

**INCUBATION BUSINESS THROUGH THE MANGROVE  
FOR COASTAL RESILIENCE (M4CR) PROJECT BY  
PEAT AND MANGROVE RESTORATION AGENCY (BRGM RI)**

**FINAL PROJECT**

**INTERNSHIP & CERTIFIED INDEPENDENT STUDY (MSIB)**



by:

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**INTERNATIONAL UNDERGRADUATE PROGRAM IN DEVELOPMENT ECONOMICS  
FACULTY OF BUSINESS AND ECONOMICS  
UNIVERSITAS ISLAM INDONESIA**

**2025**

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FOR COASTAL RESILIENCE (M4CR) PROJECT BY  
PEAT AND MANGROVE RESTORATION AGENCY (BRGM RI)**

**INTERNSHIP & CERTIFIED INDEPENDENT STUDY (MSIB)**

This internship and certified independent study (MSIB) final project is prepared and submitted to fulfil one of the requirements for the final exam, which is required to complete the study and obtain an undergraduate degree in the International Undergraduate Program in Development Economics, Faculty of Business and Economics, Universitas Islam Indonesia, Yogyakarta.

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**INTERNATIONAL UNDERGRADUATE PROGRAM IN DEVELOPMENT ECONOMICS  
FACULTY OF BUSINESS AND ECONOMICS  
UNIVERSITAS ISLAM INDONESIA**

**2025**

## **DECLARATION OF AUTHENTICITY**

Herein, I declare the originality of the Internship and Certified Independent Study (MSIB) Final Project; I have neither presented anyone else's work to obtain my university degree nor presented anyone else's words, ideas, or expressions without acknowledgement. All quotations are cited and listed in the bibliography of the final project internship and certified independent study (MSIB).

If this statement is proven to be false in the future, I am willing to accept any sanction that complies with the determined regulations or its consequences.

Yogyakarta, March 21, 2025



Dhicko Akbar Ramadhan

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**APPROVAL PAGE**

**INTERNSHIP REPORT**

**INCUBATION BUSINESS THROUGH THE MANGROVE  
FOR COASTAL RESILIENCE (M4CR) PROJECT BY  
PEAT AND MANGROVE RESTORATION AGENCY (BRGM RI)**

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*Bismillahirrahmanirrahim,*

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Yogyakarta, May 13, 2025



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**YUDICIUM INTERNSHIP EXAMINATION**

**INCUBATION BUSINESS THROUGH THE MANGROVE FOR COASTAL RESILIENCE  
(M4CR) PROJECT BY PEAT AND MANGROVE RESTORATION AGENCY  
(BRGM RI)**

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Prof. Johan Arifin, S.E., M.Si., Ph.D.

## MOTTO

***“Perhaps you hate a thing, and it is good for you, and perhaps you love a thing, and it is bad for you. Allah knows, while you do not know that.”***

*(Q.S Al-Baqarah: 216)*

***“Speak to People Kindly”***

*(Q.S Al-Baqarah: 83)*

***“So, Surely, With Hardship Comes Ease. “Surely with hardship more ease”***

*(Q.S Ash-Sharh: 5-6)*

***"Twenty years from now you will be more disappointed by the things that you didn't do than by the ones you did do."***

*- H. Jackson Brown Jr., P.S -*

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With utmost submission, I surrender myself to Allah SWT, acknowledging that every achievement and success is solely by His will. This final project, entitled **“INCUBATION BUSINESS THROUGH THE MANGROVE FOR COASTAL RESILIENCE (M4CR) PROJECT BY PEAT AND MANGROVE RESTORATION AGENCY (BRGM RI)”**, is a testament to His infinite grace and the strength He has granted me throughout this academic journey.

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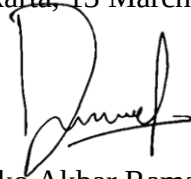
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May Allah SWT always bless those who have supported me in this endeavour, and may this work bring benefits to knowledge and society. Aamiin  
Ya Rabbal 'Alamin

Yogyakarta, 13 March 2025

A handwritten signature in black ink, appearing to read 'Dhicko Akbar Ramadhan', with a stylized, cursive script.

Dhicko Akbar Ramadhan

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## **ABSTRACT**

The Mangrove for Coastal Resilience (M4CR) project by the Peat and Mangrove Restoration Agency (BRGM) aims to strengthen coastal resilience through mangrove rehabilitation and community empowerment. Business incubation serves as a key strategy to enhance the entrepreneurial capacity of coastal communities. This report analyses the role of business incubation in developing mangrove-based enterprises, along with its challenges and solutions. Through field observations, interviews, and secondary data analysis, the program was found to improve managerial capacity, product diversification, and market access for community business groups. However, challenges such as limited capital, restricted access to technology, and insufficient business knowledge remained significant obstacles. To address these, M4CR provided funding (Matching Grants), training, and mentoring to support economic sustainability and mangrove ecosystem conservation.

***Keywords: Business Incubation, BRGM, M4CR, Coastal Resilience, Community Empowerment, Mangrove Ecosystem***

## ABSTRAK

Proyek *Mangrove for Coastal Resilience* (M4CR) yang dijalankan oleh Badan Restorasi Gambut dan Mangrove (BRGM) bertujuan memperkuat ketahanan pesisir melalui rehabilitasi mangrove dan pemberdayaan masyarakat. Inkubasi bisnis menjadi strategi utama dalam meningkatkan kapasitas usaha masyarakat pesisir. Laporan ini menganalisis peran inkubasi bisnis dalam pengembangan usaha berbasis mangrove serta tantangan dan solusinya. Melalui observasi lapangan, wawancara, dan analisis data sekunder, ditemukan bahwa program ini meningkatkan kapasitas manajerial kelompok usaha, diversifikasi produk, dan akses pasar. Namun, kendala seperti keterbatasan modal, akses teknologi, dan pemahaman bisnis masih menjadi tantangan. Untuk mengatasinya, M4CR menyediakan pendanaan (*Matching Grants*), pelatihan, dan pendampingan guna mendukung keberlanjutan ekonomi masyarakat serta konservasi ekosistem mangrove.

***Kata Kunci: Inkubasi Bisnis, BRGM, M4CR, Ketahanan Pesisir, Pemberdayaan Masyarakat, Ekosistem Mangrove***

# **CHAPTER I**

## **INTRODUCTION**

### **1.1 Background**

Indonesia has the largest and most productive mangrove ecosystem in the world. Currently, Indonesia has a mangrove ecosystem area of around 3.4 million hectares (ha); Indonesia's mangrove ecosystem accounts for more than 20 percent of the total global mangrove area (KLHK, National Mangrove Map, 2021). Indonesian mangroves have high biodiversity importance. Indonesian mangroves serve as important fisheries habitats (nurseries, habitats, and food sources) and are home to many endangered, threatened, and unique animal species such as birds, insects, mammals, and reptiles. Mangroves are the primary habitat of the endangered proboscis monkey, found in Indonesia and endemic to Borneo (Mangrove Action Project, 2015). In addition, mangroves can store large amounts of blue carbon to mitigate the effects of climate change. Overall, Indonesia's mangroves store 3.1 billion tons of carbon, equivalent to the greenhouse gas emissions produced by about 2.5 billion vehicles driven in one year (Alongi et al., 2016).

Development in Indonesia faces a variety of complex challenges, especially in Indonesia's coastal areas which are sensitive to climate change and environmental damage. One of these coastal ecosystems is the mangrove ecosystem, which is one of the most essential plants in protecting the coast from abrasion and soil depreciation, as well as supporting biodiversity. However, many times we know that coastal communities minimally use this potential optimally. It is in this context that the peat and mangrove restoration agency (BRGM) through the mangrove for coastal resilience (M4CR) project funded by the world bank comes as a strategic solution.

The program provided by BRGM through the Mangrove for Coastal Resilience (M4CR) project did not only aim to restore and protect mangrove ecosystems but also to empower communities around coastal Indonesia through sustainable business development programs.

According to Pertiwi & Trishananto (2024), this business incubation program is a very important program that aims to develop group businesses not only businesses but also develop quality human resources into independent, creative and productive business groups. The process of incubating a business includes training, mentoring, and guidance provided by the incubator institution to the business group. The main mission of business incubation is to help business groups to face market uncertainties and overcome obstacles that arise in their business.

Business incubation is an important tool in empowering micro, small, and medium enterprises (MSMEs) in Indonesia, especially in coastal areas. According to the Food and Agriculture (FAO), Approximately 65 percent of indonesia's population lives within 50 kilometers of the countru's coaslines (FAO,2021).

According to Merdeka, P. H (2023), the generally low status of coastal communities makes it difficult for them to obtain insurance and equity. As a result of this problem, coastal communities have difficulty in obtaining capital to develop their businesses due to the low credibility of coastal communities.

Coastal areas are rich in natural resources, but communities around the coast are less able to maximize this potential. In addition to limited access to capital, lack of knowledge about business management and uncertainty about climate change make it difficult for communities to maximize their potential. The need for business assistance to coastal communities aims to provide a new understanding of how to manage creative and productive business groups.

It is therefore important to explore how the business incubation program provided by the Peatland and Mangrove Restoration Agency under the Mangroves

for Coastal Resilience (M4CR) project is expected to improve the ability of communities to manage existing resources, while improving access to capital and management knowledge needed to thrive.

Based on the above background, the intern compiled an internship report in the business incubation assistant program conducted by the Peat and Mangrove Restoration Agency (BRGM) through the Mangrove for Coastal Resilience (M4CR) project. This program aims to incubate community businesses in mangrove coastal areas. This internship report is titled: **“Business Incubation through the Mangrove for Coastal Resilience (M4CR) Project by the Peat and Mangrove Restoration Agency (BRGM RI)”**

## **1.2. Company Profile**

### **1.2.1 BRGM**

The Peat and Mangrove Restoration Agency is a non-structural institution under and responsible to the president. BRGM was formed through presidential regulation number 120 of 2020 concerning the Peat and Mangrove Restoration Agency. BRGM's tasks are to facilitate the acceleration of peat restoration implementation, to carry out the acceleration of mangrove rehabilitation in targeted provinces, and to improve the welfare of communities in peat and mangrove restoration areas.



Source: BRGM RI (2023)  
Figure 1. Work Area BRGM

The Peat and Mangrove Restoration Agency is the Indonesian government's commitment to protect and restore critical ecosystems through an initiative that began with the establishment of the Peatland Restoration Agency (BRG) based on Presidential Regulation No. 1 of 2016. BRG is a specialized agency tasked with restoring and restoring the hydrological functions of peatlands damaged primarily by forest fires. This non-structural institution serves under and is directly responsible to the President of Indonesia. Furthermore, the Indonesian government extended the peat and mangrove ecosystem restoration program for the next 4 years through Presidential Regulation of the President of the Republic of Indonesia No. 120 of 2020 concerning the Peat and Mangrove Restoration Agency (BRGM).

2021 is a new challenge for BRGM RI in carrying out its duties to accelerate peatland and mangrove restoration. Peatland ecosystem restoration and mangrove ecosystem reforestation are expected to not only improve environmental quality but also improve the welfare of the community, especially those living in

peatland and mangrove areas. Important stages to achieve optimal performance or impact include planning, control, institutional strengthening, socialization, education, and evaluation.

Considering the critical role of mangroves for livelihoods, resilience and climate, in 2020 the Government of Indonesia announced the National Mangrove Rehabilitation Program, which is a priority of the President of Indonesia and aims to rehabilitate 600,000 hectares of degraded mangroves by 2024.

### **1.2.2. M4CR**

The Mangroves for Coastal Resilience (M4CR) program is a World Bank-funded project implemented by the Ministry of Environment and Forestry (MoEF) and the Peat and Mangrove Restoration Agency (BRGM).



*Source: KLHK*  
Figure 2. M4CR Logo

The M4CR program aims to improve mangrove management and livelihoods of local communities in selected coastal landscapes. M4CR focuses on strengthening coastal management through rehabilitation, conservation, and sustainable use of mangroves while improving the livelihoods of coastal communities. The project also adopts a resilience strengthening approach to mangrove management, to maintain the climate resilience function provided by mangrove ecosystems in Indonesia's coastline and to build the adaptive capacity of coastal communities. Well-managed mangrove ecosystems can reduce the impact

of climate-related hazards and ensure that coastal communities can continue to derive livelihood benefits from mangrove in facing shocks.

Mangroves are climate-adapted plants and are key to coastal resilience. Mangrove ecosystems can provide a powerful buffer against disasters such as tsunamis, erosion, inundation and flooding. The value of mangrove coastal protection is substantial, reaching US\$10,000 per hectare per year and can be found in several parts of the Indonesian archipelago, with variations depending on the density of population and infrastructure assets as well as the surrounding coastal communities (World Bank, 2021)

During this M4CR project in Indonesia until 2027, there are 4 main components of the mangrove project for coastal resilience including:

1. Policy and Institutional Strengthening of Mangrove Management
2. Rehabilitation and promoting sustainable mangrove landscape management
3. Improving livelihood opportunities for mangrove Communities
4. Project Management

It is expected that the 4 main competencies of M4CR can have a significant impact on protecting and restoring damaged mangrove coastal ecosystems.

BRGM RI through the M4CR project has an important task in restoring peat and mangroves and improve the welfare of communities on peatlands and mangroves, including BRGM RI focusing on 13 provinces in Indonesia. Based on Presidential Decree of the Republic of Indonesia No. 120 of 2020 concerning BRGM, it has the following functions:

- A. Implementation of peat restoration
- B. Planning, control and evaluation of peat restoration implementation
- C. Implementation of construction, operation, and maintenance of peat rewetting infrastructure and all its accessories



- e. Deputy for education and socialization, participation, and partnerships; and
- f. Deputy for Community Empowerment

The activities of BRGM RI are as follows:

- a. The Head has the task of leading the implementation of the duties and functions of BRGM
- b. The agency secretariat is under and responsible to the head. It has the task of providing administrative support to BRGM. The agency secretariat carries out the following functions:
  - 1. Coordination and preparation of plans; programs and budgets.
  - 2. Providing administrative, clerical, and resource support.
  - 3. Management of state-owned goods/wealth and government procurement of goods/services
  - 4. Development of foreign relations and cooperation in the framework of funding needs, science and technology, peat management, peat restoration management, and acceleration of mangrove rehabilitation implementation; and
  - 5. Implementation of other functions assigned by the head.
- c. The deputy for planning and evaluation has the task of carrying out the preparation of plans and evaluations of peat restoration and accelerating the implementation of mangrove rehabilitation. The deputy for planning and evaluation organizes functions as follows:
  - 1. Technical planning of peat restoration and acceleration of mangrove rehabilitation implementation
  - 2. Data development on peat restoration and acceleration of mangrove rehabilitation implementation; and

3. Implementation of monitoring and evaluation of peat restoration and acceleration of mangrove rehabilitation implementation.
- d. The deputy for construction, operation and maintenance has the task of implementing the construction, operation and maintenance of peat rewetting infrastructure. The deputy for construction, operation and maintenance performs the following functions:
1. Reorganize the management of burnt peat areas;
  2. Implementation of peat rewetting infrastructure construction and all its equipment;
  3. Operation and maintenance of peat rewetting infrastructure and its equipment;
  4. Implementation of conservation techniques in the protected zone of peat areas;
  5. Implementation of plant culture techniques in peat cultivation areas with appropriate plants, fodder and systems for the purpose of supporting community welfare
  6. Implementation of coordination with regional coordinators in accordance with their duties and functions; and
  7. Implementation of monitoring and evaluation in the fields of construction, operation, and maintenance.
- e. The deputy for education and socialization, participation, and partnerships has the task of implementing education and socialization as well as community participation and support. The Deputy for Education and Socialization, Participation and Partnerships performs the following functions:
1. Implementation of socialization and education on peat restoration and acceleration of mangrove rehabilitation implementation;

2. Gathering and accommodating community participation and support;
  3. Implementation of coordination with regional coordinators in accordance with their duties and functions; and
  4. Implementation of monitoring and evaluation in the fields of education, socialization, participation, and partnerships.
- f. The Deputy for Community Empowerment has the task of implementing community empowerment. The deputy for community empowerment organizes functions as follow:
1. Implementation of livelihood improvement in Peatland communities;
  2. Product development and diversification;
  3. Marketing of community products from peat areas;
  4. Implementation of accelerated mangrove rehabilitation with a labor-intensive approach; and
  5. Implementation of coordination with regional coordinators in accordance with their duties and functions.

