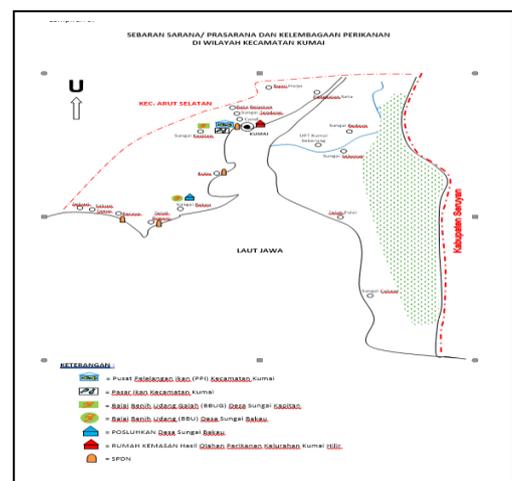


Figure. 4 Map of Facilities and Infrastructure location

CHAPTER IV

ALTERNATIVE LIVELIHOOD OF COASTAL PEOPLE

(KUBU VILLAGE, SUNGAI BAKAU VILLAGE, TELUK BOGAM VILLAGE, AND KERAYA VILLAGE)

Study of Empowerment and Economic Improvement of Coastal People in Kubu, Sungai Bakau, and Teluk Bogam Village, Kumai District, West Kotawaringin Regency Through People Business Alternatives in Order to Support Dugong and Seagrass Conservation

Fishermen are people with fishing livelihood. The meaning of livelihood is the main source of income in fulfilling the necessities of life by catching fish. Fishermen can be classified as the lowest income population or categorized by the poor, and generally they live in the coastal areas. Their businesses are affected by the fishing season, the natural conditions, the low level of education, and economic problems such as limited funding so that businesses are not developed, traditional fishing equipments, undeveloped transportation, unfavorable economic institutions, and fishermen's position in determining price is still low. This has resulted in most of the fishermen's households is economically weak and living so poorly, so to fulfill their daily needs still require family members to manage their business in improving productivity and family's income (Momongan, 2006).

Fishing activities in the sea is a choice of activities that engaged but can also be said to be an activity that became family's economic backbone. But in reality, fishermen activity in catching fish is greatly dependent on weather which in certain seasons

especially if there is large waves due to strong winds, forcing fishermen to not go to sea. If fishermen could not go to the sea, so to fulfill their daily needs they have to get loans in the stalls around. Sometimes they can not get the loans so they tried to get out from their economical problems with their own way. Activities that fishermen do to meet their life needs or family's economic needs when they do not go to the sea is called alternative activity. To know the alternatives that fishermen choose when they do not go to the sea, then it is deemed necessary to do research about alternative activity fishermen do when they do not go to the sea.

Alternative activities are activities that fishermen do when they do not go to the sea due to unfeasible natural conditions, there are restrictions on certain areas as part of conservation programs or other causes that made fishermen could not carry out their normal activities. The interruption of fishing activities with various causes actually can be filled with various useful activities and can provide additional income for fisherman. For example, fishermen can repair their won motorboats without bringing them to workshops, fishermen can cultivate freshwater/seawater/brackish fish and sell it to market, fishermen's wives can fill their daily time by making various form of processed fish and selling them, or spend their time by making craft shells which they can get the raw materials easily around their environment.

However, one of the fundamental problems that block the realization of that expectation is lack of knowledge of fishermen on these supporting activities. Various efforts have been made by the government either through central government program by Marine and Fisheries Agency or through region government program by Fisheries Agency,

but some of those programs have not fully succeeded in becoming an alternative business for coastal people.

Several business alternatives for the coastal people of West Kotawaringin Regency in Kubu, Sungai Bakau, Teluk Bogam, and Keraya Villages in some limited discussions are alternative business such as : seaweed cultivation, shrimp / ponds cultivation, daun ujung atap cultivation, fisheries processing either salted fish, dry fish, ranjungan meat, nor alternative business in support Bogam Raya tourism program also one business alternative in the form of spirulina cultivation that needs to be promoted for coastal people in West Kotawaringin Regency.

4.1. Seaweed Cultivation

Utilization of seaweed nowadays is widespread and very diverse due to increased knowledge of these commodities. According to Chen & Duan (2000), seaweed is widely used as a food for human, as medicinal substance (anticoagulant, antibiotics, antimehmetes, antihypertensive agent, cholesterol reduces, dilatory agent, and insecticides). Seaweed is also widely used as a feed for organism in the ocean, as a fertilizer for plants and soil, as excellent traspot packers for lobsters and live clams (especially *Ascophyllum* and *Focus* types), as a liquid stabilizer, and any other uses. The development of current derivative products has also been widely processed into paper, paints, cosmetic ingredients, laboratory materials, toothpaste, ice cream, and others (Indriani & Suminarsih, 1999).

Seaweed cultivation, as the needs for seaweed is increased, to meet the need both domestically and internationally, while increasing coutry's foreign exchange from non-oil sector, so the best way to not always rely on supply of carbon based resources is to do

cultivation (Ask & Azanza, 2002). Up until now, the biggest production is Agar Karaginan Alginat product with types of seaweed *Acanthopeltia Chondrus Ascophyllum Gracilaria Euchema Durvillea Gelidella Gigartina Ecklonia Gelidium Hypnea Turbinaria Pterocclaidia Iriclaea Phyllophora* Sources: Eka & Nur (2006). Based on data from Marine and Fisheries Agency, that about 99,73 % Indonesia's seaweed production comes from cultivation. This can happen because the potential of marine nature is very supportive that almost can be done in all parts of Indonesia. According to Asaad *et al.* (2008), one of the advantage of seaweed cultivation is needed a lot of labor. Economic activity such as farming, fishing, fish farming that were originally the main livelihoods have shifted into secondary sources of income. The needs of workforce for seaweed cultivation also does not consider gender and age. Approximately 75% - 80% of the sequence and workload related to seaweed cultivation are conducted equally by men and women. The basic of equal distribution work is the availability of adequate workforce, easy work that can be done by anybody, the relatively big value of rupiah, and the absence of views that distinguish the role of women and men.

Besides as an alternative business, seaweed cultivation is also able to increasing fishery production due to relatively short-term harvest time with 30 – 45 days and with the area of marine cultivation in West Kotawaringin Regency that needs to be improved, so seaweed cultivation could be one of the alternatives for people.

From limited discussion with the village apparatuses in four coastal villages which are Kubu, Sungai Bakau, Teluk Bogam, and Keraya Villages, Kumai District, the potential of seaweed development area is in Teluk Bogam and Tanjung Pandan, Kubu Villages. From preliminary information that obtained at the time of the initial survey, it was said that

“Seaweed cultivation in general is very potential to be developed especially in Teluk Bogam area, because it has done two big harvest done by Governor of Central Kalimantan and West Kotawaringin Regent, however this seaweed cultivation activity was stopped due to lack of market access for wet seaweed that produced by the people”.

Besides the problem for marketing seaweed cultivation program in West Kotawaringin Regency, seaweed cultivation program also not optimal because of the availability of seeds, according to the apparatus of Teluk Bogam Village, Salam (2018) said that, *“The condition of Bogam coast and sea is very good for planting and cultivation of seaweed, but Teluk Bogam sea can not be planted by seaweed for all season, that is because in west season, the sea breeze is very strong and the sea waves can reach maximum height, so the process of providing seeds for planting the next season will be troubled because the prepared seeds will be damaged”.*

4.2. Shrimp/Ponds Cultivation

Aquaculture activity is utilizing coastal areas as a cultivation areas so it can increase the number of employment for the people and the acquisition of foreign exchange (Mustafa *et al.*, 2010). For some commodities that are common to be cultivated are shrimp, crab, milkfish, tilapia, and seaweed. Each commodity usually cultivated in plotted pond with one type of commodity (monoculture) and also utilizes one plotted pond for several commodities that diversified with other commodities (polyculture). Monoculture cultivation is often applied to intensive cultivation. Tiger shrimp that cultivated monoculturally is growing faster compared to tiger shrimp that cultivated polyculturally (Tarsim, 2004). The relatively faster growth of tiger shrimp in monoculture cultivation is due to sufficient space and no food competition with other commodities. While on tiger

shrimp cultivation polyculturally, the density of spread is higher with the division of space and also the competition for eating with other commodities results in the relatively low of tiger shrimp's growth.

The cultivation of shrimp that located in coastal area is highly related to the spatial, socio-cultural, security, and economy of that coastal people. Therefore, the approach problem solving have to worked out in an integrated manner. At that time, it is time to implement issues approaches for sustainable and responsible cultivation, based on reality that shrimp production in Indonesia has declined drastically due to mismanagement. The shrimp farmers started to leave their land as it is just because they suffered a loss continuously.

Understanding of sustainable cultivation needs to be echoed on varioius parties, the government needs to establish measures of supervisions of the implementation of laws and regulations relating to the management of coastal areas. A balanced and informed approach can be done to focus issues of concern on the consevation development concept that environmentally friendly and responsible. A condusive environmental preparation for sustainable conservation development is a shared responsibility, either government and it's institution, or social and natural scientist. Mass media, financial institutions, special interest groups including social associations and private sector cultivation producers, factories, and also providers, processors, and aquaculture sellers.

According to some village apparatuses in the coastal area in West Kotawaringin Regency, some time ago about 8 – 10 years ago the cultivation in the pond has been the primary with traditional management system, especially in the village of Sungai Bakau so that in this area ponds were made with an area of nearly 200 Ha. Nevertheless, the existing

ponds can not function optimally. Ahmad Yani, head of Sungai Bakau Village stated, *“that prior to the construction of a water channel by public work agency, ponds in Ratik River area can produce 300 kg/plot shrimp with milkfish as polyculture with 6 months harvest period. However, since the construction of the channel over the pond area, there are many interruptions to the farming areas, thus reducing the water’s quality for shrimp cultivation”*. From other information, currently in Kubu Village has also been opened shrimp ponds that are managed traditionally, according to Jarmani, Head of Kubu Village stated, *“Kubu Village area is very potential for the development of shrimp cultivation either for tiger nor galah shrimp because the input of water can be set, either freshwater or seawater, the area is near the Sentosa River”*.

4.3. Ujung Atap Leaf Cultivation

Ujung atap leaf is a kind of wild plant that are often used by people in the countryside as a nutritious leaf in improving the health of the body. This leaf type is unique because its shape is similar to a needle. Herbal treatment often use daun ujung atap as a healthy medicine’s ingredient. Various kind of processed leaf are made into the form of herbs and powders for easy mix with other ingredients as a efficacy’s booster.

So many demands of ujung atap from herbal medicine industry so that in some coastal area, especially in Keraya and Kubu Villages has a lot of daun ujung atap cultivation. According to Suharmalik the head of Keraya Village *“that currently there are about 10 Ha of land used by the people for daun ujung atap cultivation, where the sale of the crop is very certain because many collectors as a representatives of herbal medicine factory from Java Island is ready to accomodate and bring it to the factories. With a very simple and easy cultivation technique, the cultivation of this leaf is very potential to be*

developed and the land in Keraya Village is also very suitable for the cultivation of the daun ujung atap which has sandy soil texture". The same thing also said by head of Kubu Village, Jarmani which "Kubu Village has started the daun ujung atap cultivation earlier and now the land area planned for cultivation is 1,000 Ha, and the plan is there will be assistance for seeds from Agricultural Agency".