### **1.3. Internship Formulation**

1. What is the role of business incubation in empowering community enterprises under BRGM RI's "Mangroves for Coastal Resilience" project?
2. What are the obstacles faced with developing mangrove-based product innovations to have higher economic value?
3. What are the inhibiting factors in developing market access for fisheries businesses, ecotourism, and mangrove processed products in coastal communities in Riau Province?

### **1.4. Internship Purpose**

The objectives of the internship at BRGM are the following:

1. Adding experience and insight into coastal community business development activities
2. support the development of business capacity of coastal community groups through business incubation programs that focus on mangrove product products
3. encourage the involvement of local coastal communities in efforts to restore mangrove ecosystem conservation.

#### **1.5. Output**

The outputs provided by the business incubation program run by the peat and mangrove restoration agency (BRGM) through the mangrove for coastal resilience (M4CR) project are the following:

1. Improve the knowledge of coastal communities in managing a business group and add insight into human resource management, business, and marketing.
2. provide support for licensing business groups and products
3. Provide a business plan and analyze market prices that can be applied by coastal communities in developing their products

#### **1.6. Benefit of Internship**

1. Benefits of an internship for apprentice
  - a. as a requirement for graduating from undergraduate education in international undergraduate program majoring in Development Economics Faculty of Business and Economics
  - b. gaining practical work experience in helping coastal communities through community business development which gave me new insights into how to analyze markets and markets them
  - c. has opportunities to work with these institutions and opportunities to work in the government sector
2. Benefits of an internship for university

- a. as a means of utilizing human resources educated from universities
- b. build a good collaboration for the agency with the university.
- c. Benefits of an internship for Peat and Mangrove Restoration Agency (BRGM)
- d. to know the effectiveness of the business development of coastal communities under the assistance of BRGM with the M4CR project.

### **1.7. Systematics of Writing**

#### **CHAPTER I: Introduction**

This chapter explains the background, company profile, location and time of internship, related internship activities carried out, problem formulation, internship objectives, outputs, internship benefits, and writing systematics.

#### **CHAPTER II: Literature Review**

This chapter presents the theoretical framework used in this report, details of the problem, and the action plan.

#### **CHAPTER III: Methodology**

This chapter describes the implementation method.

#### **CHAPTER IV: Result and Discussion**

This chapter describes the description of activities, business incubation activity plans, implementation strategy plans, profiles of fostered community groups, success factors in business incubation programs, the impact of business incubation programs, and the effectiveness of business incubation programs.

#### **CHAPTER V: Conclusion and Recommendation**

This chapter presents conclusions and recommendations

## **CHAPTER II**

### **LITERATURE REVIEW**

#### **2.1. Theoretical framework**

##### **2.2.1 Riau Province Mangroves**

Mangrove ecosystems are one of the coastal resources found in Indonesia. This mangrove ecosystem is an ecosystem that has very high diversity. The mangrove ecosystem area has 3 main functions (Qodrina, L., & Hamidy, R, 2013), namely:

- 1) physical functions include abrasion prevention, wind protection, prevention of salt intrusion and generation of energy and nutrients,
- 2) biological functions include as spawning and nursery areas for biota, bird nesting sites and natural habitats for another biota.,
- 3) Economic functions include as a source of fuel wood and charcoal, fisheries, agriculture, food, beverages, paper raw materials, household needs, textiles, synthetic fibers, leather tanning and medicine.

According to Marhawati et al., (2021), mangrove ecosystems ecologically function as protection of land and ocean ecosystems; habitat for various fauna; protection (abrasion / erosion, waves, strong winds); a place to feed, spawn, breed various types of fish and shrimp; controlling sea intrusion; controlling malaria; maintaining water quality (reducing water pollutants), carbon dioxide absorbers, relatively high oxygen producers compared to other types of forests. Mangrove forests have economic benefits as providers of various timber, non-timber forest products and ecotourism services. Sumar (2020) stated that mangrove forests play a role in preventing coastal erosion and abrasion. Erosion causes erosion of soil by water flow, while abrasion causes erosion of the land surface due to sea waves. Mangrove forests have roots that are efficient in protecting soil in coastal areas becoming a protector of soil erosion due to water. Mangroves growing on the shore

protect the land from direct wave action. Waves do not directly hit the plains causing erosion and landslides because they are protected by mangrove plants.

Riau is a province that has a mangrove area of 213,459.21 hectares (Rahadian et al., 2019), from this area and percentage making it the third largest province for mangrove distribution in Indonesia (Oktorina et al., 2022). Mangrove plants can be utilized as part of food security that contains economic value. Lindur (*Brugniera gymnorhiza*) mangrove fruit is consumed as a mixture of rice or corn. Apiapi (*Avicennia alba*) mangrove fruit is processed into chips, cake flour while Pedada (*Sonneratia caseolaris*) mangrove fruit is processed into syrup, pudding, dodol and candy (Sugianto, 2019; Djajati and Rosida, 2015).

Riau Province is one of the most degraded and deforested mangrove areas in Indonesia. The damaged mangrove forest area in Riau Province is located in Indragiri Hilir Regency. Within 8 years, there was a loss of 17,512.31 ha of mangrove forest from 121,535.31 ha in 2006 to 104,023.00 ha in 2014 (Forest Service of Indragiri Hilir Regency, 2016). One of the areas threatened by deforestation in Indragiri Hilir Regency is the Mandah area, which is the largest mangrove area of 31,007 ha.

### **2.2.2 Business Incubation**

Business incubation is important to the local economy because of value creation, which can channel entrepreneurs and enable them to release their business ideas and ventures into the market. Ramkissoon-babwah & Mc David (2014) stated that the role of the Incubator is to support viable business ideas and to help entrepreneurs to successfully pass the critical stage in the life of any company and grow in the market. Business incubation is a mechanism to help support startup companies for survival and growth in a competitive business environment (Moraru & Rusei, 2012).

The activities of the Business Incubator include entrepreneurial spirit development, management and business skills training for tenants, business consulting, reviewing in established companies and facilitating tenants in entrepreneurship to produce new entrepreneurs (Munkongsujarit, 2016).

A business incubator can be said to be a place that provides facilities for accelerating the growth of entrepreneurs through facilities and infrastructure owned in accordance with the main capabilities of the business. The Government of the Republic of Indonesia also realizes the importance of organizing entrepreneurial incubators. To create a conducive climate and foster innovative entrepreneurs, a joint agreement was signed between the Ministry of Cooperatives and Small and Medium Enterprises (KUKM), the Ministry of National Education and the Ministry of Research and Technology on March 31, 2010. The scope of the agreement includes increasing the quantity, quality and capacity of business and technology incubators. The agreement is also aimed at creating a conducive climate and wide space for the development of business incubators and their tenants, as well as improving coordination and support from related agencies.

The role of the government to encourage the development of entrepreneurial incubators, the government has made government policy in the form of Presidential Regulation (Perpres) No. 27 of 2013 concerning the Development of Entrepreneurial Incubators. The Presidential Regulation explains the need for an effective vehicle to develop entrepreneurial spirit, skills, networks, and business insights that can produce or develop new entrepreneurs who are resilient, creative, and professional. New entrepreneurs who have these characteristics are believed to be able to increase national competitiveness, while the vehicle in question is an entrepreneurial incubator.

### **2.2.3 Business Assistance**

Community empowerment assistance is one of the important strategies in developing a sustainable and inclusive village economy, where villagers can gain greater economic benefits and improve their quality of life (Rahayu & Febrina, 2021). Through this assistance, village communities can be empowered to develop their local potential by utilizing their natural resources and competitive advantages, as well as improving their access to markets and other resources (Suyatno & Suryani, 2022).

Community empowerment is a very important concept in sustainable development. The concept of community empowerment itself includes efforts to improve the ability and independence of the community to be able to take an active role in developing the region (Kusmana & Garis, 2019). One very important aspect in community empowerment is the economy because a good economy can improve the quality of life of the community and open up opportunities to improve welfare and prosperity (Riyansyah et al., 2018). In an effort to improve the economy of rural communities, good assistance is needed from parties who have expertise and experience in the field of economic empowerment (Tanan & Dhamayanti, 2020 and Rikantasari et al., 2023).

Community empowerment assistance in improving the village economy if based on several theories that can be used as a basis for designing activities and strategies in developing the village economy. Some of the relevant theories in this context are: (1) Community Empowerment Theory; it suggests that community empowerment is a process in which the community is empowered to overcome the problems it faces. The empowerment process involves the active participation of the community in solving problems, so that they can take control of their own lives (Habib, 2021). In the context of the village economy, community empowerment theory can be applied by involving the community in planning and developing

profitable businesses for them. (2) Local Economic Development Theory; it states that the local economy can be developed by optimizing local resources and building partnerships between the community, government, and private sector (Huda, 2020). In the context of the village economy, this theory can be applied by developing local economic potential, such as agricultural products, fisheries, and handicrafts, and building cooperation with the private sector and government to improve access to markets and increase production. (3) Social Entrepreneurship Theory; it suggests that entrepreneurship can be used as a tool to achieve social and economic goals (Indarto et al., 2020). In the context of the village economy, this theory can be applied by designing mentoring programs and activities to develop entrepreneurial skills and build social enterprises that benefit village communities. (4) Sustainable Development Theory; it suggests that development must be carried out by considering economic, social, and environmental aspects (Kharisma, 2020).

#### **2.2.4 Coastal Resilience**

Coastal communities are groups of people who depend on coastal areas for their livelihoods. As explained by Dahuri (2001), the potential area for various businesses in the field of Fisheries is the coastal area. The area is a transition between land and sea so that management in the field of Fisheries in coastal areas in Indonesia needs to be improved, coupled with the support of a very large coastline area.

Coastal communities are groups of people or communities that live in coastal areas and their economic livelihoods depend directly on the utilization of marine and coastal resources. They consist of owner fishermen, fishing laborers, fish and other marine organism farmers, fish traders, fish processors, suppliers of fishery production facilities. In the non-fishing sector, coastal communities can consist of sellers of transportation services and others. Coastal communities are

communities that have their own characteristics, different from communities in rural areas and or urban areas (Rizki, 2012).

## **2.5. Problem Details**

Coastal communities have limited business capacity. Their limitations in business processing become obstacles in economic activities in coastal communities. Factors such as lack of capital, knowledge and experience in business management are the main obstacles in coastal communities. This makes it difficult for business groups in coastal communities to develop and maintain their businesses.

Challenges in coastal communities are often related to access to markets. The low level of knowledge in coastal communities is an obstacle in innovating the products that business groups make. Coastal communities are also constrained in accessing technology and information which results in slow business group processes. Therefore, the peat and mangrove restoration agency (BRGM) through the mangrove for coastal resilience (M4CR) project has a community business development program that will facilitate the provision of capital, training, and assistance to community groups on the coast which is a bridge for them to increase business productivity and improve the economy of coastal communities in sustainability.

## **2.6. Activity Plan**

Resolving the issues described in Subchapter 2.2. BRGM with the M4CR project provides business development assistance support for coastal community groups through 3 business matching grants as follows:

| HIBAH BANTUAN USAHA MATCHING GRANTS                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                | HIBAH USAHA PRODUKTIF- <i>MATCHING GRANTS</i>                                                                                                                                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WINDOW 1 (SMALL MATCHING GRANT)                                                                                                                                                                                                                                                                                           | WINDOW 2 (BUSINESS MATCHING GRANT)                                                                                                                                                             | WINDOW 3 (INNOVATIVE MATCHING GRANT)                                                                                                                                                                                                                |
| <b>Target Penerima Hibah:</b> <ul style="list-style-type: none"> <li>•Kelompok Masyarakat yang terlibat dalam kegiatan Rehabilitasi Mangrove;</li> <li>•Kelompok Usaha yang setidaknya 1 (satu) orang yang terlibat dalam kegiatan Rehabilitasi Mangrove.</li> <li>•Kelompok teregistrasi dalam SK Kepala Desa</li> </ul> | <b>Target Penerima Hibah:</b><br>Klaster Kelompok Usaha maupun kolaborasi antara kelompok usaha dengan offtaker                                                                                | <b>Target Penerima Hibah:</b><br>Perguruan Tinggi/ Universitas, NGO, Lembaga Penelitian yang memiliki inovasi dan dapat direplikasikan pada kelompok usaha di lokasi rehabilitasi mangrove, sehingga mendorong peningkatan kualitas usaha kelompok. |
| <b>Besaran Hibah:</b><br>Maksimal Rp. 150.000.000,- namun disarankan untuk disesuaikan dengan skala kegiatan usaha.                                                                                                                                                                                                       | <b>Besaran Hibah:</b><br>Maksimal Rp. 500.000.000,- per klaster usaha                                                                                                                          | <b>Besaran Hibah:</b><br>Maksimal Rp. 500.000.000,- per klaster usaha                                                                                                                                                                               |
| <b>Kontribusi Kelompok:</b><br>10% untuk Pokmas, dapat dalam bentuk inkind.                                                                                                                                                                                                                                               | <b>Kontribusi Kelompok:</b><br>10% untuk Pokmas, 30% untuk offtaker                                                                                                                            | <b>Kontribusi Kelompok:</b><br>10% untuk Pokmas, 30% untuk offtaker                                                                                                                                                                                 |
| <b>Tujuan:</b><br>Keberhasilan program bukan didasarkan dari pencapaian/ keberhasilan usaha, namun sejauh mana masyarakat dapat mengimplementasikan rencana usaha yang telah disusun.                                                                                                                                     | <b>General Objectives:</b><br>Membangun usaha yang berkelanjutan dan memiliki dampak positif atau netral terhadap ekosistem mangrove, dan menstimulasi pengembangan usaha kelompok masyarakat. | <b>Tujuan:</b><br>Mendesain, replikasi dan mengevaluasi inovasi yang dapat mendorong peningkatan kualitas maupun kuantitas standar produk usaha Pokmas di Lokasi Rehabilitasi Mangrove.                                                             |

Source: BRGM RI (2021)  
Figure 4. Business Matching Grant

In the figure above, it can be explained that business assistance activities are categorized into 3 assistance windows with different grant amounts and target grant recipients. The three windows are the following:

1. **Window 1: Small Matching Grants:** Designed to support the development of small and micro enterprises in mangrove rehabilitation sites.
2. **Window 2: Business Matching Grants:** Designed to support initiation and integration and/or create employment opportunities in M4CR target locations
3. **Window 3: Innovation Matching Grant:** Designed to support the development of sustainable business innovations in mangrove ecosystems through research and development activities and the application of appropriate technology.

The administration of matching grants involves three key stakeholders: BRGM, which includes village facilitators, field coordinators, and controlling facilitators; field operators, consisting of business mentors, business incubation service providers, NGOs; and investment committees, which comprise

TRMD/TRGMD/KKMD, relevant government agencies, and universities. A more detailed explanation will be provided in Chapter IV.

## **CHAPTER III**

### **METHODOLOGY**

#### **3.1. Internship Location and Time**

Internship Merdeka, which is a program from the Ministry of Education and Culture and Research, the intern carried out for approximately 4 months from 06 September 2024 - 31 December 2024 located in the Riau province involving community assistance activities in a business incubation program provided by the Peat and Mangrove Restoration Agency (BRGM) through the Mangrove for Coastal Resilience (M4CR) project.

#### **3.2. Implementation Method**

The BRGM Program activities of community business incubation is under the responsibility of Deputy 4, the deputy for community empowerment. In the community business assistance program, it is supervised by the community business development working group, which is tasked with mentoring, training and product diversification.

This program conducts Coastal Enterprise Development. This subcomponent will develop and support the growth of sustainable business activities in coastal communities through, among others:

- (a) conduct specific market assessments
- (b) provide community business development assistance through Matching Grants so that communities are enabled to implement their business plans, obtain additional capital and operating costs or expand new businesses; and
- (c) provide technical support for the development and implementation of business plans funded by Matching Grants (with a focus on gender

issues), including links to financial services and productive activities.

Internship activities at BRGM are guided by sub-working groups, PICs, and Staff Control Facilitators from each Riau province. Sub-working groups, PICs, and Staff, act as facilitators who provide instructions and information for interns according to the competency targets that must be achieved during the internship at BRGM. The methods carried out during the Internship are as follows:

### **3.2.1 Institutional Approach in BRGM**

The first process through the village facilitator under Deputy 3 approached the community through mangrove preservation and mangrove planting which was expected that the community should protect mangroves and not damage them. Through this process, because they have preserved mangroves, the community is given the opportunity to develop a business that will be developed by BRGM through the M4CR project.

Model Bisnis Saat Ini Field practice implementation methods are carried out to identify existing community businesses. Identify the needs of coastal community business groups. Develop a business plan and analyze the business market together with the business group to ensure the business plan is in accordance with the needs of the community group. The field practice method is used by collecting information and data needed directly from the community.

### **3.2.3 Data Logging**

In the implementation of the internship at BRGM RI, which focuses on Deputy 4 in the field of community business development, data is collected through a community approach. This approach leads to a type of research where the community is aware that they are being observed

and involved in a study. In this method, subjects give consent to participate and are informed about the purpose of the research.

During the internship at BRGM, the intern utilized data directly obtained in the community through interviews and direct observation in the field, as a basis for preparing the final report. In addition, the intern collected secondary data from previous studies and research.

## **CHAPTER IV**

### **RESULT AND DISCUSSION**

#### **4.1 Activity Description**

During the internship, the intern was placed in the position of business incubation assistant in Riau province. The business incubation assistant is in the Fourth Deputy under the Community Business Development Working Group (Kapokja) and the Mangrove Product Community Business Development Working Group (Subkapokja). The Community Business Development Deputy was formed to minimize the risk of peat restoration and mangrove rehabilitation activities on local communities through the utilization of peat and mangrove ecosystems with economic value. This Program was done to give the community a reward for maintaining and planting mangroves by doing Maintain, Restore, Increase (M3). The target groups and work areas for community business development are community groups.

The form of community business development activities provided is in the form of business incubation or developing existing businesses in coastal areas. This activity focuses on facilitating community groups in starting their business, which includes analyzing the market chain of community group products, facilitating business licensing, facilitating product certification and product development. Business assistance focuses on the preparation of business plans, assistance in maintaining product quality, analyzing product markets, and assistance in developing product quality until they are ready to be marketed.

Through this community business development program supported by BRGM through the M4CR Project, it can encourage economic improvement and revive coastal communities. This program was also established to encourage communities not to depend on mangroves and cut down their trees and increase

community awareness in peat restoration and mangrove rehabilitation activities that are sustainable and forever.

Terms of Reference (TOR) is a guideline document that provides an overall description of the main activities in the implementation of business incubation. The following is a series of activities that have been carried out during the internship program with the Peat and Mangrove Restoration Agency through the Mangroves for Coastal Resilience project in Riau province.

Table 1. Activity Guide and Competencies Developed

| Internship Position | Business Incubation Assistant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Activity Period     | September 06, 2024 - December 31, 2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Activity Objectives | <ol style="list-style-type: none"> <li>1. Techniques for assessing business conditions and conditions of community groups.</li> <li>2. Know and understand the concept and implementation of peat restoration and accelerate mangrove rehabilitation before the students are directly involved in BRGM activities.</li> <li>3. Know the techniques for assisting in strengthening community group institutions.</li> <li>4. Know the procedures for preparing business and product licensing documents.</li> </ol> |

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                               | <ol style="list-style-type: none"> <li>5. Identifying value chains for peat/mangrove products that have the potential to be developed</li> <li>6. Identify market potential for development/diversification of peat/mangrove products.</li> <li>7. Know the techniques for assisting business development for the community.</li> <li>8. Apply good communication techniques, with agencies and with the community in the field</li> </ol> |
| Competency Development Method | <ul style="list-style-type: none"> <li>• Theory</li> <li>• Discussion</li> <li>• Training</li> </ul>                                                                                                                                                                                                                                                                                                                                       |
| Developed competencies/skills | <ol style="list-style-type: none"> <li>1. Techniques for assessing business conditions and conditions of community groups.</li> <li>2. Introduction to the concept and activities of peat restoration and mangrove rehabilitation</li> <li>3. Introduction to the concept and activities of peat restoration and mangrove rehabilitation</li> <li>4. Assistance techniques for strengthening community group</li> </ol>                    |

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>institutions.</p> <ol style="list-style-type: none"> <li>5. Preparation of final report</li> <li>6. Preparation of business and product licensing documents</li> <li>7. Value chain analysis of peat/mangrove products that have the potential to be developed.</li> <li>8. Analysis of market potential for development/diversification of peat/mangrove products</li> <li>9. Preparation of Final Report on Internship Implementation and Final Presentation</li> <li>10. Business development assistance techniques for the community</li> <li>11. Effective Communication</li> <li>12. Innovation in the development and diversification of peat/mangrove products</li> </ol> |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 4.2 BUSINESS INCUBATION ACTIVITY PLAN

The World Bank supports mangrove ecosystem restoration initiatives through the Mangroves for Coastal Resilience (M4CR) program, which will be implemented in four different provinces namely Riau, North Sumatra, North Kalimantan, and East Kalimantan. The program supports policy and institutional

reforms as a foundation for more effective mangrove management, as well as improved livelihoods for coastal communities. Efforts are made to sustainably utilize mangrove resources, which include harvesting of non-timber forest products, fisheries, and crabs, so as to increase the value of mangrove ecosystems for local communities.

Most businesses run by coastal communities have weak market links and are not well integrated into larger value chains. Remoteness limited physical infrastructure, low technical capacity, lack of market information, and limited access to financial services remain barriers to livelihood development for the coastal poor. Coastal businesses have very limited access to markets outside the village and are not well integrated into organized value chains.

The M4CR project consists of four components, namely:

- **Strengthening Mangrove Management Policies and Institutions.** This component aims to strengthen enabling policies and institutions to improve mangrove ecosystem management and financing.
- **Sustainable Mangrove Rehabilitation and Management.** This component aims to rehabilitate and manage mangroves through a landscape approach in targeted villages.
- **Improved Livelihood Opportunities for Mangrove Communities.** This component supports the development of sustainable livelihoods and enterprises in target villages to reduce pressure on mangrove forests and increase sustainable livelihood opportunities.
- **Project Management.** This component supports the management and coordination of project implementation activities, ensuring that the project is managed effectively. This ensures that the project objectives are achieved and that they comply with financial

procedures, as well as environmental and risk management requirements.

**Component 3 consists of two sub-components:**

Subcomponent 3.1: Enhanced Community-based Livelihood Opportunities. This subcomponent supports the enhancement of sustainable community-based livelihood opportunities in M4CR target Provinces through: (a) conducting an assessment of market chain potential down to the village level which will be used as the basis for developing curriculum and manuals for field school and training activities, (b) implementing field school activities to build the capacity of Community Group in running sustainable businesses, (c) training community group on business skills to build the basic skills of community group in the business sector.

Sub-component 3.2: Coastal Enterprise Development. This subcomponent will develop and support the growth of sustainable business activities in coastal communities through, among others: (a) conducting specific market assessments; (b) providing community enterprise development assistance through Matching Grants to enable communities to implement their business plans, obtain additional capital and operating costs or expand new businesses; and (c) providing technical support for the development and implementation of business plans funded by Matching Grants (with a focus on gender issues), including linkages to financial services and productive alliances.

**4.2.1. Matching Grants Activity**

The Peat and Mangrove Restoration Agency through the Mangrove for coastal Resilience (M4CR) project opens opportunities for community business groups in BRGM mangrove rehabilitation target locations to develop

their businesses. This activity aims to improve the economic recovery of the community without burdening and damaging the mangrove ecosystem.

The criteria for business commodities that can be proposed for Matching grants are as follow:

1. Commodities must be able to generate economic benefits, identification of potential commodities is done during market assessment activities.
2. Business criteria include:
  - a) Non-timber mangrove products (fruit for food/drink products, leaves for natural dyes, etc.).
  - b) Products obtained by the presence of mangroves (Ecotourism, capture fisheries, silvofishery).
  - c) Businesses related to the utilization of ioka in the mangrove (Fish, crabs, shrimp, snails, etc.)
  - d) Businesses that are not directly related but can be an alternative income that does not depend on the presence of mangroves (Livestock, Agroforestry, horticulture).

The criteria for business commodities that can be proposed for Matching grants are as follow:

1. Group-based business, where one of the group members is actively carrying out BRGM mangrove rehabilitation activities
2. The business commodity does not have a negative impact on the mangrove ecosystem
3. The group is registered in the Village Head Decree
4. The group consists of 10-15 members

From the total amount of budget sourced from BRGM, the maximum amount is Rp.500,000,000, the group applies for funding assistance to carry out the business plan as well as the contribution that can be made by the group to support the business.

There are 3 windows in matching grants activity aimed at community groups to facilitate different interests and at the same time encourage the economy of coastal communities. The three windows are the following:

- 1) **Window 1:** Small Matching Grants, designed to support the development of small and micro enterprises in mangrove rehabilitation sites.
- 2) **Window 2:** Business Matching Grants, designed to support the initiation and integration and/or creation of employment opportunities in M4CR target sites,
- 3) **Window 3:** Innovation Matching Grants, designed to support the development of sustainable business innovations in mangrove ecosystems through research and development activities and the application of appropriate technology.

Beneficiaries, grant amounts, eligibility criteria, outcomes, and the process of disbursing matching grants differ in each window, as follows:

Table 2. Window 1: Small Business Matching Grants

| <b>Window 1: Small Business Matching Grant</b> |                                                                    |
|------------------------------------------------|--------------------------------------------------------------------|
| Target Group                                   | Business Groups whose formation was initiated under component 3.1. |
| Upper Limit (IDR)                              | 150.000.000 IDR (~\$10,000 USD)                                    |
| Lower Limit (IDR)                              | 50.000.000 IDR (~\$3,450 USD)                                      |

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Percent Contribution | 10% (in kind)                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Target Segment       | <ul style="list-style-type: none"> <li>• Small business groups, which have passed the capacity test (covering legal, cohesion, business skills and practical aspects);</li> <li>• It consists of at least 10 people;</li> <li>• Registered at the village level through a village head decree;</li> <li>• At least one group member participated in mangrove rehabilitation and/or mangrove management field school activities.</li> </ul>                        |
| Geographic Area      | The business plan was implemented in villages located on the National Mangrove Map in the four M4CR target provinces.                                                                                                                                                                                                                                                                                                                                             |
| Target Outcome       | <p>Building business experience through the practice of business plan preparation, RAB preparation, implementation, and business monitoring. Village Facilitators (mentored by field operators) will train Pokmas businesses so that they have the mindset of entrepreneurs.</p> <p>The success of the program is not based on business achievement/success, but on the extent to which the community can implement the business plan that has been prepared.</p> |

Table 3. Window 2: Business Development Matching Grants

| <b>Window 2: Business Development Matching Grant</b> |                                                                           |
|------------------------------------------------------|---------------------------------------------------------------------------|
| Target Group                                         | Cluster of Community Business Groups, MSMEs, Individual Champions, BUMDES |

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Upper Limit<br>(IDR) | 500.000.000 IDR (~\$32,000 USD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Lower Limit<br>(IDR) | 150.000.000 IDR (~10,000 USD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Percent Contribution | 10% (in kind), 30% for other entities (In kind possible)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Target Segment       | <ul style="list-style-type: none"> <li>• Business community group clusters located in mangrove landscape areas.</li> <li>• The Pokmas cluster has been registered, and there are members who contributed to mangrove rehabilitation in the current year and the previous year;</li> <li>• The existing business performance level of the business group shows good value.</li> </ul> <p>Criteria for private sector offtakers/business development partners:</p> <ul style="list-style-type: none"> <li>• Have at least 3 years of business experience, as evidenced by financial statements;</li> <li>• The offtaker location can be outside the mangrove area, but the business plan must be implemented in the mangrove area.</li> <li>• Have proof of commitment to become Pokmas' business partner (forming a productive alliance);</li> <li>• Willing to provide support and mentoring for Pokmas in developing its products and business;</li> </ul> <p>Submit a business plan that is market oriented so that it can provide profits for Pokmas.</p> |

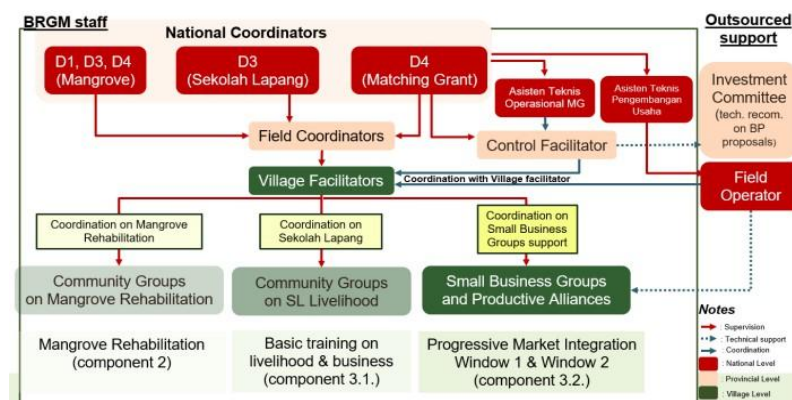
|                 |                                                                                                                                                       |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Geographic Area | Business plan implemented in villages located on the National Mangrove Map in four M4CR target provinces.                                             |
| Target Outcome  | Establish sustainable businesses that have a positive or neutral impact on the mangrove ecosystem and stimulate community group business development. |