4.4. Processing Salted / Dried Fish

Fishermen's income is highly dependent on several factors such as weather and seasons, thus impacting on uncertain income. The results of several studies indicate that fishing business by small-scale fishermen is highly dependent on weather, seasons, limited assets and fundings. In coastal people structure, the majority of head of family work as a fishermen. The income level head of family affects household's prosperity. This confirms that the prosperity of the household depends heavily on the head of the family without being influenced by other household members. However, in some places on the coast of Kumai beach, many fishermen's wives help husbands and families in increasing family's income by making processed things from husband's catch results.

Along the coast from Kubu Village to Keraya Village almost all fishermen's wives in this area for the process of making salted fish. However with the pattern and poor management, the results of processed things made by these coastal people is not optimal in helping the family's economy. Compared to the potential demand for salted / dried fish products in some places, this business will be able to become the backbone of family's income so that the life of fishermen can be increased. Traditional fishermen in coastal of

Kumai beach in general are daily fishermen (one day fishing) with the target type of fish catch is small pelagic fish and demersal, such as bloated fish, layang, crab, shrimp, and ranjungan. The most common used fleet is patched motorboats with size < 5 GT made out of wood. The fishing gear used is quite diverse, such as togok, gill net, fishing rod, and base lamp. With the daily catch of the husbands, the wives can do the processing, so some kind of important non-economical fish could increase its added value and in the end can help the income of Fisherman's family.

4.5. Processing of Ranjungan Meat

Ranjungan meat canning industry in some factories in Java Island need raw material supply. One of the regions that are the supplier of raw materials is West Kotawaringin Regency. Several coastal villages such as Sungai Bakau, Teluk Bogam, and Keraya Villages have great potential for the development of processed ranjungan meat. According to Salam Secretary of Teluk Bogam Village *“that in Teluk Bogam village, Processing ranjungan meat become the primary business of people which the price of the ranjungan meat can reach Rp. 200.000,-/kg with ranjungan raw materials Rp. 30.000 – Rp. 50.000,-/kg. It certainly provides more values and can be a joint venture to increase fishermen's income.”*.

Besides having a high selling price, catching ranjungan also more eco-friendly because the fishing tools is already meet eco-friendly requirements with a minimum size of 250 grams per ranjungan. According to the people of Teluk Bogam Village, when the cultivation of seaweed rose very rapidly, the cultivation of crab also rose rapidly, this also could be a joint study whether seaweed cultivation can become a new fishing ground for catching crab.

4.6. Supporting Business of Tourism

Tourism development is generally directed as a key sector for promoting economic growth, increasing local revenues, empowering the people's economy, expanding employment and business opportunities, and also improving the introduction and marketing products in order to improve the prosperity of people. Tourism development should be a planned development thoroughly so it can obtain optimal benefits for the people. The tourism sector as an economic activity has a very long chain so that it accommodates many employment opportunities for the surrounding people which in turn will cause people's income to increase from the sale of goods and services through restaurants, hotels, travel agencies, sales of souvenirs, and so on. The more tourists coming, the more foreign exchange will be received and will eventually encourage the development of other tourism facilities and infrastructure.

Coastal area of West Kotawaringin Regency that extend from Kubu Village to Keraya Village, Kumai District has a panorama that is beautiful and needs to be developed into a leading tourist destination. The potential for tourism development will also create potential jobs and business for the surrounding people. From some limited discussions in four coastal areas which are Kubu Village, Sungai Bakau Village, Teluk Bogam Village, and Keraya Village, that tourism development in this area will be able to improve the people's economy with the number of visitors who come. Some business that can support tourism activities are the provision of resorts / inns, culinary, souvenirs and some provision of service for snorkeling / diving and other tourism services.

4.7. Spirulina Cultivation

Spirulina cultivation potential is a new product and not yet widely known by coastal people, however, with the large potential of globe market and faster funds turnover, it will be an alternative potential for coastal people. Development of spirulina as a form of business cooperation with easy cultivation system will be developed in coastal areas.

CHAPTER V

RESULTS OF POTENTIAL AND CHALLENGES STUDY OF COASTAL AREA

(KUBU VILLAGE, SUNGAI BAKAU VILLAGE, TELUK BOGAM VILLAGE, AND KERAYA VILLAGE)

Study of Empowerment and Economic Improvement of Coastal People in Kubu, Sungai Bakau, and Teluk Bogam Village, Kumai District, West Kotawaringin Regency Through People Business Alternatives in Order to Support Dugong and Seagrass Conservation

5.1. Internal and External Factor Analysis of Coastal Area of Kubu, Sungai Bakau, Teluk Bogam, and Keraya Villages

This study was conducted to determine various owned potentials or resources that can be cultivated or developed and have a good prospects if done. Study on the potential of this region / village is seen from the strength owned. Strength is where the area / village has resources and capabilities that can be used as a basis for developing competitive advantage. In addition to assessing the strength side, it is also conducted assessment the weakness side of the area / village, that is something that causes the area / village to get undeveloped and lost in competing with other areas / villages. Possible weakness in a region / village will be the strength of other regions / villages.

The study of potential of the region / village, both studies views from the strength owned and also views from the weakness side is a study of internal factors. A review of internal factors that include strengths and weakness is done to determine the condition of the

area internally. Strength is a controlled resource or capability that makes the area / village relatively superior compared to other regions / villages. While the weakness is the limitations or deficiencies in one or more resources or capability of a region / village against other areas / villages, which become obstacles in the development of an area / village effectively.

The study of potential of this region / village is also conducted by the study views from external factors. This external environmental assessment can lead to new opportunities for the region / village to gain profits and growth. Changes in this external environment will also be able to present threats to a region / village.

5.1.1. Strengths :

- 1) Strategic village or area location (accessibility / easy to visit)
- 2) Natural beauty (fascinating panorama at sunset and sunrise) and landscape attraction (a combination of sloped coast and land or tropical forests that can be used as recreational, rising, and educational facilities).
- 3) Availability of land to be developed, both coastal and land areas owned by the government and the community (private / customary people or ulayat land).
- 4) Land in the form of coastal areas and tropical forests have various types of flora and fauna are very likely to be able to be cultivated.
- 5) The number of labor force that can be empowered is available in the village / region is relatively large enough or in other words, there's enough work force that available.

5.1.2. Weaknesses :

- 1) Unavailability of facilities that support to develop a village or region such as lodging service, restaurants / restaurant services, financial institutions are very limited, health services are very minimal, educational institutions are very minimal.
- 2) The level of education and skills or skills owned by the people as a human resources is very minimal or low. This will affect the level of results (productivity) achieved both quantity and quality.
- 3) Limited funds or capital owned in effort of developing village or region.
- 4) Limited infrastructure such as the narrowness of roads, so that can disrupt transport activities.
- 5) Lack of effort to introduce or or marketing villages or regions to outsiders.

5.2. Analysis of External Factors of Coastal Areas of Kubu, Sungai Bakau, Teluk Bogam and Keraya Villages

5.2.1. Opportunities

Some of the oppotunities that exist in the research area are :

- 1) Many institutions whether government or private sector, are ready and willing to cooperate in efforts to develop the potential of the village of region.
- 2) The potential of people or tourists to visit a destination is high enough.
- 3) Developing (diversification) of existing programs or business activities or different from the existing one such as : processing products following the development of technology, making the region as an attractive tourist destination, etc.

5.2.2. Threats :

- 1) Climate competition between villages or areas that are more competitive, both in the development of tourist destinations, business activities and withdrawal of investors to invest.
- 2) The entry of an outside culture that could have a negative impact on people's lives around the village or region.
- 3) Criminal acts that can threaten the security and environmental sustainability of surrounding of village or region.

5.3. SWOT Analysis for a Alternative Livelihood Development Strategies

In this research, several analytical methods was used, which are : IFAS and EFAS Matrix Analysis that will produce a strategy (General Strategic), and then the SWOT analysis that assisted with diagrams and SWOT matrix that will generate alternative strategies.

5.3.1. IFAS dan EFAS Matrices Analysis

IFAS and EFAS Matrices is an analytical method used to measure the interrelationship of some internal and external factors that are analyzed for the condition of the object under study.

The analysis is based on various aspects covering various matters closely related to the potential or resources possessed by the object under study, which are Kubu, Sungai Bakau, Teluk Bogam, and Keraya Villages. The questionnaire's respondent are the people or citizen that come from said region / village that mostly work as a fishermen.

This analysis is reviewed from the internal and external environmental conditions of the object under study, ie Kubu, Sungai Bakau, Teluk Bogam, and Keraya Villages based on the opinion of the respondents both for the weight and rating value as shown in the appendix.

Table 4 Internal Factor Analysis Summary (IFAS)

No.	Strengths	Rating	Weight	Score
1.	Strategic village or area location (accessibility / easy to visit)	3	0.16	0.48
2.	Natural beauty (fascinating panorama at sunset and sunrise) and landscape attraction (a combination of sloped coast and land or tropical forests that can be used as recreational, rising, and educational facilities).	3	0.17	0.51
3.	Availability of land to be developed, both coastal and land areas owned by the government and the community (private / customary people or ulayat land).	2	0.20	0.40
4.	Land in the form of coastal areas and tropical forests have various types of flora and fauna are very likely to be able to be cultivated.	2	0.18	0.36
5.	The number of labor force that can be empowered is available in the village / region is relatively large enough or in other words, there's enough work force that available.	2	0.20	0.40
Total		-	-	2.15

No.	Weaknesses	Rating	Weight	Score
1.	Unavailability of facilities that support to develop a village or region such as lodging service, restaurants / restaurant services, financial institutions are very limited, health services are very minimal, educational institutions are very minimal.	2	0.15	0.30
2.	The level of education and skills or skills owned by the people as a human resources is very minimal or low. This will affect the level of results (productivity) achieved both quantity and quality.	1	0.10	0.10
3.	Limited funds or capital owned in effort of developing village or region.	2	0.10	0.20
4.	Limited infrastructure such as the narrowness of roads, so that can disrupt transport activities.	2	0.16	0.32
5.	Lack of effort to introduce or or marketing villages or	2	0.10	0.20

regions to outsiders.			
Total Score	-	-	1.12
Internal Cumulative Score	-	-	3.27

Source: Data processed from the result of research, 2018

The Internal Factor Evaluation (IFE) Matrix is the results of research in internal factors in regions / villages, which are : Kubu, Sungai Bakau, Teluk Bogam, and Keraya Villages. This matrix evaluates strength and weakness in the region / village, which are : Kubu, Sungai Bakau, Teluk Bogam, and Keraya Villages. If the final value of the matrix evaluation is less than 2.5 then the regions / villages, which are : Kubu, Sungai Bakau, Teluk Bogam, and Keraya Villages can be stated have weak internal conditions, and if the final value of the matrix evaluation is more than 2.5 then the regions / villages, which are : Kubu, Sungai Bakau, Teluk Bogam, and Keraya Villages can be stated have strong internal factors.