Table 4. Window 3: Innovation Matching Grant

| <b>Window 3: Innovation Matching Grant</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Target Group                               | University, Agencies/ Research Institute, dan NGO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Upper Limit (IDR)                          | 500.000.000 IDR (~\$32,000 USD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Lower Limit (IDR)                          | 150.000.000 IDR (~10,000 USD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Percent Contribution                       | 30% (in-kind possible)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Target Segment                             | <p>Have a focus on research issues in the fields of environment, mangroves, coastal, agriculture, and fisheries.</p> <ul style="list-style-type: none"> <li>• Have experience working with community groups and mangroves for at least 5 years.</li> <li>• Registered as Universities, Research Institutions/Agencies, and Foundations/NGOs.</li> <li>• Have a good understanding of sustainable mangrove management.</li> <li>• Experience in innovation, including research, product development, appropriate technology development, social enterprise development, etc.</li> </ul> |

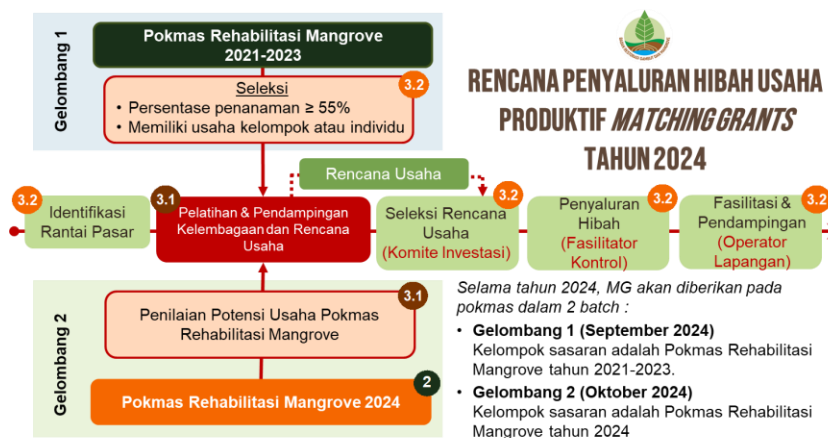
|                 |                                                                                                                                                                                                                                                                             |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | <ul style="list-style-type: none"> <li>Willing to encourage community business involvement in the value chain that has a positive impact on the mangrove ecosystem.</li> </ul>                                                                                              |
| Geographic Area | Business plan implemented in villages located on the National Mangrove Map in four M4CR target provinces.                                                                                                                                                                   |
| Target Outcome  | Design, test, and evaluate innovations, and replicate innovations that can support community business development and/or prevent damage to mangrove ecosystems. Innovations can be related to technical matters, business, market integration, appropriate technology, etc. |

The management of matching grants is carried out by 3 (three) stakeholders, namely: BRGM (village facilitators, field coordinators, and controlling facilitators), field operators (business mentoring or business incubation service providers, and NGOs), and investment committees (TRMD/TRGMD/KKMD, related agencies, universities). The relationship among parties in the implementation of Matching grants as shown in the following diagram:



Source: BRGM RI (2024)

Figure 5. Flowchart Implementation of Matching Grants



Source: BRGM RI (2024)

Figure 6. Productive Business Grant Distribution Plan

The 2024 Matching Grant Productive Business Grant Distribution Plan is divided into 2 waves, the first wave of Community Groups planting more than 55% of mangroves and already have business groups or individuals so that they can apply for assistance funds from BRGM. The second wave, business groups that have planted with proof of participation certificates in mangrove planting will identify the market chain, and the community will attend training & institutional assistance and business plans. Then, the Community group submits a proposal and cost budget plan to BRGM for business potential assessment and business plan selection until the distribution of funds reaches the Community group business.

#### 4.3. Potential Business Commodities that support Mangrove Rehabilitation

Based on geographical characteristics, mangrove ecosystem conditions, and utilization patterns that have been applied by the community in Riau Province, there are several types of businesses that have the potential to be developed in mangrove rehabilitation areas. Some of them include:

a) Capture of Fisheries and their Processed Products

This business includes marine products such as tiger prawns, mangrove crabs, crabs, and lokan (clams), which are caught using

traditional tools such as trap nets. The catch is then sold to collectors before being distributed to various other marketing channels.

b) Mangrove Processed Products

The community utilizes the *berembang* or *kedabu* fruit to be processed into syrup and jam. Meanwhile, unused mangrove stems are often used as raw material for natural dyes in the manufacture of handicraft products.

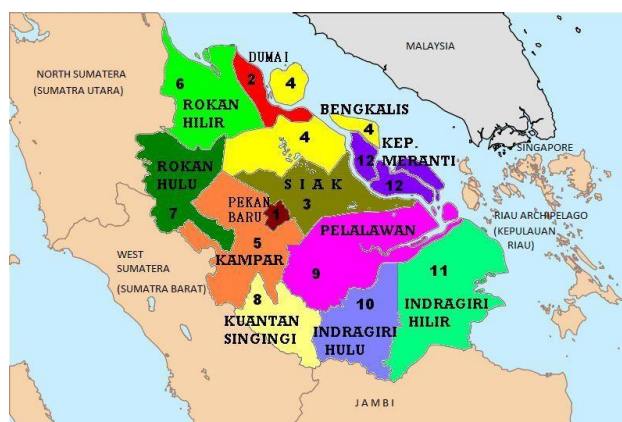
c) Mangrove Ecotourism

Ecotourism-based businesses are starting to develop in Riau Province, utilizing the pemmeuty and uniqueness of the mangrove ecosystem as a tourist attraction.

According to 2021 data, in an effort to support economic recovery after the COVID-19 pandemic, Customs has also encouraged the export of various fishery commodities. Based on information from the official website [beacukai.go.id](http://beacukai.go.id) (2021), mud crabs are one of the leading commodities in international trade. Increasing demand, especially from countries such as Singapore and Hong Kong, shows great potential for mangrove crab exports. In fact, its market opportunities have now opened up in more than 10 countries in Asia, America, and Europe. Therefore, this commodity can be a promising business opportunity for communities in mangrove rehabilitation areas.

Data from BPS Riau Province (2023) shows that the main activity of coastal communities is generally catching fish at sea. However, on November 4, 2024, during the official intern visit to Tembilahan Regency, specifically to Sapat Village and Perigi Raja, the intern gathered data on various economic activities carried out by the local community. Findings in the field revealed various other activities, including crab and shrimp fishing, the development of ecotourism, and the

utilization of various natural resources. Additionally, the community engages in the management of *nipah*, yam, and sago, which serve as important economic resources. These activities reflect the diverse livelihood strategies adopted by the local population to sustain their economy while leveraging the region's rich natural potential.



Source: Prokopim Bengkalis Regency Government  
Figure 7. Map of Riau Province

#### 4.4. Internship Outputs

Internship at BRGM RI through the M4CR project, the intern managed to collect data on community business assistance in Riau Province, Tembilahan Regency, Perigi Raja Village and Sapat Village. The author collects data by observation and interviews with 3 micro businesses in coastal areas that apply for assistance and apply for community group business funds. The data collected by the author and Control Facilitator (CF) interns in Riau province will be analyzed, and assessed by the Control Facilitator (CF) and the Environment and Forestry Service (DLHK), Riau Province Livestock and Animal Health Service, Riau Province Regional Mangrove Working Group (KKMD), Riau Province Community Empowerment Service, Riau Province Population and Civil Registration Village, Riau Province Industry, Trade, Cooperatives, SMEs, and Riau University. Proposals that have been assessed will be given a “Further

Recommendation” or “No Further Recommendation” This assessment is given to ensure the proposed business group has the potential for long-term sustainability. This evaluation and assessment include an analysis of the budget plan (RAB) submitted by the community group to BRGM as well as an evaluation of the sustainable economic impact in the local community. Business groups are expected to be able to use this assistance to strengthen the economy in coastal communities and protect the mangrove environment. Below, the intern described the 3 business groups that have been qualified.

Table 5. Community Group Data

| No | Group Name                       | Leader Name  | Location                                                                          | Business Category | Business Commodities        | Number of Members |
|----|----------------------------------|--------------|-----------------------------------------------------------------------------------|-------------------|-----------------------------|-------------------|
| 1  | <i>KUPS KETAM BANGKANG</i>       | Andi Masrapi | Sapat Village, Kuala Indragiri Sub-district Indragiri Hilir Regency Riau Province | Aquaculture       | Crab Fattening Cultivation  | 16                |
| 2  | <i>KUPS SIPUT PERIGI LESTARI</i> | Ahim         | Perigi Raja Village, Kuala Indragiri Sub-district Indragiri Hilir Regency         | Aquaculture       | Snail Fattening Cultivation | 15                |

|   |                                            |                 |                                                                                                                    |                      |                      |    |
|---|--------------------------------------------|-----------------|--------------------------------------------------------------------------------------------------------------------|----------------------|----------------------|----|
|   |                                            |                 | Riau<br>Province                                                                                                   |                      |                      |    |
| 3 | <i>KUPS MADU<br/>KELULUT<br/>SEJAHTERA</i> | Husni<br>Tamrin | Perigi Raja<br>Village,<br>Kuala<br>Indragiri<br>Sub-district<br>Indragiri<br>Hilir<br>Regency<br>Riau<br>Province | Honey<br>Cultivation | Honey<br>Cultivation | 15 |

#### **4.5. Description of Community Groups**

##### **4.5.1 KUPS KETAM BANGKANG**

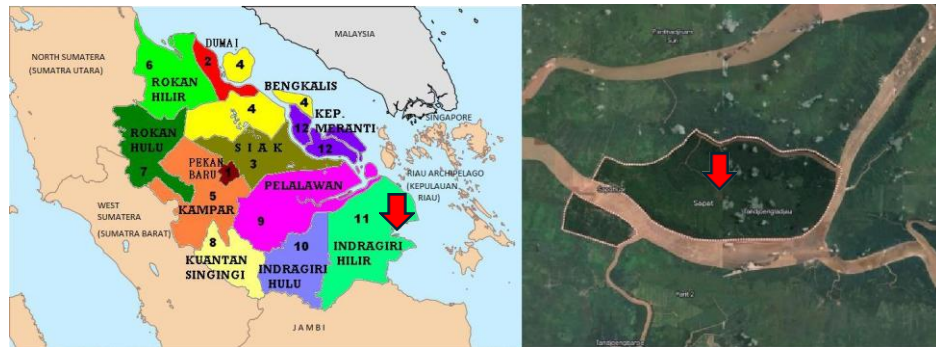
Based on the Decree of the Head of UPT KPH Mandah Indragiri Hilir Regency Number: 188/UPT-KPH-MANDAH/211.A.2, *KUPS KETAM BANGKANG* was formed in Sapat Village, Kuala Indragiri District, Indragiri Hilir Regency. This group was formed under LPHD Sapat in 2022 through *KUPS KETAM BANGKANG* spearheaded by Mr. Sahran. In the past, most of the people in this area were coconut farmers while a small number were fishermen. But in recent years, the coconut area in this area has experienced environmental damage which has caused the surrounding community to switch their livelihood to fishing. Currently, the group has 16 active members with 12 men and 4 women, led by Mr. Andi Masrapi.

So far, members of the Ketam Bangkang Group have been running their business by catching crabs and enlarging crabs in a natural way utilizing the environment and conditions of the surrounding mangroves using the mechanism of closing the area for 3 months. After reaching the time, the fishermen harvest it, then

sell it to business partners in Tembilahan and Sungai Bela to be sold in local markets to export markets such as Singapore. Due to the high price and demand for mangrove crabs, the group now wants to expand their business by fattening crabs using “crab drums” placed around the mangrove ecosystem.

a. Business Location of *KUPS KETAM BANGKANG*

Ketam Bangkang Social Forestry Business Group (KUPS) is located in Sapat Village, Kuala Indragiri District, Indragiri Hilir Regency, Riau Province, with the coordinates of -0.3296231755110887, 103.38578820056672.



Source: Prokopim Bengkalis Regency Government & Goggle Maps (2024)  
Figure 8. Business Location of *KUPS KETAM BANGKANG* at Indragiri Hilir Regency, Sapat Village

b. Activity Target

The main objectives of this activity include:

- Local Economic Improvement, creating jobs and sources of income for local communities, thereby improving their economic welfare.
- Natural Resource Utilization, optimizing the use of local natural resources, namely crabs, to produce value-added products that have competitiveness in the market.
- Community Empowerment increase the capacity and independence of coastal communities through sustainable and profitable business activities.

- Cooperation and synergy, building partnerships with sustainable business groups from various parties, including the government and the private sector to support the sustainability of the group's business.

c. Potential Natural Resources

Table 6. Potential Natural Resources of *KUPS KETAM BANGKANG*

| NO | POTENTIAL                                   | UTILIZATION                                                                                                                 |
|----|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| 1  | Abundant crabs                              | Small mangrove crabs caught by fishermen are bought and raised by <i>KUPS KETAM BANGKANG</i> .                              |
| 2  | Expert labor (profession as crab fisherman) | Becoming an actor in crab rearing activities in Sapat village is based on years of experience as a mangrove crab fisherman. |

d. Business Activity Plan

Business Activity Plan *KUPS KETAM BANGKANG* already has a business that is carried out; thus, this group proposes assistance in the form of business development from businesses that have been run by the group. The business that has been developed is the mangrove crab fattening business. Fattening activities will be carried out on the banks of the river in one area by obtaining seeds or small crabs under 300-500 grams with grade B, where the amount depends on the stock in nature according to the season. The potential market demand for Mud Crab is still wide open.

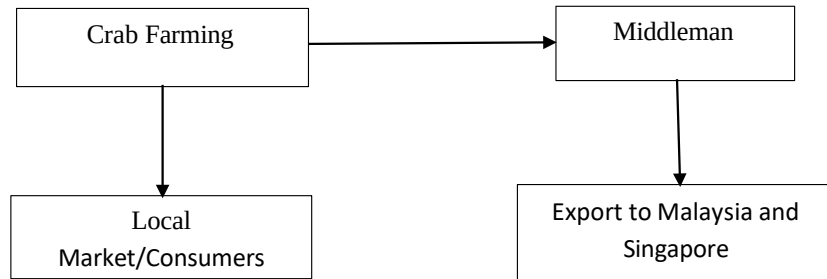


*Source: Author's documentation (2024)*  
Figure 9. Crab rearing station using Crab Box

e. Assistance in Preparing Feasibility Analysis for Community Group Business

Mentoring activities for Ketam Bangkang Group aim to strengthen the process of proposing business activities. Assistance is carried out by preparing a grant proposal (Matching Grant) for community groups in Perigi Raja village. Mentoring will be carried out and seeing firsthand business carried out by the group. Thus, the proposals made by the Ketam Bangkang Group are not only momentary but can continue to be sustainable and have an impact on coastal communities.

Distribution is a marketing activity of business production that will benefit through the production process by calculating the difference between costs and sales results. The Crab Distribution Process is done as follows:



*Source: Interview results, compiled by the author (2024)*  
 Figure 10. Business Activity Plan *KUPS KETAM BANGKANG*

The Ketam Bangkang group runs its business by catching crabs and then selling them to business partners in Tembilahan and Sungai Bela to be sold in the local market to export markets such as Malaysia and Singapore. Because of the high price and demand for mangrove crabs. The capital required for this crab rearing business activity is around Rp. 15,000,000 to 25,000,000 per month. This cost includes the purchase of crab seeds, and the purchase of activity needs such as baskets, scales and boats for group members. Seeds are purchased from group members themselves and when it is harvesting time, the crab catch is adjusted to the number of group members' ability to catch crabs at the activity location.