The final score on the evaluation of these internal factors reached 3.27. This value shows the ability of the regions / villages, which are : Kubu, Sungai Bakau, Teluk Bogam, and Keraya Villages to harness its strength and minimize the influence of the weakness. The regions / villages, which are : Kubu, Sungai Bakau, Teluk Bogam, and Keraya Villages still have an opportunity to improve or develop their internal factors because the maximum value in this evaluation is 4.00.

The External Factor Evaluation (EFE) Matrix is a tool used to analyze the role of environment, such as : social, political, economic, cultural, legal and technological, market conditions and competition for the conditions of the regions / villages, which are : Kubu, Sungai Bakau, Teluk Bogam, and Keraya Villages at any given time.

Table 5 External Factor Analysis Summary (EFAS)

No.	Opportunities	Rating	Weight	Score
1.	Many institutions whether government or private sector, are ready and willing to cooperate in efforts to develop the potential of the village of region.	3	0.15	0.45
2.	The potential of people or tourists to visit a destination is high enough.	2	0.14	0.28
3.	Developing (diversification) of existing programs or business activities or different from the existing one such as : processing products following the development of technology, making the region as an attractive tourist destination, etc.	2	0.14	0.28
Total Score				1.01
No.	Ancaman (Threats)	Rating	Weight	Score
1.	Climate competition between villages or areas that are more competitive, both in the development of tourist destinations, business activities and withdrawal of investors to invest.	4	0.17	0.68
2.	The entry of an outside culture that could have a negative impact on people's lives around the village or region.	3	0.16	0.48
3.	Criminal acts that can threaten the security and environmental sustainability of surrounding of village or region.	3	0.16	0.48
Total Score				1.64
External Cumulative Score				2.65

Source: Data processed from the result of research, 2018

The total number of scores for opportunities and threats of 2.65 scores exceeds midpoint / average 2.5. This indicates that the regions / villages, which are : Kubu, Sungai Bakau, Teluk Bogam, and Keraya Villages are able to take advantage of the opportunities and avoid the threats directed to the Kubu, Sungai Bakau, Teluk Bogam, and Keraya Villages. In this condition, there is still much room for further development of Kubu, Sungai Bakau, Teluk Bogam, and Keraya Villages because the score has not reached the highest score of 4.

5.3.2. SWOT Analysis

Based on evaluation of external factors, score = 2.65 and factor evaluation with score value = 3.27 so on the matrix of internal and external factors o of the regions / villages, which are : Kubu, Sungai Bakau, Teluk Bogam, and Keraya Villages lies in **Offensive Strategy**. This positon causes the suggested strategy to be run more towards the development or empower the potential or resources owned by the regions / villages, which are : Kubu, Sungai Bakau, Teluk Bogam, and Keraya Villages.

1	2,5	4
Cautious Strategy	Offensive Strategy	
Defensive Strategy	Competition Strategy	

Source : David, 2011

SWOT Matrix

Internal Factor	Strengths (S)	Weaknesses (W)
External Factor	Opportunities (O)	Threats (T)
Opportunities (O)	Offensive Strategies (SO)	Cautious Strategies (WO)
Threats (T)	Competition Strategies	Defensive Strategies

The resulting formulated strategy is Offensive Strategy or **SO Strategy** (*Strength – Opportunities*), which is a strategy to maximize the owned power or resources to exploit opportunities that exist by :

1. Management and Development of Regional / Village Potention

Management and development of owned potential or resources can be done through programs, such as :

- a. Owned potential or resoureces are expected to increase the diversity of products produced to be able to compete with other areas / villages that will impact on people's interest to see and visit.
- b. Make the area / villages as an area that can be made a destination or a tourist destination, either nature tourism, cultural tourism, culinary tourism, etc.
- c. Maintain and preserve environmental sustainability as the main assets to maintain the image or reputation of the region / village.

2. Improvement of Human Resources Quality

Improving the quality of human resources can be done through programs, that are :

a. Comparative Study

Comparative study can be conducted with other regions / villages that implementing similar programs both within and outside the area. It aims to improve cooperation between regions / villages by getting to know each other and exchange information about the management of owned potential or resources. The two parties can evaluate each other's weaknesses and advantages to the management of each potential of the region / village.

b. Participate in Seminars and Workshop.

This is a necessary thing to do, that by attending seminars or workshops on resource management or potential area / village. Through involvement in seminars or workshops that are closely related to resources management or the potential of the region / village will add insight and knowledge to the citizen or people.

c. Attend Trainings.

One of the efforts that can be done to improve the quality of human resources is to participate in training related to skills training of workers.,whether organized by the government or private parties. Through this workforce training activity, it will add insight and exploitation and take advantage of the potential or resources owned by the region / village.

3. Do promoting activity.

Promotion activities in this case is an effort to introduce the region / village, that is everything that offered either about the diversity of products produced or about the attractiveness of the region / village. The continuity of promotional activities will attract more and more people to come visit, and enjoy the products that offered.

4. Partnership with private sectore.

Cooperation with private parties in the development and management of potential or existing resource in a region / village has become an absolute necessity. The

involvement of the private sector in the development and management of potential or existing resources in a region / village can help the provision of goods or services needed. Partnership strategy between government with private sector in the process of developing and managing the potential or existing resources in a region / village is one of the most strategic ways in providing infrastructure and public services, in which in this case the government is still responsible and accountable in providing public services and keep the continuity of the public interests.

Partnership between government and private sector are a concept of cooperation that developed between government and private sector based on complementary and mutually beneficial principles, that aim to realizing the effective and efficient provision of public infrastructure and facilities.

5.4. AL Score Rating Analysis

In an effort to increase fishermen's income from one side and efforts to reduce the pressure on the fishery resources on the other hand, it is necessary to develop alternative business besides fishing business. The development of the alternative business, besides prioritizing on existing business (daily business) or there have been people who work on it, also have to be based on considerations of technical variables or a constraint variable (constraint). Technical variable that was meant, mainly include : community interest, available resources both in the form of raw materials and human resources as well as marketing opportunities. These four variables are the main variables in developing a business related to a sustainability and its rate of development. Furthermore, a viable alternative business developed based on the consideration of technical variables in addition

to the need to analyze financial feasibility, also need to formulate development strategies related to internal and external factors. In general, rating score analysis can be figured in the following chart.

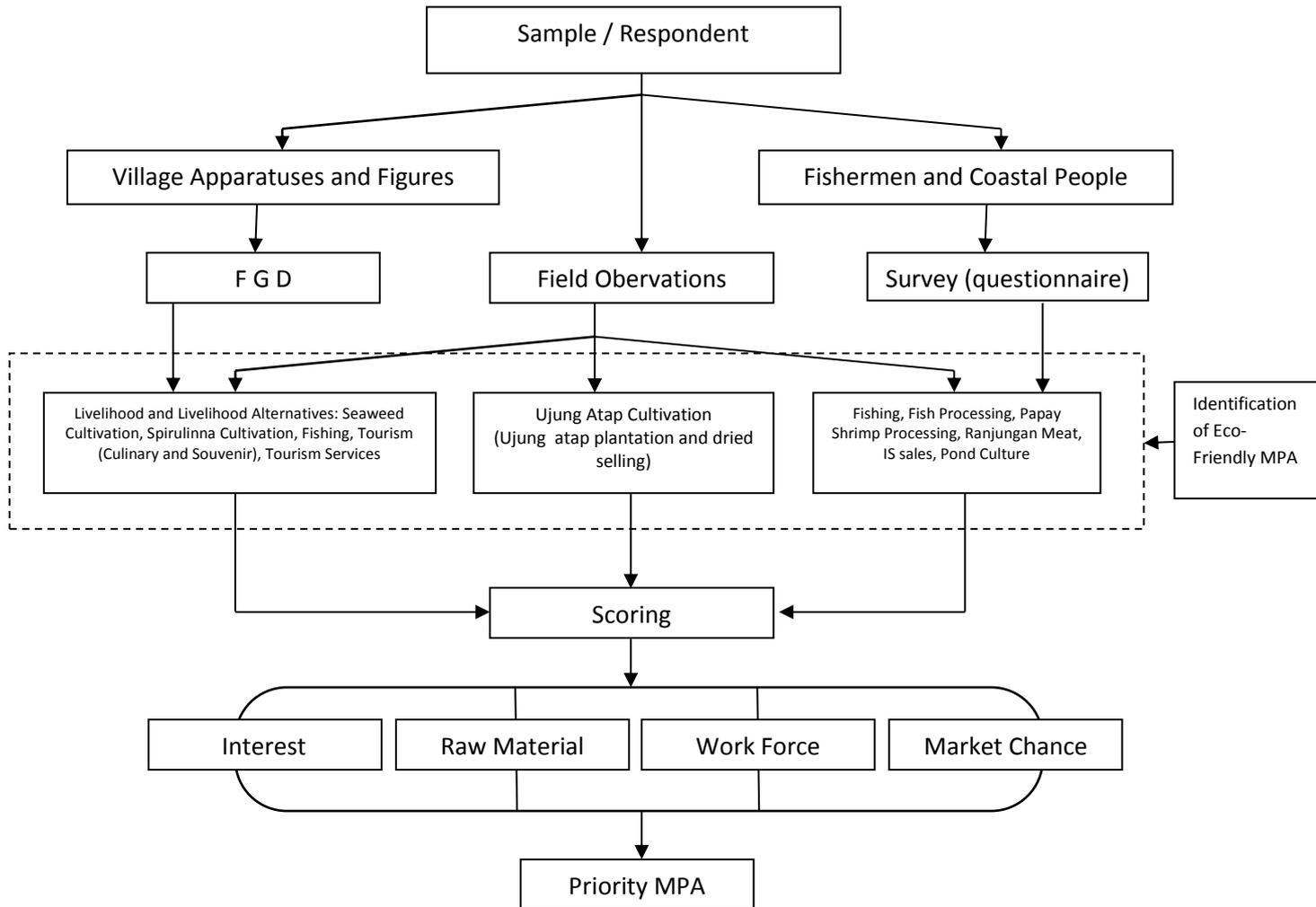


Figure 5 Rating Score Analysis Diagram

5.4.1. Kubu Village

Kubu village is one of the villages with the largest number of fishermen in Kumai District. Almost 80 % kubu villagers work as a fishermen either an one day trip fishermen or as a fishermen that sail more than one day. As one of the coastal villages with the potential for diversified business developmet, Kubu Village has many advantages to improve the economy of the community. Survey results and FGDs with village officials obtained data on several types of business based on several parameters such as community interest, raw material sources, labor availability and market potential. The results of data compilation are illustrated in the following table :

Table 7 Analysis Results of AL Priority Rating Score Kubu Village

No	AL	Score						Priority
		Interest	Raw Material	Labor	Market Potential	Total Score	Average	
1	Ujung Atap Cultivation	4	4	3	4	15	3.75	1
2	Tourism Culinary	4	4	2	4	14	3.50	2
3	Processed Salted Fish	3	3	4	3	13	3.25	3
4	Processed Kerupuk /	2	4	3	1	10	2.50	4
5	Tourism Souvenir	1	3	1	4	9	2.25	5
6	Seaweed Cultivation	2	1	1	4	8	2.00	6
7	Spirulina Cultivation	2	1	1	4	8	2.00	6
8	Processed Ranjungan	1	2	4	1	8	2.00	6

Source : Survey Data (2018)

The results of AL scoring that was based on several parameters above obtained AL priority Kubu Village consists of ujung atap cultivation as the main priority. Survey results and FGDs with some village apparatus and leaders, ujung atap cultivation is an enthused

effort by some people because this activity technically easier and does not require much fundings.

In addition, the availability of land and also the market potential is very promising for the development of this business, where the demand for these materials is very large for the herbal medicine and medicine industry. Besides, the availability of work force with no special skills required compared to the fishermen also gives hope for the people to develop this business.

Next is AL priority Kubu villagers based on average score, respectively, are culinary tourism, salted fish processing (including papaya shrimp processing), and krupuk / amplang processing. While some types of AL survey and FGD results after the scoring tests showed some low value so it is not a priority on AL development for Kubu villagers.

5.4.2. Sungai Bakau Village

Sungai Bakau village as one of the coastal villages with relatively large number of traditional fishermen with the dominance of one day fishing fishermen (one day trip), is a village that has a comparative advantage in the field of fisheries, especially in the field of aquaculture. Several areas in Sungai Bakau village are one of the most suitable locations for the development of aquaculture, however, the lack of facilities and infrastructure and also aquaculture business tend to require relatively large funds, so this potential has not been optimized by some people of Sungai Bakau village. The results of the average scores of the Sungai Bakau villagers to several alternative AL are as follows;

Table 8 Analysis Results of AL Priority Rating Score Sungai Bakau Village

No	AL	Score						Priority
		Interest	Raw Material	Labor	Market Potential	Total Score	Average	
1	Processed Salted Fish	4	4	4	4	16	4.00	1
2	Aquaculture	3	4	2	4	13	3.25	2
3	Processed Ranjungan	1	3	4	4	12	3.00	3
4	Seaweed Cultivation	2	1	1	4	8	2.00	4
5	Tourism Culinary	1	4	1	1	7	1.75	5
6	Spirulina Cultivation	1	1	1	4	7	1.75	5
7	Tourism Souvenir	1	1	1	1	4	1.00	6
8	Ujung Atap Cultivation	1	1	1	1	4	1.00	6

Source : Processed Survey Data (2018)

The survey results shows that based on interest, raw material sources, labor and the market potential of salted fish processing business is the main priority of the people from Sungai Bakau village. This is related to the number of fishermen that do one day trip fishing activity, so that the catch of fishermen will soon be processed by surrounding people. Nevertheless, as a sustainable business, salted fish processing also has great challenges if it continues to look forward to the source of raw material from a one-day trip fisherman, where the activities of fishermen are usually very close to seagrass field. However the second priority AL of Sungai Bakau villagers is the aquaculture business either prawns cultivation or fish cultivation. This is certainly very promising to be developed further to support existing programs.

5.4.3. Teluk Bogam Village

The interest of Teluk Bogam villagers to find other alternative livelihood is very big. So far, several programs from the local government of West Kotawaringin are very numerous and have been done in Teluk Bogam village. From several business that has been done, seaweed cultivation is one of the very promising business to be developed,

however, the lack of knowledge from society about this cultivation causing this activity to encountered many problems so that can not become business for the villagers.

FGD results and surveys of potential AL in addition to fishing for people of Teluk Bogam village can be seen in the following table.

Table 9 Analysis Results of AL Priority Rating Score Teluk Bogam Village

No	AL	Score						Priority
		Interest	Raw Material	Labor	Market Potential	Total Score	Average	
1	Processed Ranjungan	4	4	4	4	16	4.00	1
2	Processed Salted Fish	2	4	2	4	12	3.00	2
3	Seaweed Cultivation	4	2	2	4	12	3.00	2
4	Tourism Souvenir	3	3	1	4	11	2.75	3
5	Tourism Culinary	2	3	1	3	9	2.25	4
6	Spirulina Cultivation	2	1	1	4	8	2.00	5
7	Processed Kerupuk /	1	1	1	1	4	1.00	6
8	Ujung Atap Cultivation	1	1	1	1	4	1.00	6

Source : Processed Survey Data (2018)

The results of the survey above show that the people of Teluk Bogam village saw the meat processing business alternatives. This is in line with the findings on the field where the meat processing business is mushrooming in Teluk Bogam village. This is strongly supported by the market potential or very high market demand for ranjungan meat for both canning and freezing industry on the island of Java. With a very good price to increase the income of the people, the processing of the ranjungan meat needs to be further developed. In addition to the above the catch of ranjungan crab has also been in

corresponding with the rules where ranjungan crabs that are caught are the allowed ranjungan crabs to be caught and caught with a very environmental-friendly tools.

The second priority of the alternative business for the people is seaweed cultivation, this certainly provides fresh air for the business development that environmental based. However, this seaweed cultivation needs a more intensive accompaniment so the business could be more popular and able to become a new profession for the people of Teluk Bogam village.

5.4.4. Keraya Village

Keraya village is one of the coaste villages that currently is a coastal village with a relatively high abrasion incident, it can be seen where the coastal position from year to year began to shrink and more settled approaching settlement. So that the people's business development opportunities also have to consider the existing location conditions of Keraya Village. Survey results and FGD shows that the business of Keraya village has started to do alternative business, one of them is the cultivation of ujung atap crop plant which has a huge market opportunity. Ujung atap is the highest scoring in alternative business chance for Keraya villagers. This could be seen clearer in the following table.

Table 10 Analysis Results of AL Priority Rating Score Keraya Village

No	AL	Score						Priority
		Interest	Raw Material	Labor	Market Potential	Total Score	Average	
1	Ujung Atap Cultivation	4	3	4	4	15	3.75	1
2	Processed Salted Fish	2	4	2	4	12	3.00	2

3	Processed Ranjungan Meat	1	2	1	4	8	2.00	3
4	Tourism Culinary	1	4	1	1	7	1.75	4
5	Tourism Souvenir	1	4	1	1	7	1.75	4
6	Processed Kerupuk /	1	1	1	1	4	1.00	5
7	Spirulina Cultivation	1	1	1	1	4	1.00	5
8	Seaweed Cultivation	1	1	1	1	4	1.00	5

Source : Processed Survey Data (2018)

Besides the cultivation of ujung atap plant, other business that are expected to be the next alternative business is processing salted fish, processing ranjungan crab meat, and culinary tours that occupy the 4 highest position.

5.5. Business Analysis

Before undertaking a new business or developing business that already exist, it is needed to do business analysis to know whether that business is feasible or not. The main element that need to be analyzed in determining the financial feasibility of a business are funds requirements, estimation of investment revenue and return. Funds requirement indicate the amount of funds that needs to be provided to start a business. Knowing the amount of funds for a business will help future businessman to estimate the source of funds that can be utilize. Estimated income from a business that will be done is an attraction for future businessman to choose the type of business to be developed. Besides to the amount of fundings and earnings estimation, the amount and the length of return on investmen also need to be known before making a business. Financial feasibility criteria are seen from comparison of revenue with cost (B / C ratio), Payback Period (PP), and Break Event Point

(BEP) investment return. The determination of financial criteria (feasibility) for alternative livelihood activities to be developed can be seen clearly in the following figure.

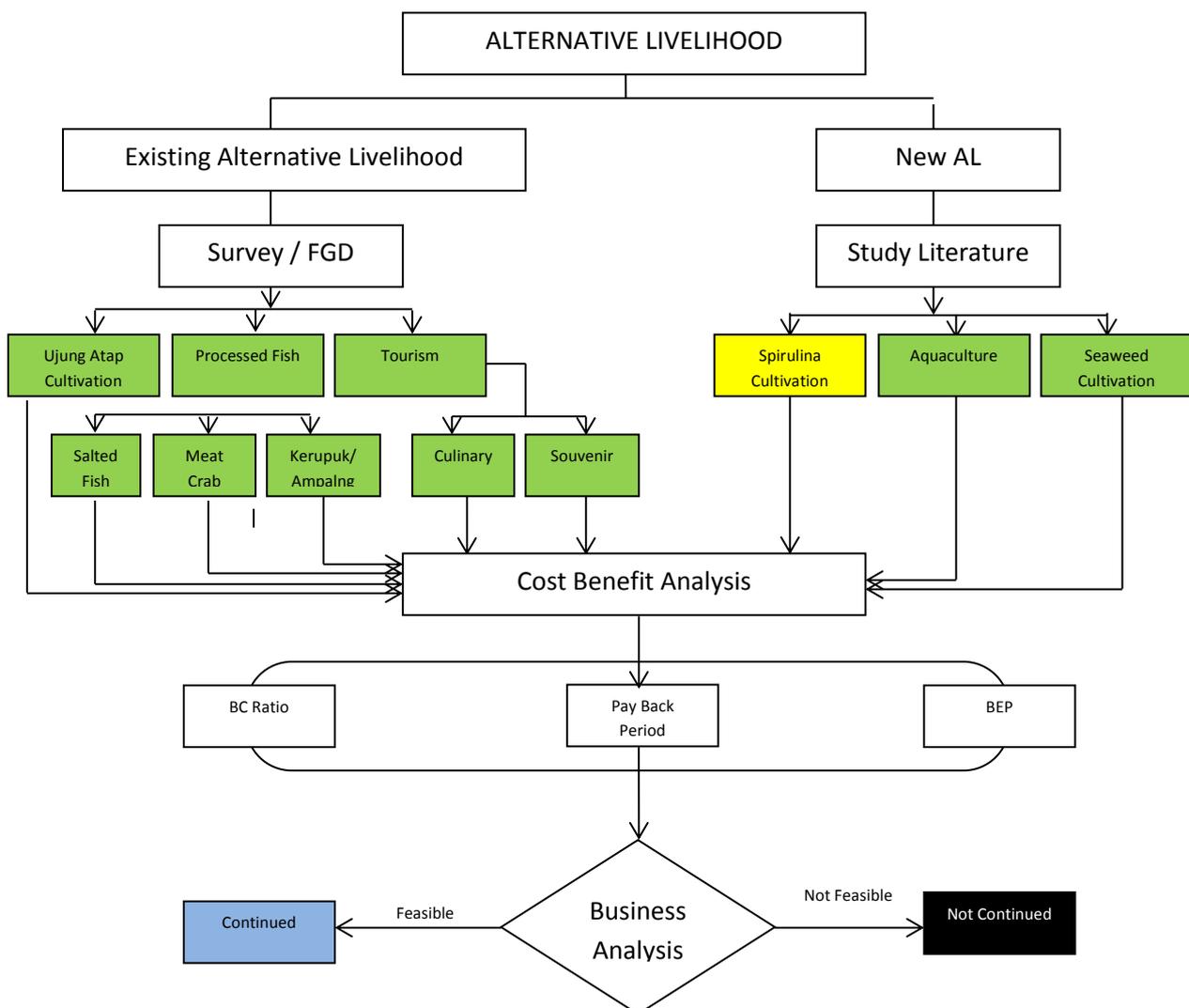


Figure 6. Diagram of Business Feasibility Analysis Steps in AL Determination

5.5.1. Feasibility Analisis of Seaweed Cultivation Business

The initial funds for seaweed cultivation is Rp. 7,900,000.- with the need for financing the purchase of cultivation facilities and infrastructure. While the operational cost for one period of cultivation is Rp. 8,2,50000.-. This cost is widely use for wage assembly force and until drying the seaweed until dry. With total 200 kg of seeds, it could produced wet seaweed about 7,000 kg, and become dry products as much as 1.400 kg. The selling price of dry products is Rp. 6,000,- per kg. Total revenue is Rp. 8,400,000.- . the profit earned is Rp. 2,560,000.- per harvest period. Comparison of revenue and cost (B/ C Ratio) seaweed cultivation business is 1,44. This value shows that the receipt of 1,44 is greater than the cost incurred. Value Economic Rentability is 26.9% which illustrates that for the fulfillment of working capial banking currently is very bankable. In one year it can be done as mucha as 6 periods of cultivation with value of profit per year Rp. 15,360,000.- with Payback Period (PP) obtained by 0.52 year or 6.24 months.