*Source: Author's Documentation (2024)*  
 Figure 11. Crab ready for sale

f. Calculation of Profit Analysis L/R (Profit and Loss)

Table 7. Business plan analysis of *KUPS KETAM BANGKANG*

| No                                                                   | Shopping Description       | Quantity | Unit       | Unit Price (Rp.)      | Amount (Rp.)         |
|----------------------------------------------------------------------|----------------------------|----------|------------|-----------------------|----------------------|
| 1                                                                    | Wooden Canoe               | 4        | Unit       | IDR2,000,000          | IDR8,000,000         |
| 2                                                                    | Pento (crab breeding place | 300      | Pcs        | IDR40,000             | IDR12,000,000        |
| 3                                                                    | digital scales             | 1        | Pcs        | IDR2,500,000          | IDR2,500,000         |
| 4                                                                    | Fish trap                  | 30       | Pcs        | IDR30,000             | IDR900,000           |
| 5                                                                    | Enlargement Jirage         | 500      | Pcs        | IDR100,000            | IDR50,000,000        |
| 6                                                                    | Wood/bamboo                | 50       | Trunk      | IDR50,000             | IDR2,500,000         |
| 7                                                                    | Mining Ropes               | 1000     | m          | IDR9,000              | IDR9,000,000         |
|                                                                      | <b>Variable Costs</b>      |          |            |                       |                      |
| 8                                                                    | Grade B Crab Seeds         | 600      | Tail       | IDR15,000             | IDR9,000,000         |
| 9                                                                    | Feed [12kg x 90days]       | 175      | Kg         | IDR35,000             | IDR6,125,000         |
|                                                                      | <b>Fixed Fees</b>          |          |            |                       |                      |
| 10                                                                   | Salary, Transport, etc     | 3        | Moon       | IDR9,700,000          | IDR29,100,000        |
|                                                                      | <b>Other Fees</b>          |          |            |                       |                      |
| 10                                                                   | Shrinkage of tools etc     | 1        | Cycle      | IDR5,575,000          | IDR5,575,000         |
| <b>COST OF PRODUCTION</b>                                            |                            |          |            |                       | <b>IDR49,800,000</b> |
| <b>COST OF PRODUCTION/CRAB</b>                                       |                            |          |            |                       | <b>IDR 83,000</b>    |
| <b>TOTAL INVESTMENT</b>                                              |                            |          |            |                       | <b>IDR84,900,000</b> |
| <b>Gross Revenue (Turnover)</b>                                      |                            |          |            |                       |                      |
| Selling Price of 7 ounce > Crab<br>*Assuming a 10-15% Mortality Rate | 510                        | Tail     | IDR180,000 | <b>IDR 91,800,000</b> |                      |

From the production table, it can be calculated using the formula for calculating the profit statement.:

- Profit Analysis = Selling Price - Cost of Goods Manufactured

From the above calculations the results are obtained as follows:

Profit Analysis = Selling Price - Cost of Goods Manufactured

$$= \text{Rp } 91.800.000 - \text{Rp } 49.800.000$$

$$= \text{Rp } 42.000.000$$

This profit is obtained within 3 months with the amount of Rp42,000,000.

- Unit and Rupiah BEP Analysis

Break Even Point is a point when the company does not experience profit or loss, in other words, the total profit and loss of the company is at zero (Yuswanto, & Mas'ud, 2021).

The formula used to calculate BEP Unit and BEP Rupiah is as follows:

- BEP UNIT

$$\text{BEP} = \frac{\text{Fix Cost}}{\text{Price of Unit} - \text{Variabel Cost}}$$

- BEP Price (IDR)

$$\text{BEP} = \frac{\text{Fix Cost}}{1 - \frac{\text{Variabel Cost}}{\text{Price of Unit}}}$$

$$\begin{aligned} \text{BEP Analysis in Unit} = \text{BEP} &= \frac{134.700.000}{180.000 - 83.000} \\ &= 1,388 \text{ Crab} \end{aligned}$$

$$\begin{aligned} \text{BEP Analysis in Rupiah} = \text{BEP} &= \frac{134.700.000}{1 - \frac{29.000}{180.000}} \\ &= \text{Rp } 41,515,031 \end{aligned}$$

Based on BEP Unit Analysis, the *KUPS KETAM BANGKANG* Business Group must sell 1,388 ketam bangkang; thus, the business does not experience losses.

Based on the Rupiah BEP Analysis, the *KUPS KETAM BANGKANG* Business Group must achieve revenue of Rp. 41,515,031 to reach BEP.

- Analysis R/C Return Ratio

R/C is calculating the profit obtained based on the comparison of the amount of revenue (R = Revenue) with the amount of Cost (C = Cost). R/C analysis can be done with the following formula:

$$\frac{R}{C} \text{ Rasio} = \frac{\text{Total Revenue (TR)}}{\text{Total Cost (TC)}}$$

By Comparison:

- a.  $R/C > 1$  = A profitable business
- b.  $R/C = 1$  = BEP business has neither profit nor loss
- c.  $R/C < 1$  = Business that does not make profit or losses

$$\frac{R}{C} \text{ Rasio} = \frac{Rp. 91.800.00}{Rp. 48.800.00}$$

$$\frac{R}{C} \text{ Rasio} = 1.84$$

Based on the results of the R / C return ratio analysis, *KUPS KETAM BANGKANG* crab enlargement business has an R / C ratio value > 1.84. It can be concluded that the *KUPS KETAM BANGKANG* Business can be run.



Source: Author's Documentation (2024)

Figure 12. Business Incubation Assistance with the Chairman of *KUPS KETAM BANGKANG*

#### **4.5.2. KUPS SIPUT PERIGI LESTARI**

Based on the Decree of the Head of UPT KPH MANDAH Number: 188/UPT-KPH-MANDAH/090.b dated June 07, 2023, the Social Forestry Business Group of *KUPS SIPUT PERIGI LESTARI* was formed with 15 members, chaired by Mr. Ahim.

*KUPS Siput Perigi Lestari* Social Forestry Business Group is in Perigi Raja Village. Perigi Raja Village is a village where people work as fishermen. Siput Perigi Lestari Social Forestry Business Group utilizes natural products such as snails to develop a business. The condition of the mangrove ecosystem in Perigi Raja Village is a sustainable coastal ecosystem that is a habitat for various marine life such as crabs, fish, shrimp and snails. Thus, that the community depends on coastal ecosystems for their livelihoods by becoming fishermen, snail collectors and crab seekers.

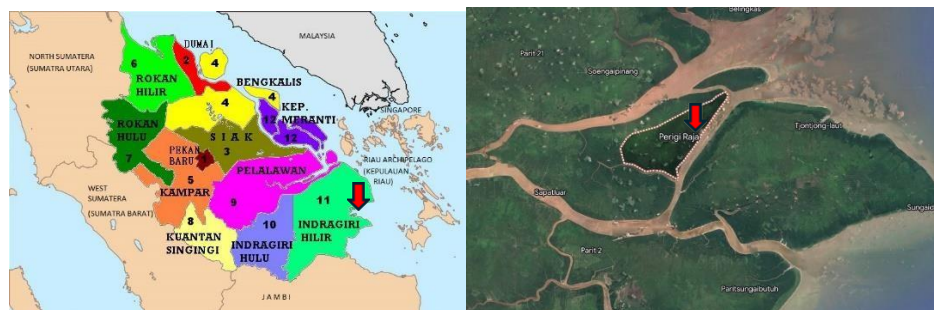
KUPS Siput Perigi has been running a snail search business. Every week *KUPS Siput Perigi Lestari* markets snails for export abroad such as Malaysia with an average of 500 kg / week with a selling price per kg of more or less IDR 26,000. The high demand can even be more when approaching the holidays. The limited ability of snail seekers to collect snails causes the catch that does not meet the requirements to be quite high because 30% of the snail catch is in a low grade. Thus, the group proposes business development for additional snail enlargement cultivation land.

There are several reasons why *KUPS Siput Perigi Lestari* chose snail business as a type of business that should be developed. It is deemed necessary to accommodate several snail seekers and snail collectors to form a group. Thus, in the future it will be of concern to the Government to be able to provide counseling assistance and other assistance for the development of snail business, as for these reasons, namely:

- Snail marketing is easily promising. Thus, snail marketing can reach overseas, such as Malaysia and others.
- The high price of snails per kg is Rp.30,000 (Thirty Thousand Rupiah) received by collectors. Thus, people are very enthusiastic to look for snails.
- Snails are non-timber forest products that have never run out/extinct, even though they are looked for every day by snail seekers for their living.

a. Business Location *KUPS Siput Perigi Lestari*

Siput Perigi Raja Social Forestry Business Group (KUPS) is located in Perigi Raja Village, Kuala Indragiri District, Indragiri Hilir Regency, Riau Province, with the coordinates of -0.25176566293084063, 103.4923872039289.



Source: *Prokopim Bengkalis Regency Government & Goggle Maps (2024)*

Figure 13. Business Location of *KUPS Siput Perigi Lestari* at Indragiri Hilir, Perigi Raja Village

b. Activity Objectives

The main objective of this group is as follows:

- Local Economic Improvement through creating jobs and sources of income for local communities; thus, improving their economic well-being.
- Natural Resource Utilization through optimizing the utilization of local natural resources, such as snails, to produce value-added products that have competitiveness in the market.

- Community Empowerment through increasing the capacity and independence of coastal communities through sustainable and profitable business activities.
- Cooperation and Synergy through building partnerships with sustainable business groups from various parties, including the government and private sector, to support it.

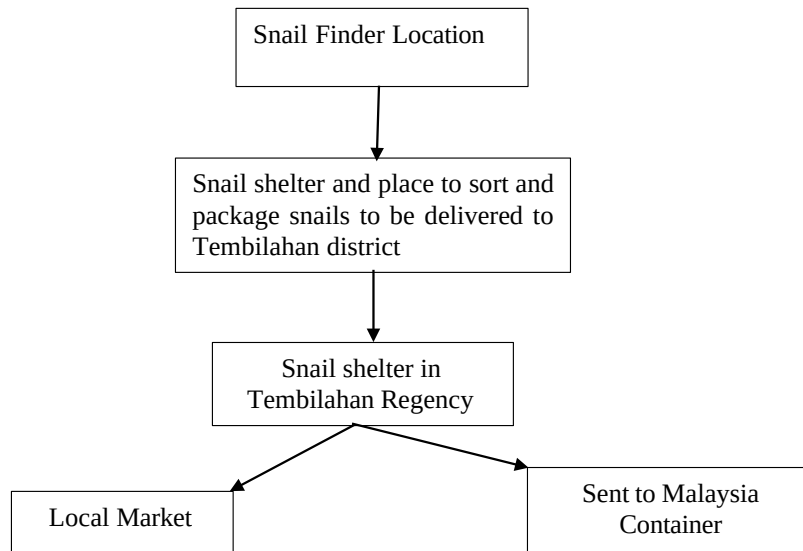
c. Business Plan

Potential Natural Resources

Table 8. Potential Natural Resources at KUPS Siput Perigi

| <b>No</b> | <b>Potential</b> | <b>Type</b>             | <b>Description</b>                                                                         |
|-----------|------------------|-------------------------|--------------------------------------------------------------------------------------------|
| 1         | Raw Material     | Snail                   | Abundant and seasonless                                                                    |
| 2         | Area             | Mangrove Ecosystem Area | Has a village forest of 1474 hectares                                                      |
| 3         | Market           | Local                   | The local market is still not in demand so shipments are needed for export                 |
| 4         | Market           | International           | The export market currently reaches 500kg/week and the price per kg reaches Rp. 26,000/kg. |
| 5         | Group            | Number of Members       | Currently, KUPS has 15 group members who are active in this business                       |
| 6         | Group Assets     | House of Sale           | It already exists but currently needs a warehouse for storage                              |

d. Business Activity Plan



*Source: Interview results, compiled by the author (2024)*

Figure 14. Business Activity Plan at KUPS Siput Perigi

The Perigi Raja Snail Group runs its business by catching snails and then selling them to business partners in Tembilahan and Sungai Bela to be sold in the local market to export markets such as Malaysia, due to the high demand for snails.

e. Assistance in Preparing Feasibility Analysis for Community Group Business

Mentoring activities for the Perigi Snail Group aim to strengthen the process of proposing business activities. Assistance is carried out by preparing a grant proposal (Matching Grant) for community groups in Perigi Raja village. Mentoring is carried out and by seeing firsthand business for the group. Thus, the proposal made by Perigi Snail Group is not only temporary but can continue to be sustainable and have an impact on coastal communities. Assistance is also carried out to analyze the BEP and R / C ratio when the group return the capital and profits from it..

Table 9. Analysis Business Plan KUPS Siput Perigi

| N<br>o           | Description                             | Volum<br>e | Unit   | Unit Price    | Total Price   |
|------------------|-----------------------------------------|------------|--------|---------------|---------------|
| A                | Investment                              |            |        |               |               |
| 1                | Pumpkin                                 | 1          | Unit   | IDR30,000,000 | IDR30,000,000 |
| 2                | Snail<br>Enlargement<br>Site Repair     | 1          | Parcel | IDR20,390,000 | IDR20,390,000 |
| 3                | Water Pump<br>Machine                   | 1          | Unit   | IDR 9,000,000 | IDR 9,000,000 |
| 4                | Solarcell<br>Solar Panels               | 1          | Unit   | IDR 3,130,000 | IDR 3,130,000 |
| 5                | Battery                                 | 1          | Unit   | IDR 2,500,000 | IDR 2,500,000 |
| 6                | Ampermeter                              | 1          | Unit   | IDR 500,000   | IDR 500,000   |
| 7                | Sack                                    | 50         | Pcs    | IDR 2,500     | IDR 125,000   |
| 8                | Warehouse<br>and Sorting<br>Site Repair | 1          | Parcel | IDR 4,975,000 | IDR 4,975,000 |
| TOTAL INVESTMENT |                                         |            |        |               | IDR70,620,000 |
| B                | Operating Costs                         |            |        |               |               |
| Fixed Fees       |                                         |            |        |               |               |
| 1                | Wages                                   |            |        |               |               |

|                       |                                                               |      |                 |                  |               |
|-----------------------|---------------------------------------------------------------|------|-----------------|------------------|---------------|
|                       | Handling fee<br>[Rp<br>10,000/50kg<br>]                       | 500  | Kg              | IDR 200          | IDR 100,000   |
|                       | Snail sorting<br>fee [Rp<br>5000/10kg]                        | 500  | Kg              | IDR 500          | IDR 250,000   |
|                       | Snail<br>Maintenance<br>and<br>Enlargement<br>Fee<br>[1000kg] | 3    | Month           | IDR 600,000      | IDR 1,800,000 |
| 2                     | Shipping<br>Costs                                             | 4    | Times/Mont<br>h | IDR 300,000      | IDR 1,200,000 |
| 3                     | Electricity,<br>pulse, etc.                                   | 1    | Month           | IDR<br>1,350,000 | IDR 1,350,000 |
| <b>Variable Costs</b> |                                                               |      |                 |                  |               |
| 1                     | Purchase of<br>Grade B and<br>C Snail<br>Seeds                | 1000 | Kg              | IDR 15,000       | IDR15,000,000 |
| 2                     | Purchase of<br>Grade A<br>Snail Seeds                         | 500  | Kg              | IDR 23,000       | IDR11,500,000 |
| <b>Other Fees</b>     |                                                               |      |                 |                  |               |