5.5.2. Feasibility Analisis of Aquaculture Business

The initial funds for aquaculture is Rp. 32,500,000.- with the need for financing the purchase of cultivation facilities and infrastructure. While the operational cost for one period of cultivation is Rp. 29,925,000.-. This cost is widely use for wages of labor and land preparation until maintenance and harvest. With the number of spreading seeds up to 50,000 seeds with survival rate (SR / survival rate) of 40 % then obtained 500 kg ready to harvest prawns with the size 40 prawns/kg. The price of prawns with the size of 40 ranges between Rp.85,000.- so in a harvest period, it could produce Rp. 42,500,000.- The earned profit is Rp. 9,325,000.- per harvest period. Comparison of revenue and cost (B/ C Ratio)

aquaculture business is 1.28. This value shows that the receipt of 1.28 is greater than the cost incurred. Value Economic Rentability is 20.1% which illustrates that for the fulfillment of working capital banking currently is very bankable. In one year it can be done as much as 2 periods of cultivation with value of profit per year Rp. 18,650,000.- with Payback Period (PP) obtained by 1,22 year or 14,64 months.

5.5.3. Feasibility Analysis of Ujung Atap Cultivation Business

The initial funds for ujung atap cultivation is Rp. 20,000,000.- with some of the funds is needed for the purchase of land, however, lands in some coastal villages is a land that can still be utilize by the people, so it can minimize the funds. While the operational cost for plant the seeds, and seeds only planted once is only as much as Rp. 7,750,000.-. This cost is widely use for wage assembly force and until drying the seaweed until dry. With total land of 2 Ha it can produce dried daun ujung atap as much as 4,000 kg per ha, so with 2 Ha land will harvest 8.000 kg. The selling price of dry products is Rp. 4,000.- per kg. Total revenue is Rp. 32,000,000,- . the profit earned is Rp. 24.250.000,- per harvest period for a year. Comparison of revenue and cost (B/ C Ratio) seaweed cultivation business is 4,13. This value shows that the receipt of 4,13 is greater than the cost incurred. Value Economic Rentability is 87.4% which illustrates that for the fulfillment of working capital banking currently is very bankable. In one year it can be done as much as 1 period of cultivation with value of profit per year Rp. 24,250,000.- with Payback Period (PP) obtained by 0.63 year or 7.53 months.

5.5.4. Feasibility Analysis of Tourism Culinary Business

The initial funds for culinary tourism business is Rp. 26,500,000.- with some of the funds is needed for the construction of the restaurant and purchase of cooking tools, chair, and tables in stalls. While the working capital for one month with target of 1,664 portions with capital of Rp. 33,660,000.-. This cost is widely use for purchase of raw material and also daily wage labor for stall keeper. With target of sales as much as 1,664 portions a month with standard price per portions is Rp. 25,000,. So the total revenue is Rp. 41,600,000.- . the profit earned is Rp. 7,203,000.- per month with profit earned per year is Rp. 86,446,667.-. Comparison of revenue and cost (B/ C Ratio) seaweed cultivation business is 1,24. This value shows that the receipt of 1,24 is greater than the cost incurred. Value Economic Rentability is 13.2% which illustrates that for the fulfillment of working capital banking currently is very bankable. But rather big risk because only a little over bank interest. In one year the annual profit is Rp. 86,446,667.- with Payback Period (PP) obtained by 0.53 year or 6.39 months.

5.5.5. Feasibility Analisis of Salted Fish Processing

The initial funds for processing dried fish is Rp. 7,600,000.- with some of the funds needed for providing processing tools . While the operational cost for one month with daily target production is 100 kg raw material with estimated 26 days work per month so Rp. 12,540,000.- is needed per month. This cost is widely use for purchase of raw material and also daily wage labor for cleaning the fishes. With target immersion production of 40 %, so it could produced 1,040 kg dried fish, for a month with the selling price of dry products is Rp. 15,000,- per kg. Total revenue is Rp. 15,600,000.- . the profit earned is Rp. 2,848,889.- per months with profit earned per year is Rp. 34,186,667.-.

Comparison of revenue and cost (B/ C Ratio) seaweed cultivation business is 1,22. This value shows that the receipt of 1.22 is greater than the cost incurred. Value Economic Rentability is 15.2% which illustrates that for the fulfillment of working capital banking currently is very bankable, But rather big risk because only a little over bank interest. In one year the annual profit is Rp. 34,186,667.- with Payback Period (PP) obtained by 0.48 year or 5.78 months.

5.5.6. Feasibility Analysis of Krupuk/Amplang Processing Business

The initial funds for processing krupuk / amplang is Rp. 1,750,000.- with some of the funds needed for providing processing tools . While the operational cost for one month with daily target production is 10 kg raw material with estimated 26 days work per month so Rp. 18,176,000.- is needed per month. This cost is widely use for purchase of raw material and also daily wage labor for cleaning the fishes. With target immersion production of 40 %, so it could produced 250 kg dried fish, for a month with the selling price of is Rp. 90,000.-. Total revenue is Rp. 22,464,000.- . the profit earned is Rp. 4.113.000,- per months with profit earned per year is Rp. 49,356,000.-. Comparison of revenue and cost (B/ C Ratio) seaweed cultivation business is 1.22. This value shows that the receipt of 1.2 is greater than the cost incurred. Value Economic Rentability is 21.5% which illustrates that for the fulfillment of working capital banking currently is very bankable. In one year the annual profit is Rp. 49,356,000.- with Payback Period (PP) obtained by 0.39 year or 4.69 months.

5.5.7. Feasibility Analysis of Crab Meat Processing Business

The initial funds for processing ranjungan meat is Rp. 56,717,000,- with some of the funds needed for providing processing tools . While the operational cost for one month with daily target production is 150 kg raw material with estimated 26 days work per month so Rp. 14,455,000.- is needed per month. This cost is widely use for purchase of raw material and also daily wage labor for cleaning the fishes. With target immersion production of 23 %, so it could produced 897 kg ranjungan meat, for a month with the selling price of is Rp. 200,000.-. Total revenue is Rp. 179,400,000.- . the profit earned is Rp. 27,437,450.- per months. Comparison of revenue and cost (B/ C Ratio) ranjungan meat processing business is 1.18. This value shows that the receipt of 1.18 is greater than the cost incurred. Value Economic Rentability is 18% which illustrates that for to get loans to bank with the current interest is 11%, this activity can still five a good results. In one year the annual profit is Rp. 329,249,400.- with Payback Period (PP) obtained by 0.52 year or 6.22 months.

5.5.8. Feasibility Analisis of Tourism Souvenirs Business

The initial funds for processing tourism souvenirs made from seashells is Rp. 4,250,000.- with some of the funds needed for providing processing tools . While the operational cost for one month with daily target production is 200 seashells with estimated 26 days work per month so Rp. 9,500,000.- is needed per month. This cost is widely use for purchase of raw material and also daily wage labor. With target immersion production of 80 %, so it could produced 4,160 souvenirs with the selling price of is Rp. 3,000.-. Total revenue is Rp. 12,480,000.- . the profit earned is Rp. 2,861,944.- per months. Comparison of revenue and cost (B/ C Ratio) ranjungan meat processing business is 1,3. This value

shows that the receipt of 1,3 is greater than the cost incurred. Value Economic Rentability is 21.7% which illustrates that for to get loans to bank with the current interest is 11%, this activity can still give a good results. In one year the annual profit is Rp. 34,343,333.- with Payback Period (PP) obtained by 0.36 year or 4.27 months.

5.6. AL Determination of Kubu, Sungai Bakau, Teluk Bogam and Keraya Villagers.

The result of the AL priority analysis for Kubu, Sungai Bakau, Teluk Bogam, and Keraya villagers shows the diversity of business potential for the people at each village with its advantages and disadvantages. However, several AL that are identified and analyzed indicate that business of coastal people will not be separated from sea or coastal activities. This is reflected in which some of new AL or any other existing livelihood are still related to marine resources. The final result of AL scoring priority can be shown in Table 11.

Table 11 Results of AL Priority Scoring

No	Village Name	AL Priority
1	Kubu	<ol style="list-style-type: none"> 1. Ujung Atap Cultivation 2. Tourism Culinary 3. Processed Salted Fish 4. Processed Kerupuk / Amplang
2	Sungai Bakau	<ol style="list-style-type: none"> 1. Processed Salted Fish 2. Aquaculture 3. Processed Ranjungan Meat 4. Seaweed Cultivation
3	Teluk Bogam	<ol style="list-style-type: none"> 1. Processed Ranjungan Meat 2. Processed Salted Fish 3. Seaweed Cultivation 4. Tourism Souvenir
4	Keraya	<ol style="list-style-type: none"> 1. Ujung Atap Cultivation 2. Processed Salted Fish

		3. Processed Meat	Ranjungan
		4. Tourism Souvenir	

Source : Processed Survey Data (2018)

From the result correspondence with the table above, so the AL priority of each village have 4 AL priority that can be a business alternative replacement for the fishermen in order to improving their standard of living.

Furthermore, the business analysis that has been done describes that 4 AL priority have feasibility business study either technically or economically to be developed, which in the study using B/C ratio paratemer, Payback Period (PP), and Break Even Point (BEP) shows a positive number to be a leading livelihood in each village. The full results of the economic analysis can be seen in the following table.