|                          |                                    |                |       |                |                   |
|--------------------------|------------------------------------|----------------|-------|----------------|-------------------|
| 1                        | Depreciation<br>Fee/ month         | 3              | Month | IDR 733,240    | IDR 2.199.721     |
|                          |                                    |                |       |                |                   |
|                          |                                    | SALES          |       | ENLARGEMENT    |                   |
| -                        | Fixed Fees                         | IDR 2,900,000  |       | IDR 2,500,000  |                   |
| -                        | Variable<br>Costs                  | IDR 11,500,000 |       | IDR 15,000,000 |                   |
| -                        | Depreciation<br>Costs              |                |       | IDR 2.199.721  |                   |
| -                        | Cost of<br>Production<br>Price/kg  | IDR 28,800     |       | IDR 19,700     |                   |
| -                        | Cost of<br>Production<br>/3 months | IDR 14,400,000 |       | IDR 19,699,721 |                   |
| TOTAL OPERATIONS         |                                    |                |       |                | IDR<br>34.099.721 |
| 3-month revenue analysis |                                    |                |       |                |                   |
| Grade A Snail Sales      |                                    |                |       |                |                   |
| 1                        | Sales 1<br>Month                   | 500            | Kg    | IDR 30,000     | IDR<br>15,000,000 |
| 2                        | 2 months<br>sales                  | 500            | Kg    | IDR 30,000     | IDR<br>15,000,000 |
| 3                        | 3 months of<br>sales               | 500            | Kg    | IDR 30,000     | IDR<br>15,000,000 |

|                                                                            |                                                                |      |    |            |                       |
|----------------------------------------------------------------------------|----------------------------------------------------------------|------|----|------------|-----------------------|
| 4                                                                          | Harvest of<br>snail<br>enlargement<br>grade B and<br>C Month 1 | 1417 | Kg | IDR 30,000 | IDR 42,500,000        |
| <i>*Assumed weight gain of 60%</i><br><i>*Assumption of failure of 15%</i> |                                                                |      |    |            |                       |
| <b>TOTAL REVENUE IN 3 MONTHS</b>                                           |                                                                |      |    |            | <b>IDR87,500,00 0</b> |
|                                                                            |                                                                |      |    |            |                       |

From the production table, it can be calculated using the formula for calculating the profit statement:

$$\begin{aligned}
 \text{Profit Analysis for 3 Months} &= \text{Gross Revenue} - \text{Initial Capital} \\
 &= \text{Rp } 87,500,000 - \text{Rp } 34,099,721 \\
 &= \text{Rp } 53,400,279
 \end{aligned}$$

It can be concluded from the profit analysis above that for 3 months from selling snails, the group will get a profit of IDR 53,400,279. This profit shows that the business has the potential to be sustainable.

- Payback period and BEP analysis

The formula used to calculate the Payback period and BEP Rupiah is as follows:

- Payback Period

$$PB = \frac{\text{Total Investment}}{\text{Total Profit}}$$

- BEP/Kg

$$BEP = \frac{\text{Fix Cost}}{\text{Selling Price for Kg} - \text{Variabel Cost for Kg}}$$

$$\text{Payback Period Analysis} = PB = \frac{\text{Rp } 70,260,000}{\text{Rp } 53,400,279}$$

= 1,322 Equal 1x period or 4 months

Based on the results of the Payback Period calculation, the payback period is 1,322 periods, which is equal to one production in 4 months. The time required for the group to make a profit is 4 months.

$$\begin{aligned}\text{Analysis BEP/Kg} = \text{BEP} &= \frac{\text{Rp}7,599,721}{\text{Rp}30,000 - \text{Rp} 24,250} \\ &= 1,322 \text{ Kg}\end{aligned}$$

Based on the results of the BEP/Kg calculation, it shows that for the group to break even, the group must be able to produce and sell around 1,322 Kg of products in 3 months.

- R/C Return Ratio Analysis

$$\frac{R}{C} \text{ Rasio} = \frac{\text{Total Revenue (TR)}}{\text{Total Cost (TC)}}$$

With Comparison:

- a.  $R/C > 1$  = The business is profitable
- b.  $R/C = 1$  = BEP business has neither profit nor loss
- c.  $R/C < 1$  = The business does not make a profit or business loss

$$\frac{R}{C} \text{ Rasio} = \frac{\text{Rp } 87,500,000}{\text{Rp } 34,099,721}$$

$R$

$$\frac{R}{C} \text{ Rasio} = 2,6$$

Based on the results of the analysis of the R / C return ratio of *KUPS Siput Perigi Lestari*, the snail business has an R / C ratio value > 2.6 It can be concluded that the KUPS Siput Business can be run with profit.



Source: Author's Documentation (2024)  
Figure 15. Snail Grade A, B dan C

f. Assistance in submitting grant contracts and signing contracts

Assistance in the grant contract submission and signing process includes various stages, ranging from assisting community groups in compiling and completing the necessary documents, ensuring administrative completeness in accordance with applicable regulations, to coordinate with related parties such as BRGM, related agencies, and other supporting institutions. In addition, the assistance also includes the process of verifying and validating documents before submission, providing an understanding to grantee groups regarding the contents of the contract, the rights and obligations that must be fulfilled, and ensuring that all contract signing procedures run in accordance with established regulations to support the sustainability of the program being implemented.

g. Assistance in the disbursement and use of Matching Grants and ensuring proper fund allocation

The intern assists KUPS Siput Perigi Raja Lestari in the process of distributing and using Matching Grants funds. Besides that, the intern duties include

ensuring that the allocation of funds is carried out appropriately in accordance with the proposed activity plan, assisting in preparing budgets, and recording financial transactions. In addition, the intern also assisted the group in ensuring that grant funds were used effectively to support sustainable business activities that could improve community livelihoods and mangrove ecosystem sustainability.

Table 10. Realization of Budget Cost of Matching Grants *KUPS Siput Perigi Lestari*

*Source: Interview results, compiled by the author (2024)*

| No | Description                  | Quantity | Volume | Total          |
|----|------------------------------|----------|--------|----------------|
| 1  | Wooden Pompong (fisher ship) | 1        | Unit   | IDR 33,000,000 |
| 2  | Splint Fabric                | 30       | Kg     | IDR 3,000,000  |
| 3  | Wood                         | 150      | Trunk  | IDR 1,950,000  |
| 4  | Paranet Fabric               | 80       | m      | IDR 2,800,000  |
| 5  | Such                         | 3        | Roll   | IDR 300,000    |
| 6  | Barbed wire                  | 3        | roll   | IDR 996,000    |
| 7  | Pipe paralom                 | 10       | Pcs    | IDR 690,000    |
| 8  | Pipe Connector               | 20       | Pcs    | IDR 300,000    |
| 9  | Water Faucet                 | 15       | Pcs    | IDR 300,000    |
| 10 | Pipe paralon                 | 10       | Pcs    | IDR 340,000    |
| 11 | Water Breaker                | 15       | Pcs    | IDR 315,000    |
| 12 | Water Pump Machine           | 1        | Pcs    | IDR 3,850,000  |
| 13 | Panel Surya Solarcell        | 1        | Pcs    | IDR 1,600,000  |
| 14 | Snails' scales               | 1        | Pcs    | IDR 1,950,000  |
| 15 | Amperter                     | 1        | pcs    | IDR 480,000    |
| 16 | Snail Nursery                | 1000     | kg     | IDR 18,000,000 |
| 17 | Snail Purchase               | 838      | Kg     | IDR 16,760,000 |

|              |                  |     |       |                       |
|--------------|------------------|-----|-------|-----------------------|
| 18           | Snail Scales     | 1   | Pcs   | IDR 1,500,000         |
| 19           | CCTV             | 1   | Pcs   | IDR 500,000           |
| 20           | Sack             | 50  | Pcs   | IDR 100,000           |
| 21           | Wooden sticks    | 5   | Trunk | IDR 120,000           |
| 22           | Wooden sticks    | 5   | Trunk | IDR 120,000           |
| 23           | Wooden sticks    | 5   | Trunk | IDR 120,000           |
| 24           | Log              | 4   | Trunk | IDR 360,000           |
| 25           | Wooden Log Pole  | 13  | Trunk | IDR 910,000           |
| 26           | Blegar Logs      | 15  | Trunk | IDR 1,050,000         |
| 27           | Floorboards      | 20  | Puck  | IDR 1,500,000         |
| 28           | wall boards      | 50  | Puck  | IDR 3,750,000         |
| 29           | Stationery       | 1   | Unit  | IDR 62,198            |
| 30           | Wooden Log Pole  | 12  | Trunk | IDR 840,000           |
| 31           | Roof             | 200 | Puck  | IDR 600,000           |
| 32           | Wood Blotin Ring | 18  | Trunk | IDR 720,000           |
| <b>TOTAL</b> |                  |     |       | <b>IDR 98,883,198</b> |

|                                                                                                                                                   |                                                                                                                                                                         |                                                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p><i>KUPS Siput Perigi Lestari</i><br/>Proposal assistance</p> |  <p><i>KUPS Siput Perigi Lestari</i><br/>group money disbursement at<br/>BRI bank</p> |  <p>Verification of<br/>Ship bought by<br/>the Group</p>                  |
|  <p>Verification of<br/>Snail bought by<br/>the group</p>      |  <p>Verification of solar panels<br/>purchased by the group</p>                     |  <p>Verification of<br/>snail scales<br/>purchased by the<br/>group</p> |

Source: Author's Documentation (2024)

Figure 16. Fund disbursement, order payment, and physical verification of Kelulut Honey *KUPS Siput Perigi Lestari*

#### **4.5.3. KUPS MADU KELULUT SEJAHTERA**

Based on the Decree of the Head of UPT KPH Mandah Kab. Indragiri Hilir Number: 188/UPT-KPH-MANDAH/090.d, *KUPS Madu Kelulut Sejahtera* has been formed in Perigi Raja Village, Kuala Indragiri District, Indragiri Hilir Regency Social Forestry Business Group *KUPS MADU KELULUT SEJAHTERA* with 15 members chaired by Mr. Husni Tamrin.

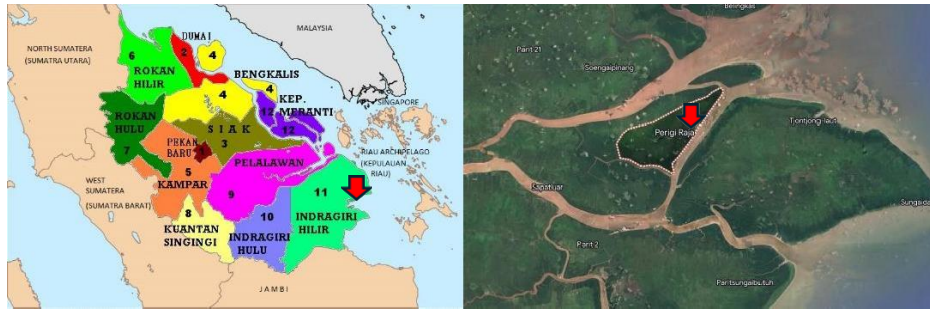
A brief explanation of why the Kelulut Sejahtera Honey Group applied for *kelulut* honey cultivation capital, this was based on previous experience and knowledge by the FMU in developing community potential through social forestry in the form of *kelulut* honey cultivation which amounted to only a few colonies. Based on this, the group tried to develop what had been done before and tried to cultivate around the mangrove forest, which has a lot of potential for food and natural resources.

The magnitude of the potential development of Kelulut Honey Cultivation is also influenced by the basic capital to buy bee colonies and the initial readiness that is an obstacle to develop this cultivation. It is not an exaggeration if the Kelulut Honey Prosperous KUPS group of Perigi Raja Village tries to venture and ask for help from the Peat and Mangrove Restoration Agency to be able to realize the wishes of our group who want to increase community income and utilize the potential of the village which is starting to be abandoned by young people who are urbanizing because the village does not guarantee a better life.

The capital assistance for the purchase of bee colonies and cultivation equipment is very meaningful for our group to boost our business potential. This cultivation is very meaningful for our group to mobilize business potential that is sluggish. It is our hope that our group will hopefully become a pilot project in addressing rural social issues and a stimulant for other communities in the countryside.

a. Business Location *KUPS Madu Kelulut Sejahtera*

The Madu Kelulut Sejahtera Social Forestry Business Group is located in Perigi Raja Village, Kuala Indragiri District, Indragiri Hilir Regency, Riau Province, with the coordinates of -0.2584212627753411, 103.48782367280991.



Source: Prokopim Bengkalis Regency Government & Goggle Maps (2024)

Figure 17. Business Location of *KUPS Madu Kelulut Sejahtera* at Indragiri Hilir Regency, Perigi Raja Village

b. Activity Objective

The main objectives of this activity include:

- Local Economic Boost  
Create jobs and sources of income for local communities, thereby improving their economic welfare.
- Utilization of Natural Resources  
Optimizing the use of local natural resources, such as crabs, to produce value-added products that are competitive in the market.
- Community Empowerment  
Increase the capacity and independence of coastal communities through sustainable and profitable business activities.
- Cooperation and synergy

Building partnerships with group business sustainability from various parties, including government, private sector, to support it.

### 3.3 Beneficiaries

- a). Members of the Kelulut Sejahtera Honey KUPS Group in particular
- b). The surrounding community in general
- c). Assistance in the disbursement and use of Matching Grants and ensure proper fund allocation

Assisting *KUPS Madu Kelulut Sejahtera* in the process of distributing and using Matching Grants funds. The intern's duties include ensuring that the allocation of funds is carried out appropriately in accordance with the proposed activity plan, assisting in preparing budgets, and recording financial transactions. In addition, the intern also assisted the group in ensuring that grant funds were used effectively to support sustainable business activities that could improve community livelihoods and mangrove ecosystem sustainability.

In this group, the intern was only assigned to assist the disbursement of money, assistance with expenditures in accordance with the contract, and verification of goods to ensure conformity with the predetermined plan.

Table 11. Budget Realization of Matching Grants for KUPS Madu Kelulut

| No           | expenditure description    | Volume | Units  | Price                |
|--------------|----------------------------|--------|--------|----------------------|
| 1            | Kelulut Honey Colonies     | 47     | Koloni | Rp 61.100.000        |
| 2            | Kelulut Honey Suction Tool | 20     | pieces | Rp 3.502.000         |
| 3            | Gloves                     | 20     | Pairs  | Rp 418.000           |
| 4            | Harvesting Clothes         | 10     | Pieces | Rp 2.656.000         |
| 5            | 250 ml Glass Bottle        | 100    | Pieces | Rp 2.500.000         |
| 6            | Stationary                 | 1      | units  | Rp 31.027            |
| <b>TOTAL</b> |                            |        |        | <b>Rp 70.207.027</b> |



Source: Author's Documentation (2024)

Figure 18. Fund disbursement, order payment, and physical verification of Kelulut Honey KUPS Madu Kelulut Sejahtera

## 4.6. INTERNSHIIP FORMULATION

### 4.6.1 Internship Formulation 1

What is the role of business incubation in empowering community enterprises under BRGM RI's "Mangroves for Coastal Resilience" project?