Table 12 Analysis Results of AL Priority Business

No	Description	Analysis Results							
		SC	A	UAC	TC	PSF	PKA	PRM	TS
1	Investment Capital (Rp)	4,800,000	32,500,000	20,000,000	26,500,000	7,600,000	1750000.00	56,717,000	4,250,000
2	Working Capital per Month (Rp)	5,600,000	29,925,000	7,750,000	33,660,000	12,540,000	18176000.00	143,455,000	9,500,000
3	Income per Month / Period (Rp)	8,400,000	42,500,000	32,000,000	41,600,000	15,600,000	22464000.00	179,400,000	12,480,000
4	Profit per Month / Period (Rp)	2,560,000	9,325,000	24,250,000	7,203,889	2,848,889	4113000.00	27,437,450	2,861,944
5	Profit per Year (Rp)	15,360,000	18,650,000	24,250,000	86,446,667	34,186,667	49356000.00	329,249,400	34,343,333
6	B/C Ratio Value	1.44	1.28	4.13	1.21	1.22	1.22	1.18	1.30
7	Payback Period Value	0.52	1.22	0.63	0.53	0.48	0.39	0.52	0.36
8	BEP Value (Rp)	720,000	10,984,095	-	3,856,703	1,076,253	916791.00	42,460,828	494,407

Notes

SC : Seaweed Cultivation

A : Aquaculture

UAC : Ujung Atap Cultivation

TC : Tourism Culinary

PSF : Processed Salted Fish

PKA : Processed Kerupuk /
Amplang
PRM : Processed Ranjungan
Meat
TS : Tourism Souvenir

CHAPTER VI

DUGONG AND SEAGRASS CONSERVATION

(DESA KUBU, DESA SUNGAI BAKAU, DESA TELUK BOGAM DAN DESA KERAYA)

Study of Empowerment and Economic Improvement of Coastal People in Kubu, Sungai Bakau, and Teluk Bogam Village, Kumai District, West Kotawaringin Regency Through People Business Alternatives in Order to Support Dugong and Seagrass Conservation

6.1. Alternative Business Relation with Dugong and Seagrass Conservation Area.

Conservation in Indonesia is now stuck. All conservation areas that are public goods and managed by government to public interests have encountered devastation, reducing area, or being competed over many parties that want to harness those areas for other interests. Conservation areas are areas that designated to protect original ecosystem and be harnessed for research purposes, knowledge, educational, and cultivation supports, tourism, also recreation destination.

Administratively, Kubu, Sungai Bakau, Teluk Bogam and Keraya are part of Kumai District, Kotawaringin Barat District, Kalimantan Tengah Province. Areas with beautiful sceneries because Kubu, Sungai Bakau, Teluk Bogam and Keraya are coastal areas. Beautiful scenery (attractive scenery during sunset and sunrise), and landscape attraction (combination between coastal and sloping land or tropical forest that could be recreation, research, and education areas).

Generally, local people' occupation in Kubu, Sungai Bakau, Teluk Bogam and Keraya are fishermen. Fishermen people are part of community group that generally live in coastal area. Education level that those people generally have are elementary school, and

middle school, even junior high school and senior high school. People who graduated from university are so rare, causing local people have low educational level, besides its very far distance to go to school from houses.

As traditional fishermen, people who live around Kubu, Sungai Bakau, Teluk Bogam and Keraya, not only facing the uncertainty of income, but they also face marketing matters on their production yields. Besides welfare, marine resource utilization also intersect with marine resource sustainability itself.

Environmental conservation activity as part of sustainability must also be balance with community's increasing economy, because a conservation would not conduct well without people' welfare in conservation area. Because of that, there needs to be a deep study to find out factors that would halt conservation program that is related to local people' welfare, also could conclude alternative business for coastal community in Kubu, Sungai Bakau, Teluk Bogam and Keraya areas that intersect directly with dugong and seagrass conservation program in Kotawaringin Barat Regency.

Along with many efforts that are conducted to keep the sustainability of seagrass and dugong species from the extinction threats, but it also could give fishermen alternative activity, for fishermen that live in dugong and seagrass habitat, so there needs to be a study to capture and finding alternative occupations for fishermen and local people around conservation plan area. This thing could be a choice to conduct conservation activity along with local fishermen' lives.

Several alternative business for coastal community in Kotawaringin Barat Regency that live in Kubu, Sungai Bakau, Teluk Bogam and Keraya in several limited discussions

area: seaweed cultivation, spirulina cultivation, “ujung atap” leaves cultivation, and capture yields processing, also managing tourism destinations.

6.1.1. Seaweed Cultivation

Seaweed utilization nowadays are wider and more vary. Seaweed are many used as food ingredients, medicine ingredients, and also as food for marine organisms, plant fertilizer, and soil fertilizer.

Along with the needs of seaweed that are increasing, even to fulfill internal and outside’s needs, the best way to grab that opportunity is through seaweed cultivation. That thing could be done because marine resources are very supporting, so it could be done in almost all Indonesia regions.

Besides alternative business, seaweed cultivation could also increase fishery production because the harvest period that is relatively short, 30 to 45 days with cultivation area wide in Kotawaringin Barat Regency that still needs to be developed, so seaweed cultivation could be one of community’s alternative business.

According to discussion result with village aparatus in four villages: Kubu, Sungai Bakau, Teluk Bogam and Keraya, area’s potential of seaweed development are in Teluk Bogam and Kubu regions.

6.1.2. “Ujung Atap” Leaves Cultivation

“Ujung Atap” leaves plant is a wild plant that often used by people in villages as beneficial plant that could increase body health. “Ujung Atap” is unique because its form is like needles. Herbal medicine that often use “ujung atap” as medicine ingredients that

gives health. Many processing kinds of this plant, there are “jamu” and powder kind so it could be easy to mix with other ingredients are additional benefits.

Many requests for “ujung atap” plant by herbal industry in several regions in Kumai District, Kotawaringin Barat Regions, like in Keraya Village and Kubu Village, they have many “ujung atap” cultivations.

6.1.3. Spirulina Cultivation

Spirulina cultivation potential is a new product and many coastal people haven't known, however, with huge global market potential and investment rolling that is faster, it could be coastal people' alternative business potential. Spirulina development as a form of collaboratin with easy cultivation system could develop on coastal areas like Kubu, Sungai Bakau, Teluk Bogam and Keraya.

6.1.4. Capture Yields Processing

On community structure like: Kubu, Sungai Bakau, Teluk Bogam and Keraya, where majority of the households work as fishermen. However, in several coastal places like: Kubu, Sungai Bakau, Teluk Bogam and Keraya, to help family on increasing income, is by making processed products from capture yield.

In several villages in coastal area like Sungai Bakau, Teluk Bogam and Keraya, the potential to develop processing products from capture yield is very huge, like: crab meat processing as raw material, the making of salted fish, snacks/ amplang, culinary with melayu's characteristic food, etc.

6.1.5. Tourism Destination Management

Coastal areas in Kotawaringin Barat that extend from Kubu Village through Keraya Village have beautiful landscape and sell off to be developed into superior tourism destinations. According to discussion result in four regions in coastal areas, they are Kubu, Sungai Bakau, Teluk Bogam and Keraya, that those areas have huge enough potential to be tourism destinations, because those areas are coastal areas. Beautiful scenery that is attractive mainly during sunset and sunrise, and landscape attraction that could be recreation, research, and education area. Tourism development in this region would be able to increase community's economy. Several business that could support tourism activity is serving resort/ homestay, culinary, souvenirs, and other tourism services.

6.1.6. Alternative Chosen Occupations

Dugong and seagrass conservation is conducted by means to protect its original ecosystem from extinction threat. Besides, conservation area is really beneficial for educational, research, knowledge development, cultural support, tourism destination, recreation purposes, etc.

Even so, conservation activity also must be balanced by increasing local's economy around conservation area. Deep study must be done to find out alternative business that could be done for people in conservation area that intersect directly with dugong and seagrass conservation.

According to research, it is found that people in sample villages have main jobs which they work at dugong and seagrass conservation area, as fishermen. This could cause negatively on that conservation area and could be threats for dugong that is bycatch by

people' activity on conservation area. From research result, it is known that alternative occupation that people prefer are: 13% spirulina cultivation business, 8% daun ujung atap cultivation business, 46% capture yield processing business, 14% seaweed cultivation business, and 19% tourism destination management business. If these alternative business could be applied, then people' activity in dugong and seagrass area would reduce 56% with notes that 14% of cultivation business is done outside dugong and seagrass conservation area. If 46% capture yield process could be done outside dugong and seagrass conservation area, then the preservation of that conservation area would be better, people would fish outside conservation area. To persuade people to move to alternative occupations, it needs coordination, guidance, and accompaniment from many related parties, from government to other stakeholders.

6.2. Exclusive Tourism Destination Development

On economy development context, social and cultural in regions, tourism development could give positive impact on economy growth in regions. Besides, tourism sector could help preserving local value and culture, also it has potentials to bridge the socio-culture different with economy imbalance. However, if it's not planning well and carefully, tourism industry could also give opportunity of many negative impacts that harm economical, social, and cultural life in involved regions. Because of that, tourism sector development regulation should calculate accurately the positive and negative impacts. Local government's role as initiator, motivator, facilitator, and advocate in this context really determine the success of tourism development. Besides, tourism sub-sector is expected to move community's economy, because it is thought to be the sector that is most

ready on facility and infrastructure, compared to the other business sectors. This expectation is developed into a community empowerment strategy through tourism development that is community-based.

Developing tourism in one tourism destination must be based on planning, developing, and managing direction that is clear, so every potency that one region has could be empowered optimum to increase people' welfare. To obtain optimum result, development in tourism is not only supported by one party only, but it is a collaboration from many parties, even private, cultural figure, and government officials. More importantly, there is an involvement of local community as a key success factor of tourism development. Without involving community, tourism building would only create tourism products that are less meaningful for community and are not suitable with community's needs. Community participation is a key on every tourism development program, as if it's a new label that should stick to every regulation and tourism development project.

Development through people' participation is one of the effort to empower people' potentials on planning on development that is related with local resource potential, based on discussion study. The discussion is done in order to increase aspiration in willingness and real needs within community, increasing community and participation of community group in development process, and increasing sense of belonging toward community group about development program that has been made.

Kubu, Sungai Bakau, Teluk Bogam and Keraya have huge potentials in tourism sector. Kubu, Sungai Bakau, Teluk Bogam and Keraya regions have tourism potentials mainly beaches. According to that condition, tourism development in Kubu, Sungai Bakau, Teluk Bogam and Keraya must be focused in sustainable tourism development that is

community-based with facilities and accessibility support. Development focus of this tourism would make less-attended tourism objects from government as main tourism destination in Kotawaringin Barat Regency. The development focus in this tourism needs to be discussed and be a commitment from all stakeholders in exclusive regional tourism development.

CHAPTER VII

CLOSING

(DESA KUBU, DESA SUNGAI BAKAU, DESA TELUK BOGAM DAN
DESA KERAYA)

Study of Empowerment and Economic Improvement of Coastal People in Kubu, Sungai Bakau, and Teluk Bogam Village, Kumai District, West Kotawaringin Regency Through People Business Alternatives in Order to Support Dugong and Seagrass Conservation

7.1. Conclusion

Kubu Village, Sungai Bakau, Teluk Bogam and Keraya area are regions with huge potentials.

1. Strengths of Kubu, Sungai Bakau, Teluk Bogam and Keraya regions are (a) Strategic village/ region location (*accessibility*/ easy to visit); (b) Beautiful scenery (interesting view when it's *sunset* and *sunrise*) and landscape attraction (combination between sloping coastal and land or tropical forest that could be recreation place, research, and education); (c) land availability to develop, in coastal and land that are owned by government and locals (personal/ traditional community/ "ulayat" land); (d) Land is coastal and tropical forest that has many kinds of flora and fauna that could be cultivated; (e) Working almatater numbers that could be harnessed are available in relatively huge village/ region, or in other words, employers are available

2. Weakness of Kubu, Sungai Bakau, Teluk Bogam and Keraya regions are (a) There has not been supporting facilities that support to develop village or region like homestay service, restaurant service, limited financial institution, minimum health service, limited educational institution, etc. (b) Education level and skills that people own as human resources are very low. This would affect the productivity we want to pursue, in quality and quantity. (c) Limited fund or investment that could be owned in effort to develop village or region. (d) Limited infrastructure like narrow road, so it could intrude transportation activity. (e) Minimum effort to introduce or market village or region to outsiders.
3. Opportunities in Kubu, Sungai Bakau, Teluk Bogam and Keraya regions are (a) Many organizations, government owned or private owned that are ready to collaborate in order to develop potentials in village or regions; (b) Visit's potential from people or tourist to a destination is huge; (c) developing/ diversification programs of business activities that exist or different that the existing ones, like: processing yields that follow technology's development, making a region as an attractive tourism destination, etc.
4. Threats to Kubu, Sungai Bakau, Teluk Bogam and Keraya regions are (a) Competition climate between villages or regions that is more competitive, in tourism destination development, business activity, and attracting investor to invest; (b) foreign's culture that enters, that could cause negative on community's life in the village or region; (c) Criminal acts that could threat security and environment preservation in village or region

5. From research result, it found that the main job of coastal's community are still within dugong and seagrass conservation, but this thing affects negatively on preserving that area. To reduce community's activity on conservation area, there should be alternative jobs that are potential to develop for coastal community, they are: (1) Spirulina cultivation, (2) Seaweed cultivation, (3) "ujung atap" leaves cultivation, (4) Processing capture yield, and (5) managing destinations of tourism
6. Through those alternative jobs, it is expected to reduce people' activity in dugong and seagrass conservation area to 54%, with considerations if one of alternative jobs: seaweed cultivation is done outside conservation area and if people could be persuaded to fish outside conservation area, then the conservation area would be free from people' activity

7.2. Recommendation

In order top preserve dugong and seagrass conservation, we could do those things:

1. Coordinate with many parties , government and private, so we could give understanding to community to move from main job activity in dugong and seagrass conservation area to alternative jobs outside conservation area
2. Giving invesment toward community to start their alternative jobs, like (1) Spirulina cultivation, (2) Seaweed cultivation, (3) "ujung atap" leaves cultivation, (4) Processing capture yield, and (5) managing destinations of tourism.
3. Doing accompaniment so people could have skills and competence to make alternative jobs as their main jobs.

4. Preparing facilities and infrastructure (including marketing organization of product result) from head to toe regarding alternative jobs.
5. Accompanying production yield processing and facilitate marketing of product result of alternative jobs.

Appendix 1. Model of AL Questionnaire

QUESTIONNAIRE (QUESTIONS)

I. Researchers identity :

POTENTION STUDY TEAM REGIONS / VILLAGE :

1. Drs. ARIFIN, MM
2. SUHARTINI, S.Pi.,M.Pi
3. WINARTI SETYORINI, SE.,MM
4. EMA PRASTYA KUSTANTI, S.Psi
5. TENGKU TAUFIK ALAMSYAH, SH.,MH

Address : Antakusuma Pangkalan Bun University

Research sites :

1. Keraya Village
2. Teluk Bogam Village
3. Sungai Bakau Village
4. Kubu Village

The questionnaire was created in order to review the potential or resources possessed by the region or village where the location of the research was conducted. For this purpose it is hoped that you can help fill in this list of questions by providing the correct answers. We thank you for your help.

II. Respondent Identity

Name :

Address :

Sex : Laki-laki / Wanita

Age :

Job :

Education :

Income per month :

III. Filling instructions :

- Mark 0 = If the horizontal parameter is less important than the vertical parameter
 - 1 = If the horizontal parameter is just as important as the vertical parameter
 - 2 = If the horizontal parameter is more important than the vertical parameter
- Giving rank 1 means : Not Important (NI)
- Giving rank 2 means : Quite Important (QI)
- Giving rank 3 means : Important (I)
- Giving rank 4 means : Very Important (VI)

Internal Factor :

Strengths :	GRADE			
	VI	I	QI	NI
1. Strategic village or area location (accessibility / easy to visit)				
2. Natural beauty (fascinating panorama at sunset and sunrise) and landscape attraction (a combination of sloped coast and land or tropical forests that can be used as recreational, rising, and educational facilities).				
3. Availability of land to be developed, both coastal and land areas owned by the government and the community (private / customary people or ulayat land).				
4. Land in the form of coastal areas and tropical forests have various types of flora and fauna are very likely to be able to be cultivated.				
5. Availability of considerable support and attention, either from government or the people surround region / village to the development of the region.				
6. The considerable goodwill of the government and the people to developed regions or villages.				
7. The number of labor force that can be empowered is available in the village / region is relatively large enough or in other words, there's enough work				

force that available.				
8. Besides to the potential of owned natural resources but also historical, art, and cultural that can be used as riset and education materials.				
9. There are historical objects or relics such as monuments, traditional houses, tombs, equipment (cannons, spears, arrows, etc.) that are guarded and preserved				
10. The availability of processed products, both in the form of crafts and various types of food and culinary.				
Weaknesses :	SCORE			
	VI	I	QI	NI
11. Unavailability of facilities that support to develop a village or region such as lodging service, restaurants / restaurant services, financial institutions are very limited, health services are very minimal, educational institutions are very minimal.				
12. The level of education and skills or skills owned by the people as a human resources is very minimal or low. This will affect the level of results (productivity) achieved both quantity and quality.				
13. Limited funds or capital owned in effort of developing village or region.				
14. Limited infrastructure such as the narrowness of roads, so that can disrupt transport activities.				
15. Lack of effort to introduce or or marketing villages or regions to outsiders.				

External Factors :

Opportunities :	SCORE			
	VI	I	QI	NI
16. Many institutions whether government or private sector, are ready and willing to cooperate in efforts to develop the potential of the village of region.				
17. The potential of people or tourists to visit a destination is high enough.				
18. Developing (diversification) of existing programs or business activities or different from the existing one such as : processing products following the development of technology, making the region as an attractive tourist destination, etc.				
Threats :	SCORE			
	VI	I	QI	NI
19. Climate competition between villages or areas that are more competitive, both in the development of tourist destinations, business activities and withdrawal of investors to invest.				
20. The entry of an outside culture that could have a negative impact on people's lives around the village or region.				
21. Criminal acts that can threaten the security and environmental sustainability of surrounding of village or region.				

22. According to Mr / Ms / Mrs from some potentials or resources that your region / villages owned, which can be developed, as follows :

AL Review Kubu, Sungai Bakau, Teluk Bogam and Keraya Village by UNTAMA-WWF

- a. Spirulina plant cultivation.
- b. Seaweed plant cultivation.
- c. Ujung atap plant cultivation.
- d. Processing of the catch.
- e. Management of destination / tourism destinations.

Internal	Strategic village or area location (accessibility / easy to visit)	Natural beauty (fascinating panorama at sunset and sunrise) and landscape attraction (a combination of sloped coast and land or tropical forests that can be used as recreational, rising, and educational facilities).	Availability of land to be developed, both coastal and land areas owned by the government and the community (private / customary people or ulayat land).	Land in the form of coastal areas and tropical forests have various types of flora and fauna are very likely to be able to be cultivated.	Availability of considerable support and attention, either from government or the people surround region / village to the development of the region.	The considerable goodwill of the government and the people to developed regions or villages.	The number of labor force that can be empowered is available in the village / region is relatively large enough or in other words, there's enough work force that available.	Besides to the potential of owned natural resources but also historical, art, and cultural that can be used as rise and education materials.
Strengths								
Strategic village or area location (accessibility / easy to visit)								
Nature's beauty (scenic view during sunrise and sunset) and interesting landscape (combination of sloping coastal and mainland or tropical forest that can be used as recreation, research and education)								

			There are historical objects or relics	The availability of processed	Unavailability of supporting facilities to	The level of education and skills or skills	Limited funds or capital owned in effort	Limited infrastructure such as the	Lack of effort to introduce		
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Internal			such as monuments, traditional houses, tombs, equipment (cannons, spears, arrows, etc.) that are guarded and preserved	products, both in the form of crafts and various types of food and culinary.	develop a village or region such as lodging services, restaurant / restaurant services, very limited financial institution, very minimal health services, very minimal education institution, etc..	owned by the people as a human resources is very minimal or low. This will affect the level of results (productivity) achieved both quantity and quality.	of developing village or region.	narrowness of roads, so that can disrupt transport activities.	or marketing villages or regions to outsiders.	Total Score	Weight
Strengths											
Strategic village or area location (accessibility / easy to visit)											
Nature's beauty (scenic view during sunrise and sunset) and interesting landscape (combination of sloping coastal and mainland or tropical forest that can be used as recreation, research and education)											

Internal	Strategic village or area location (accessibility / easy to visit)	Natural beauty (fascinating panorama at sunset and sunrise) and landscape attraction (a combination of sloped coast and land or tropical	Availability of land to be developed, both coastal and land areas owned by the government and the community (private / customary people or ulayat	Land in the form of coastal areas and tropical forests have various types of flora and fauna are very likely to be able to be cultivated.	Availability of considerable support and attention, either from government or the people surround region / village to the	The considerable goodwill of the government and the people to developed regions or villages.	The number of labor force that can be empowered is available in the village / region is relatively large enough or	Besides to the potential of owned natural resources but also historical, art, and cultural that can be used as riset and education materials.
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		forests that can be used as recreational, rising, and educational facilities).	land).		development of the region.		in other words, there's enough work force that available.	
Strengths								
Availability of land to be developed, both coastal and land areas owned by the government and the community (private / customary people or ulayat land).								
Land in the form of coastal areas and tropical forests have various types of flora and fauna are very likely to be able to be cultivated.								

Internal					There are historical objects or relics such as monuments, traditional houses, tombs, equipment (cannons, spears, arrows, etc.) that are	The availability of processed products, both in the form of crafts and various types of food and culinary.	Unavailability of supporting facilities to develop a village or region such as lodging services, restaurant / restaurant services, very limited financial institution, very	The level of education and skills or skills owned by the people as a human resources is very minimal or low. This will affect the level of results	Limited funds or capital owned in effort of developing village or region.	Limited infrastructure such as the narrowness of roads, so that can disrupt transport activities.	Lack of effort to introduce or marketing villages or regions to outsiders.		
											Total Score	Weight	

					guarded and preserved		minimal health services, very minimal education institution, etc..	(productivity) achieved both quantity and quality.					
Strengths													
Availability of land to be developed, both coastal and land areas owned by the government and the community (private / customary people or ulayat land).													
Land in the form of coastal areas and tropical forests have various types of flora and fauna are very likely to be able to be cultivated.													