The Mangroves for Costal Resilience (M4CR) project run by the peat and mangrove restoration agency (BRGM) has the main objective of increasing

environmental resilience while empowering the economy of coastal communities through sustainable business development. In its implementation, the business incubation program has a crucial role in ensuring that businesses are encouraged through funding (matching grants). It does not only get funding but also develop systematically and is able to survive in the long term. The role of business incubation in empowering coastal communities in the M4CR project can be categorized into several main aspects as follows:

A. building community business capacity

Business incubation plays a role in increasing community capacity in running and developing mangrove-based businesses, which BRGM does through:

- Training and field schools Each year, BRGM organizes at least two rounds of training and field schools for each target region. These sessions are designed not just as knowledge transfer moments, but as empowering experiences that transform passive beneficiaries into active entrepreneurs. Program participants receive both technical and managerial training, covering essential topics such as business planning, marketing strategies, and the processing of mangrove-based products into high-value commodities. Field schools are organized to provide community groups with hands-on understanding of sustainable business practices and also to socialize the importance of utilizing mangroves without damaging their ecosystems.
- Assistance in developing a business plan: for the business developed to have long-term prospects, business incubation assists the community in developing a comprehensive business plan. This plan does not only consider financial aspects but also social environmental factors; thus, the business can provide economic benefits while maintaining the balance of the mangrove ecosystem.

## B. Support access to capital and market

One of the main challenges in coastal community business development is limited access to capital and markets. Business incubation through BRGM with the M4CR project is here to support coastal community businesses in a way:

- Facilitate access to the Matching Grants scheme: Communities are supported to access funding through three categories of Matching Grants, namely Small Matching Grants for Micro enterprises, Business Matching Grants for enterprises designed to support the development of sustainability, and business innovations in mangrove ecosystems through research and development activities and the application of appropriate technology.

KUPS Ketam Bangkang, for instance, successfully secured a grant and used it to upgrade their crab fattening method with drum-boxes, which led to a 35% increase in harvest efficiency and opened opportunities to sell to regional buyers such as Tembilahan and Sungai Bela

## C. Improving Business Sustainability

Sustainability is an important factor in mangrove ecosystem-based business development. To ensure that the business does not only survive in the short term, but business incubation also provides support through:

- Ongoing technical assistance: communities receive guidance in managing business operations efficiently, including production management, resource management, and utilization of appropriate technology. This aims to ensure that the business can adapt to market dynamics and environmental challenges.

Field evaluations conducted by BRGM in late 2024 showed that KUPS supported by incubation assistance experienced on average a 20–45% increase in net income, especially those engaged in crab, honey, and snail-based products

## D. Environmental and Social Impacts

The incubation program not only strengthens business practices but also instills environmental stewardship:

- Coastal communities become more aware of the importance of conserving mangrove ecosystems, as their business success is directly linked to ecosystem sustainability.
- The program also promotes gender inclusion, with many groups involving women in value-added production processes.

According to the World Bank (2021), mangrove-related livelihood programs such as M4CR significantly reduce deforestation risks when economic incentives are aligned with conservation goals.

#### **4.6.2 Internship Formulation 2**

What are the obstacles faced in developing mangrove-based products innovations to have higher economic value?

Coastal communities in Riau Province who live in mangrove forest areas, especially in the internship site, generally work as fishermen for fish and snail with fishing methods in the estuary. This shows that they have not optimally utilized mangrove forests through Silvo fishery systems as a more sustainable cultivation method. One community group had tried to cultivate crabs using seedlings, but the effort was unsuccessful as the crabs died before reaching the enlargement stage.

In addition to the fisheries sector, several community groups have also developed innovations based on mangrove ecosystem products by processing raw materials such as kedabu, nipah, and sago into various products of high economic value. The derivative products produced include *kedabu dodol*, *kedabu* syrup, and *nipah* sugar, although the production process is still done manually.

Mangrove resource-based livelihood diversification has the potential to support gender mainstreaming in mangrove rehabilitation programs. Women in coastal areas play a very important role in the gender division of labour system, which has become part of the social structure of coastal communities.

Table 11. List of Stakeholders and Potential Collaborators Related to Gender Role in Mangroves Rehabilitation Activities

| Woman                                                                                                                                                                           | Man                                                                                                                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Housewife</li> <li>• Fish/shrimp/crab/mangrove/craft commodity processing</li> <li>• Managing a stall or other retail sales</li> </ul> | <ul style="list-style-type: none"> <li>• Cultivation/capture</li> <li>• Planting mangroves</li> <li>• Caring for mangroves</li> <li>• Protecting mangroves from encroachers</li> <li>• Selling</li> <li>• Managing finances</li> </ul> |

From the field findings, there are still community groups that only involve men in economic activities at mangrove rehabilitation sites. Wives are only involved in household activities or assist their husbands in processing products into derivative products.

### 3.6.3 Internship Formulation 3

What are the inhibiting factors in developing market access for fisheries businesses, ecotourism, and mangrove processed products in coastal communities in Riau Province?

The development of economic activities of coastal communities can be measured by their ability to manage and market products or services to a wider market. If they only rely on their potential without proper capacity building and marketing strategies, the economic sustainability of coastal communities can be disrupted. In the market aspect, there are three main components that need to be considered, namely:

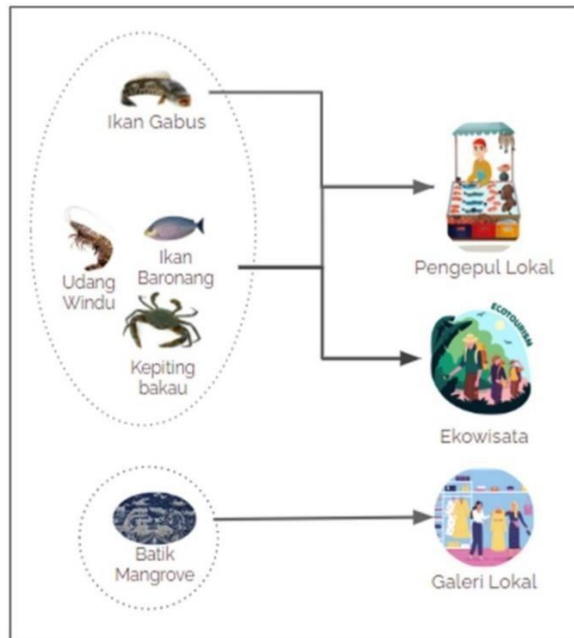
- Production Output
- Market Structure
- Market Orientation

First, in terms of production, based on the data obtained, all community group members in Riau Province engaged in the capture fisheries sector sell their catches directly to middlemen. Coastal communities consider this method effective because the products are always sold out. However, dependence on middlemen is a challenge, as it limits access to broader markets and limits opportunities to develop more diverse marketing networks.

For the ecotourism sector, products are sold through galleries or directly at tourist sites. However, marketing in this way does not have a significant economic impact, as it depends on the number of visitors who come. Meanwhile, in the processing of mangrove-based products, most communities have started to produce various preparations, but the production scheme is still make-to-order. This is due to the limited knowledge and skills of group members in maintaining product quality and durability.

Secondly, in terms of market structure, the majority of buyers in the capture fisheries, ecotourism and processed products sectors are from the village to district level. Fresh fishery products such as crabs, shrimp and fish have the potential to be exported, but this can only happen through intermediary collectors. The relationship between sellers and buyers is still closely intertwined with a high level of trust, reflecting the local wisdom that is still maintained. However, gender roles in the market structure in Riau Province show that men are more dominant in production activities. Women are only involved in the production process if men are no longer able to work for certain reasons, such as illness, age, or death.

Third, in terms of market orientation, the capture fisheries sector is still oriented towards the local market by relying on middlemen as the main intermediary. Meanwhile, the ecotourism sector and mangrove processed products are also still limited to the local market, from village to district level. This limitation is due to the lack of community knowledge about access and mapping of broader markets. In addition, limited capital, facilities, and lack of business management capacity are the main obstacles for coastal communities in expanding their marketing reach to a wider level.



Source: BRGM RI (2024)

Figure 19. Current Business Model

Based on the data of potential buyers, there are several opportunities that can be utilized to expand market goals, such as working with restaurants, hotels, and souvenir shops. Referring to data published by BPS Riau Province, in 2022 there were 3,900 restaurants and eateries spread across various districts/cities in Riau Province. Meanwhile, the number of hotels reached 520 units, which were highly found in Pekanbaru City.

If you look at the menu available in restaurants, especially seafood restaurants, the most popular products for consumers are crabs and shrimp. The average daily demand of seafood restaurants reaches 50 kg of fish and shrimp or about 1.1 tons per month. Meanwhile, for crabs, the daily demand reaches 60 kg, which is equivalent to 1.3 tons per month.

The following are list of potential buyers that can be reached (detailed list of potential buyers is attached):

Table 12. List of Potential Buyers at District, Provincial and National Levels

| No | Level    | Category      | Potential Buyer Name         | Description                                                                                                                                                                                                                         |
|----|----------|---------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Province | Souvenir Shop | Insyira Pekanbaru            | Selling MSME's products in Riau, ranging from crackers, pastry, frozen food, coconuts, etc.                                                                                                                                         |
| 2  | Province | Kategori      | Mega Rasa Pekanbaru          | Selling variant products ranging from snacks, honey, shredded fish, smoked fish, <i>dodol</i> , pineapple cookies, sweet potato chips, coconut chips, and frozen food.<br><br>One of the best seller products is sweet potato chips |
| 3  | Province | Souvenir Shop | Viera Oleh-Oleh Sudirman     | Selling variant products from Riau ranging from crackers, mochi, pastry, snacks and fashion products or handicrafts such as souvenir products                                                                                       |
| 4  | Province | Kategori      | Jingga Oleh-Oleh Pekanbaru   | Selling variant MSME's products from Riau ranging from snacks, honey, shredded fish, smoked fish, <i>dodol</i> , pineapple cookies, sweet potato chips, coconut chips, and frozen food.                                             |
| 5  | Province | Souvenir Shop | Pusat Oleh-Oleh Kembang Sari | Selling variant products, such as variant crackers (prawn, fish, sweet potato), <i>dodol</i> , syrup, honey, pastry, and the other processed products                                                                               |
| 6  | National | Company       | Du anyam                     | Scoail entrepreneurship selling souvenirs, house, decoration, hotel facilities, and hampers/<br><br>Its kind of cooperations is selling souvenirs, hampers, ets.                                                                    |

|   |          |         |                     |                                                                                                                                                                                                                                                                                    |
|---|----------|---------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7 | National | Company | Sarinah             | <p>Creative industry company performing to the wide audiences</p> <p>Its kind of cooperations is selling textile and batik products, and the other derived batik products</p> <p>100-200 pcs of needs per year</p>                                                                 |
| 8 | National | Company | Alun-alun Indonesia | <p>Grocery store selling contemporary and innovative fashion products inspired by Indonesian culture</p> <p>This kind of cooperations is selling textile and batik products, and the other derived batik products</p> <p>The number of products is around 100 pcs per semester</p> |
| 9 | National | Company | Ahana               | Selling impacted local products                                                                                                                                                                                                                                                    |

#### 4.6.3. Service Providers

Besides potential market map, here is the mapping result of service providers and inputs consisting of the governments, financial organizations, and non-governmental organizations as potential stakeholders supporting market community activities.

Table 13. List Of Stakeholders and Potential Collaborations

| No | Level    | Name of Institution                | Dress                                                           | Description                             |
|----|----------|------------------------------------|-----------------------------------------------------------------|-----------------------------------------|
| 1  | Province | Riau Provincial Tourism Departemen | Jenderal Sudirman Street, Bandar Serai Complex, Pekanbaru, Riau | Supporting expert in designing products |

|   |          |                                               |                                                                                                        |                                                                                                                                                                             |
|---|----------|-----------------------------------------------|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2 | Province | Riau Provincial Marine and Fishery Departemen | Pattimura Street No.6, Cinta Raja Village, Sall District, Pekanbaru, Riau 28127                        | Supporting socialization related to export requirements and eco-friendly cultivation and wild fishery process                                                               |
| 3 | Province | Riau Provincial National Craft Council        | Diponegoro Streetno.6, Sumahilang Village, Peknbaru Kota District, Peknbaru City, Riau 28156           | supporting promotion of market community products, such as mangrove batik                                                                                                   |
| 4 | Province | Pertamina gas                                 | Graha Pertamina, Pertamax Tower, Floor 20-23 West Medan Merdeka Street No. 11-13 Central Jakarta 10110 | Supporting program related to mangrove sites in Riau which is potential to support market community group by providing grant donation or buying mangrove processed products |
| 5 | Province | Bank indonesia riau                           | Jend. Sudriman Street No.464, Jadirejo Village, Sukajadi District, Pekanbaru City, Riau 28121          | Bank Indonesia have a scholarship recipients community named GenBI for mentoring mangrove planting process potentially                                                      |
| 6 | Province | April (RAPP)                                  | Meranti Island Regency                                                                                 | Mentoring coastal community development                                                                                                                                     |
| 7 | Province | SKK Migas                                     | Meranti Island Regency                                                                                 | Mentoring coastal community development                                                                                                                                     |

## **CHAPTER V**

### **CONCLUSION AND RECOMMENDATIONS**

#### **5.1. CONCLUSIONS**

The Business Incubation Program implemented through the Peat and Mangroves Restoration Agency (BRGM) through the Mangroves for coastal resilience (M4CR) project has played an important role in increasing the economic capacity of coastal communities through mangrove ecosystem-based business development. The program provides assistance in business planning, capacity building, as well as facilitating access to capital and markets, which are crucial factors in the sustainability of community businesses.

The results of the analysis showed that coastal resource-based businesses have promising prospects financially and socially. Economic calculations indicated that the applied business model can generate sustainable profits, with a positive payback period and profit ratio. This suggested that sustainable utilization of mangrove resources can be an economic and ecosystem balance for coastal communities.

Overall, business incubation through the Peat and Mangrove Restoration Agency in the Mangroves for coastal resilience project had a positive impact on the development of coastal communities, but further efforts are needed to strengthen the business ecosystem to optimally contribute to community welfare and environmental sustainability.

#### **5.2. RECOMENDATIONS**

During the internship at BRGM RI through the Mangroves for Coastal Resilience project, there were various challenges faced by staff in the field. One of the main challenges was the irregular work schedule, due to the time-consuming

process of disbursing funds from the World Bank. Once the funds were disbursed, the team only had two months to complete all targets before the end of the year, causing the work to be rushed in a relatively short period of time. In addition, the lack of clear work guidelines for interns often makes adaptation to the workplace more difficult.

On the other hand, this program also faces challenges in optimizing the impact on the community, especially in terms of market access for business groups receiving matching grants. The community business groups that received this assistance still have limitations in expanding the reach of their products to a wider market. Therefore, a more systematic strategy is needed to strengthen their business sustainability. For this program to run more effectively and provide long-term benefits for interns and coastal communities, several improvement steps can be implemented, among others:

1. Develop a BRGM internship program guide for participants in the next period so that they have a clearer initial understanding of their duties and responsibilities, both in administrative aspects in the office and in community assistance in the field. This guide can also include information related to organizational structure, workflow, and technical procedures in supporting mangrove rehabilitation programs.
2. Providing a business matching platform through exhibition activities and marketing networks to connect the products of community business groups with potential buyers. This initiative can be a form of concrete support in promoting and expanding market access for mangrove-based businesses, by utilizing networks owned by various government agencies, academics, and the private sector.