Internal	Strategic village or area location (accessibility / easy to visit)	Natural beauty (fascinating panorama at sunset and sunrise) and landscape attraction (a combination of sloped coast and land or tropical forests that can be used as recreational, rising, and educational facilities).	Availability of land to be developed, both coastal and land areas owned by the government and the community (private / customary people or ulayat land).	Land in the form of coastal areas and tropical forests have various types of flora and fauna are very likely to be able to be cultivated.	Availability of considerable support and attention, either from government or the people surround region / village to the development of the region.	The considerable goodwill of the government and the people to developed regions or villages.	The number of labor force that can be empowered is available in the village / region is relatively large enough or in other words, there's enough work force that available.	Besides to the potential of owned natural resources but also historical, art, and cultural that can be used as riset and education materials.
Strengths								
Availability of considerable support and attention, either								

from government or the people surround region / village to the development of the region.								
The considerable goodwill of the government and the people to developed regions or villages.								

Internal							There are historical objects or relics such as monuments, traditional houses, tombs, equipment (cannons, spears, arrows, etc.) that are guarded and preserved	The availability of processed products, both in the form of crafts and various types of food and culinary.	Unavailability of supporting facilities to develop a village or region such as lodging services, restaurant / restaurant services, very limited financial institution, very minimal health services, very minimal education institution,	The level of education and skills or skills owned by the people as a human resources is very minimal or low. This will affect the level of results (productivity) achieved both quantity and quality.	Limited funds or capital owned in effort of developing village or region.	Limited infrastructure such as the narrowness of roads, so that can disrupt transport activities.	Lack of effort to introduce or marketing villages or regions to outsiders.		
														Total Score	Weight

									etc..							
Strengths																
Availability of considerable support and attention, either from government or the people surround region / village to the development of the region.																
The considerable goodwill of the government and the people to developed regions or villages.																

Internal	Strategic village or area location (accessibility / easy to visit)	Natural beauty (fascinating panorama at sunset and sunrise) and landscape attraction (a combination of sloped coast and land or tropical forests that can be used as recreational, rising, and educational facilities).	Availability of land to be developed, both coastal and land areas owned by the government and the community (private / customary people or ulayat land).	Land in the form of coastal areas and tropical forests have various types of flora and fauna are very likely to be able to be cultivated.	Availability of considerable support and attention, either from government or the people surround region / village to the development of the region.	The considerable goodwill of the government and the people to developed regions or villages.	The number of labor force that can be empowered is available in the village / region is relatively large enough or in other words, there's enough work force that available.	Besides to the potential of owned natural resources but also historical, art, and cultural that can be used as riset and education materials.
Strengths								
The number of labor force that can be empowered is available in the village / region is relatively large enough or in other words, there's enough work force that available.								

enough or in other words, there's enough work force that available.																	
Besides to the potential of owned natural resources but also historical, art, and cultural that can be used as riset and education materials.																	

Internal	Strategic village or area location (accessibility / easy to visit)	Natural beauty (fascinating panorama at sunset and sunrise) and landscape attraction (a combination of sloped coast and land or tropical forests that can be used as recreational, rising, and educational facilities).	Availability of land to be developed, both coastal and land areas owned by the government and the community (private / customary people or ulayat land).	Land in the form of coastal areas and tropical forests have various types of flora and fauna are very likely to be able to be cultivated.	Availability of considerable support and attention, either from government or the people surround region / village to the development of the region.	The considerable goodwill of the government and the people to developed regions or villages.	The number of labor force that can be empowered is available in the village / region is relatively large enough or in other words, there's enough work force that available.	Besides to the potential of owned natural resources but also historical, art, and cultural that can be used as riset and education materials.
Kekuatan (Strength)								
There are historical objects or relics such as monuments, traditional houses, tombs, equipment (cannons, spears, arrows, etc.) that are guarded and preserved								
The availability of processed products, both in the form of crafts and various types								

of food and culinary.									
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Internal									There are historical objects or relics such as monuments, traditional houses, tombs, equipment (cannons, spears, arrows, etc.) that are guarded and preserved	The availability of processed products, both in the form of crafts and various types of food and culinary.	Unavailability of supporting facilities to develop a village or region such as lodging services, restaurant / restaurant services, very limited financial institution, very minimal health services, very minimal education institution, etc..	The level of education and skills or skills owned by the people as a human resources is very minimal or low. This will affect the level of results (productivity) achieved both quantity and quality.	Limited funds or capital owned in effort of developing village or region.	Limited infrastructure such as the narrowness of roads, so that can disrupt transport activities.	Lack of effort to introduce or marketing villages or regions to outsiders.		
	Strengths															Total Score	Weight
	There are historical objects or relics such as monuments, traditional houses, tombs, equipment (cannons, spears,																

arrows, etc.) that are guarded and preserved																		
The availability of processed products, both in the form of crafts and various types of food and culinary.																		

Internal	Strategic village or area location (accessibility / easy to visit)	Natural beauty (fascinating panorama at sunset and sunrise) and landscape attraction (a combination of sloped coast and land or tropical forests that can be used as recreational, rising, and educational facilities)	Availability of land to be developed, both coastal and land areas owned by the government and the community (private / customary people or ulayat land).	Land in the form of coastal areas and tropical forests have various types of flora and fauna are very likely to be able to be cultivated.	Availability of considerable support and attention, either from government or the people surround region / village to the development of the region.	The considerable goodwill of the government and the people to developed regions or villages.	The number of labor force that can be empowered is available in the village / region is relatively large enough or in other words, there's enough work force that available.	Besides to the potential of owned natural resources but also historical, art, and cultural that can be used as riset and education materials.
Weakness								
Unavailability of supporting facilities to develop a village or region such as lodging services, restaurant / restaurant services, very limited financial institution, very minimal health services, very minimal education institution, etc..								
The level of education and skills or skills owned by the people as a human resources is very minimal or low. This will affect the level of results (productivity) achieved both quantity and quality.								

Internal									There are historical objects or relics such as monuments, traditional houses, tombs, equipment (cannons, spears, arrows, etc.) that are guarded and preserved	The availability of processed products, both in the form of crafts and various types of food and culinary.	Unavailability of supporting facilities to develop a village or region such as lodging services, restaurant / restaurant services, very limited financial institution, very minimal health services, very minimal education institution, etc..	The level of education and skills or skills owned by the people as a human resources is very minimal or low. This will affect the level of results (productivity) achieved both quantity and quality.	Limited funds or capital owned in effort of developing village or region.	Limited infrastructure such as the narrowness of roads, so that can disrupt transport activities.	Lack of effort to introduce or marketing villages or regions to outsiders.		
																Total Score	Weight
Weakness																	
									Unavailability of supporting facilities to develop a village or region such as lodging services, restaurant / restaurant services, very limited financial institution, very minimal health services, very minimal education institution, etc..								

Internal	Lokasi desa atau wilayah yang strategis (<i>aksesibilitas</i> /mudah dikunjungi)	Natural beauty (fascinating panorama at sunset and sunrise) and landscape attraction (a combination of sloped coast and land or tropical forests that can be used as recreational, rising, and educational facilities).	Availability of land to be developed, both coastal and land areas owned by the government and the community (private / customary people or ulayat land).	Land in the form of coastal areas and tropical forests have various types of flora and fauna are very likely to be cultivated.	Availability of considerable support and attention, either from government or the people surround region / village to the development of the region.	The considerable goodwill of the government and the people to developed regions or villages.	The number of labor force that can be empowered is available in the village / region is relatively large enough or in other words, there's enough work force that available.	Besides to the potential of owned natural resources but also historical, art, and cultural that can be used as riset and education materials.
Weakness								
Limited funds or capital owned in effort of developing village or region.								
Limited infrastructure such as the narrowness of roads, so that can disrupt transport activities.								
Lack of effort to introduce or marketing villages or regions to outsiders.								

Internal										There are historical objects or relics such as monuments, traditional houses, tombs, equipment (cannons, spears, arrows, etc.) that are guarded and preserved	The availability of processed products, both in the form of crafts and various types of food and culinary.	Unavailability of supporting facilities to develop a village or region such as lodging services, restaurant / restaurant services, very limited financial institution, very minimal health services, very minimal education institution, etc..	The level of education and skills or skills owned by the people as a human resources is very minimal or low. This will affect the level of results (productivity) achieved both quantity and quality.	Limited funds or capital owned in effort of developing village or region.	Limited infrastructure such as the narrowness of roads, so that can disrupt transport activities.	Lack of effort to introduce or marketing villages or regions to outsiders.			
	Weakness																		
	Limited funds or capital owned in effort of developing village or region.																		
	Limited infrastructure such as the narrowness of roads, so that can disrupt transport activities.																		
Lack of effort to introduce or marketing villages or regions to outsiders.																			

External	Many institutions whether government or private sector, are ready and willing to cooperate in efforts to develop the potential of the village of region.	The potential of people or tourists to visit a destination is high enough.	Developing (diversification) of existing programs or business activities or different from the existing one such as : processing products	Climate competition between villages or areas that are more competitive, both in the development of tourist destinations, business activities and	The entry of an outside culture that could have a negative impact on people's lives around the village or region.	Criminal acts that can threaten the security and environmental sustainability of surrounding of village or region.		
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			following the development of technology, making the region as an attractive tourist destination, etc	withdrawal of investors to invest.				Total Score	Weight
Peluang (Opportunities)									
Many institutions whether government or private sector, are ready and willing to cooperate in efforts to develop the potential of the village of region.									
The potential of people or tourists to visit a destination is high enough.									
Developing (diversification) of existing programs or business activities or different from the existing one such as : processing products following the development of technology, making the region as an attractive tourist destination, etc									

External	Many institutions whether government or private sector, are ready and willing to cooperate in efforts to develop the potential of the village of region.	The potential of people or tourists to visit a destination is high enough.	Developing (diversification) of existing programs or business activities or different from the existing one such as : processing products following the development of technology, making	Climate competition between villages or areas that are more competitive, both in the development of tourist destinations, business activities and withdrawal of investors to invest.	The entry of an outside culture that could have a negative impact on people's lives around the village or region.	Criminal acts that can threaten the security and environmental sustainability of surrounding of village or region.		Total Score	Weight
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			the region as an attractive tourist destination, etc					
Ancaman (Threats)								
Climate competition between villages or areas that are more competitive, both in the development of tourist destinations, business activities and withdrawal of investors to invest.								
The entry of an outside culture that could have a negative impact on people's lives around the village or region.								
Criminal acts that can threaten the security and environmental sustainability of surrounding of village or region.								

Pangkalan Bun,..... March 2018

(.....)