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## APPENDIXES

### Appendixes 1 – Monthly Report September – December 2024

1. How is the mentoring activity and coordination with Mentor & DPP?
2. What have you been working on and how is it going?
3. What challenges have you faced and provide alternative solutions to overcome them?
4. What are and explain the competency development that has been obtained?

#### 6 September – 5 Oktober 2024

| No | Activity                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Mentoring and Coordination Activities I have had mentoring and coordination activities that went smoothly with the direction of the Community Facilitator (CF) in Riau Province. However, for mentoring with the DPP (District Project Personnel), I have not been able to do so because it has not been determined who my DPP is, so there has been no mentoring or coordination activities on that side.                                 |
| 2  | Work During this month, I have learned about the Peat and Mangrove Restoration Agency (BRGM), peat ecosystems, and mangroves, including how the community business development process is carried out. My main focus was to understand and help improve the proposals and cost budget plans (RAB) of community groups (Pokmas), so that I began to understand the flow and stages of the business incubation process.                      |
| 3  | Challenges Faced One of the challenges I face is understanding the RAB in detail, especially in calculating the Cost of Goods Production (HPP) accurately and thoroughly. To face this challenge, I tried to study harder, hone my skills, and often asked mentors and CFs in Riau so I could better master the material.                                                                                                                  |
| 4  | Competency Development During this program, BRGM not only equipped me with technical knowledge, but also developed personal and professional competencies. I learned a lot about critical thinking, problem-solving skills, how to process data effectively, and improving communication between stakeholders. This competency is very important in facing various challenges, including interacting with the community and project teams. |

## 5 October – 30 October 2024

| No | Activity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | <p>This month, mentoring and coordination activities ran smoothly. I have conducted two mentoring sessions with the Program Assistant Lecturer (DPP) via Zoom. In this mentoring, I received directions regarding various important information and discussed complaints that arose regarding internship activities in the field. For mentoring and coordination, the Joint Control Facilitator (CF) focuses more on discussing the final assignment (TA), where CF provides input and assistance for completing the TA related to the Mangrove for Coastal Resilience (M4CR) project. This activity helped me understand the application of the program in more depth and provided support for my TA's progress.</p> |
| 2  | <p>During this month, I have conducted in-depth proposal reviews and studied proposal assessment methods for ongoing projects. Apart from that, I also conducted market analysis in several community groups (pokmas) to understand the needs and potential of their local businesses. The data obtained from this community group became the basis for preparing my final assignment, which I have now started working on by collecting and analyzing field data to support the main discussion in my research.</p>                                                                                                                                                                                                  |
| 3  | <p>The challenge faced this month is that there are no visits to community groups, so I don't know how the community development process starts from visits to the community. There were no visits to community groups because the work from Batch 1 had already been completed and we were just waiting for the disbursement of funds from World Bank. What was my solution to this challenge? I studied it with the Control Facilitator (CF) Riau about the process. Once I entered batch 2, I could immediately put it into practice, and I also started writing my final assignment with the help of CF Riau with data taken from batch 1.</p>                                                                    |
| 4  | <p>The competency developed this month is that Discussions with CF specifically helped me deepen the implementation of the Mangrove for Coastal Resilience (M4CR) program and provided deeper insight into the project structure, thereby improving my analytical skills. I study patterns of need and economic potential at the community level, which are important</p>                                                                                                                                                                                                                                                                                                                                             |

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | for the development of business incubation programs. I have gained an overview of the community development process through discussions with CF. CF provides a theoretical understanding of the stages of field visits and coaching that I will implement when Batch 2 begins. This challenge also encouraged me to start writing my final project with data from Batch 1, thereby strengthening my data collection and analysis skills in the field. |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### 31 October – 25 November 2024

| No | Activity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | This month, mentoring and coordination activities ran smoothly. I have conducted mentoring sessions with the Program Assistant Lecturer (DPP) via Zoom every week. In this mentoring, we discuss various important directions, including conveying new information, progress on final assignments, as well as input regarding obstacles students face during their internship. For mentoring and coordination with the Mentor, PIC, and Control Facilitator (CF), the main focus is monitoring the process of disbursement of funds from the World Bank. In this case, I was given directions to contribute directly to the implementation of field tasks related to the Mangrove for Coastal Resilience (M4CR) program. |
| 2  | <p>During this month, I was given the assignment to go to the field in Tembilahan Regency, Riau Province. This activity opens new insights into the dynamics of coastal community life. During visits to several villages in Tembilahan, I conducted surveys and identified business groups.</p> <p>This process includes Understand the production and distribution flows used by business groups. Identify opportunities and challenges in developing their business. Dig deeper into their needs and aspirations regarding mangrove-based business development.</p>                                                                                                                                                   |
| 3  | The challenges currently faced are in the form of field activities which are quite busy, so you have to divide your time optimally and efficiently. Adapting to the surrounding environment I visited was also a challenge for me because of the culture I had just encountered.                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <p>The solution to dealing with this opposition was several things that I did, such as making and recording a timeline of each activity carried out and trying to adapt to each area visited.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 4 | <p>Competencies developed during November include techniques for assisting business development for the community, techniques for assessing business conditions and conditions of community groups, and techniques for assisting in strengthening community group institutions.</p> <ul style="list-style-type: none"> <li>a) Business assistance techniques for the community: <p>I learned how to provide guidance to coastal community business groups. I assist the Control Facilitator (CF) colleagues in providing direction regarding business development strategies, such as improving product quality and business management.</p> </li> <li>b) Techniques for assessing the conditions of businesses and community groups: <p>I learned to understand how to analyze business conditions and community groups. Together with CF, I help identify strengths, weaknesses, opportunities and challenges faced by business groups, so that I can provide relevant input for their business development</p> </li> <li>c) Assistance techniques for strengthening community group institutions: <p>In this process, I learned together with CF colleagues to help business groups strengthen their institutions. We focused on a more structured division of tasks, clarifying each member's role, and encouraging better communication within the group.</p> </li> </ul> |

**26 November – 31 Desember 2024**

| No | Activity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | <p>This month, mentoring and coordination activities ran smoothly. I have conducted mentoring sessions with the Program Assistant Lecturer (DPP) via Zoom every week. In this mentoring, we discuss various important directions, including conveying new information, progress on final assignments, as well as input regarding obstacles students face during their internship. For mentoring and coordination with the Mentor, PIC, and Control Facilitator (CF), the focus is that funds have been distributed to the community, and they will be spent immediately. In this case, I was given directions to contribute directly in assisting the shopping and verification of the KUPS Siput and KUPS Madu Kelulut groups.</p>                                                                                               |
| 2  | <p>For the past month I have been carrying out the task given by the Mentor and PIC, namely assisting the disbursement of funds to the KUPS Madu and KUPS Siput Perigi groups in Indragiri Hilir district, Perigi Raja village. In this case, I was given directions to accompany the community groups shopping and verifying the items that have been purchased by the community groups. The shopping assistance and goods verification process includes:</p> <p>Understand the group's spending flow, Identify the goods and needs needed by the group. I also document the entire process as a form of activity reporting. The aim of this assistance is to ensure that the funds managed by the group are used comprehensively and according to needs to support the productivity of the KUPS Madu and KUPS Siput groups.</p> |
| 3  | <p>The challenges currently faced in the form of a very tight timeline, lots of documents to be prepared and limited manpower and managing group shopping finances are my challenges while accompanying 2 groups. My solution to facing this challenge is to manage time efficiently and prioritize tasks based on urgency. In preparing a lot of documents, I worked on the documents as soon as possible because time was very limited. And for the challenge of managing group spending finances, I always coordinate with</p>                                                                                                                                                                                                                                                                                                 |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | the PIC if there is still money left over that needs to be spent again by asking what the group needs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 4 | <p>Competencies developed during December include techniques for assisting business development for the community, effective communication, innovation in developing and diversifying peat/mangrove products. In the technical aspect of assisting business development, I learned to understand the group's needs in depth and provide relevant directions to increase their productivity. Apart from that, I also hone effective communication skills, both in explaining technical steps to the group and what the group needs. In terms of innovation in the development and diversification of peat/mangrove products, I explore various creative ideas to increase the added value of the product, such as developing attractive packaging or looking for new market opportunities. This competence is important to help the group create more competitive products in the market</p> |

## Appendixes 2 – Certificate from MSIB



## Appendixes 3– Internship certificate and grade from BRGM RI



## CAPAIAN PEMBELAJARAN PROGRAM

| No.              | Kompetensi                                                                       | Definisi Kompetensi                                                                                                                                                                                                                                                                                                                                                                                                     | Jam            | Nilai Capaian | Deskripsi Nilai Capaian                                                                                                                                                                                                                                                                                                                                                            |
|------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.               | Pengertian konsep dan kegiatan reboasi gambut dan rehabilitasi Mangrove          | Peerta akan mendapatkan materi pembekalan melalui kegiatan "Bastum Beranar: Berbasis Daurat dan Rehabilitasi Mangrove" yang berisi penyampaian materi, diskusi, serta pretest dan post-test.                                                                                                                                                                                                                            | 45 jam         | 75,5          | mahasiswa dapat mengidentifikasi dan memahami konsep dan pelaksanaan reboasi gambut dan penanaman rehabilitasi mangrove sebelum para mahasiswa tersebut terlibat langsung dalam kegiatan BRDM.                                                                                                                                                                                     |
| 2.               | Komunikasi efektif                                                               | Peerta mampu berkomunikasi dan bekerjasama dalam Tim, kualitas presentasi dan kemampuan mahasiswa dalam mengorganisir ide bisnis                                                                                                                                                                                                                                                                                        | 60 jam         | 90            | Mahasiswa mampu berkomunikasi dengan sopan dan jelas, kompak, saling membantu dalam kelompok, dan tampilan presentasi, serta penguasaan materi                                                                                                                                                                                                                                     |
| 3.               | Teori penilaian terhadap kondisi usaha dan kondisi kelompok masyarakat           | Peerta mampu mengidentifikasi faktor-faktor yang mempengaruhi kinerja usaha, dan menganalisis kondisi usaha yang ada                                                                                                                                                                                                                                                                                                    | 90 jam         | 92            | Mahasiswa mampu memahami penilaian Kinerja Perspektif Keuangan, Penilaian Kinerja Perspektif Pelanggan, Penilaian Kinerja Perspektif Proses Bisnis Internal                                                                                                                                                                                                                        |
| 4.               | Teori pendampingan pengujian dalam organisasi kelompok masyarakat                | Mahasiswa mampu mengidentifikasi dan merumuskan strategi untuk pengujian dalam organisasi kelompok                                                                                                                                                                                                                                                                                                                      | 180 jam        | 92            | Strategi internal dan strategi eksternal                                                                                                                                                                                                                                                                                                                                           |
| 5.               | Analisis potensi pasar untuk pengembangan/ diversifikasi produk gambut/ mangrove | Peerta mampu mengidentifikasi faktor-faktor penentu potensi pasar, dan mampu memproyeksi analisis pasar                                                                                                                                                                                                                                                                                                                 | 60 jam         | 93,5          | Mahasiswa memahami Kondisi usaha, permintaan produk, kebijakan pemerintah dan infrastruktur, tahapan analisis dilakukan secara runtutan rekomendasi yang sesuai                                                                                                                                                                                                                    |
| 6.               | Inovasi pengembangan dan diversifikasi produk gambut/ mangrove                   | Peerta mampu menyampaikan ide untuk inovasi pengembangan produk dan diversifikasi produk gambut/ mangrove yang dihasilkan masyarakat binasa BRDM                                                                                                                                                                                                                                                                        | 135 jam        | 95            | Mahasiswa mampu menyampaikan ide-ide baru, solusi inovatif, dan pendakikan yang kreatif untuk mengembangkan atau mendiversifikasi produk gambut/ mangrove.                                                                                                                                                                                                                         |
| 7.               | Analisis nilai chain produk gambut/ mangrove yang berpotensi dikembangkan        | Peerta mampu mengidentifikasi kegiatan utama dan kegiatan pendukung yang dapat memberikan nilai produk produk gambut/ mangrove, serta menganalisis untuk mengungkap biaya atau meningkatkan efisiensi produk/ jasa                                                                                                                                                                                                      | 60 jam         | 93            | Mahasiswa berkolaborasi langsung dengan penanaman bak, pengisian, pemeliharaan dan dukungan dari suatu produk atau jasa. Mengidentifikasi biaya-biaya untuk setiap kegiatan, hubungan antara kegiatan, peluang untuk mengungkap biaya serta meningkatkan efisiensi produk/ jasa                                                                                                    |
| 8.               | Penyusunan dokumen perjanjian usaha dan produk                                   | Peerta mampu mengidentifikasi kebutuhan perjanjian yang diperlukan dan Usaha Masyarakat, dan membantu Usaha Masyarakat dalam menyiapkan dokumen perjanjian perjanjian                                                                                                                                                                                                                                                   | 60 jam         | 92,5          | Mahasiswa mampu memahami regulasi yang berlaku, prosedur perjanjian, serta penyusunan bentuk legal dan administratif yang harus dipenuhi untuk mendapatkan lisensi usaha dan produk, serta mendapatkan Usaha Masyarakat dalam menyiapkan dokumen perjanjian perjanjian                                                                                                             |
| 9.               | Penyusunan Laporan Akhir                                                         | Peerta mampu menyusun Bahan publikasi sebagai media promosi produk-produk gambut dan mangrove                                                                                                                                                                                                                                                                                                                           | 45 jam         | 93            | Mahasiswa membuat Media promosi internet, brosur, spanduk, baliho, banner, media sosial, merchandise, video, dll                                                                                                                                                                                                                                                                   |
| 10.              | Presentasi dan penyusunan Laporan Akhir Magang                                   | Peerta/ magang:<br>A. Mengidentifikasi materi bukan membaca slide, lugas, mudah dipahami, tidak terburu-buru dan tidak berkepanjangan<br>B. Penyusunan Materi dan kemampuan merespon pertanyaan – pengetahuan secara jelas, mudah dipahami secara singkat<br>C. Kebersihan laporan dengan desain isi yang memadai, dan ketelitian dalam pengumpulan laporan melalui Platform Kampus Merdeka, yaitu maksimal 5 Juli 2024 | 45 jam         | 88            | Mahasiswa menyampaikan laporan sesuai outline, isi laporan detail dan terorganisir sehingga dapat menyajikan aktivitas yang dilakukan dengan baik, mendukung informasi yang relevan dan penting serta analisis dan pembahasan mendalam. Kemampuan sesuai laporan, membuat laporan hasil analisis dengan temuan sebelumnya, Orisinal dan bebas dari plagiarisme, serta tepat waktu. |
| <b>Jumlah</b>    |                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>900 jam</b> | <b>907,50</b> |                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Rata-rata</b> |                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                         |                | <b>90,75</b>  |                                                                                                                                                                                                                                                                                                                                                                                    |

|                      |     |    |
|----------------------|-----|----|
| Keterangan Penilaian |     |    |
| 88-100               | 4   | A  |
| 81-80                | 3,5 | A- |
| 71-80                | 3   | B  |
| 66-70                | 2,5 | B- |
| 60-65                | 2   | C  |

Jakarta 31 Desember 2024  
Ketua Program Magang  
Badan Restorasi Gambut dan Mangrove



Dr. Ir. Dedy Wurjanto, M.Sc