



PROJECT/PROGRAMME PROPOSAL TO THE ADAPTATION FUND

PART I: PROJECT/PROGRAMME INFORMATION

Project/Programme Category	: Small-sized Project/Programme
Country	: Indonesia/Asia-Pacific
Title of Project/Programme	: Building Climate Changes Resiliency for Small and Remote Islands in Pangkajene Island (Pangkep) District
Type of Implementing Entity	: National Implementing Entity (NIE)
Implementing Entity	: Partnership for Governance Reform (Kemitraan) of Indonesia
Executing Entity/ies	: Resilient-Climate Change Adaptation Consortium (Konsorsium Tangguh Adaptasi Perubahan Iklim/(Kontan API - DFW Indonesia, Lembaga Maritim Nusantara, Yayasan Nypah Indonesia)
Amount of Financing Requested	: USD 979.548 (in U.S Dollars Equivalent)
Letter of Endorsement (LOE) signed	: Yes

Project / Programme Background and Context:

1. Global warming refers to the rise in Earth's average surface temperature by about 0.74 °C over the past century. Many experts estimate that the average temperature could increase by 1.4°C to 5.8°C by 2100. The Intergovernmental Panel on Climate Change (IPCC) predicts global temperatures will likely rise by 1.1°C to 6.4°C in the next 90 years. Sea surface temperatures have also been rising due to this warming trend. According to Climate Reanalyzer, sea surface temperatures ranged from 19.8°C to 20.2°C in 1981 but have increased to between 20.5°C and 21.1°C. This temperature rise is expected to increase the frequency and duration of heatwaves, alter rainfall patterns during wet and dry seasons, and affect climate variability, including phenomena like El Niño-Southern

Oscillation (ENSO), the Indian Ocean Dipole (IOD), and monsoons, which lead to an increase in bad weather and storm intensity in several parts of the world, including Indonesia.

2. In the context of Indonesia, climate change has led to an increase in extreme wave heights above 1.5 meters, a sea level rise of 0.8-1.2 cm per year, a temperature rise of 0.45-0.75°C, and an increase in rainfall of about ± 2.5 mm per day, impacting all sectors of life. Specifically, in the marine and coastal sectors, this results in the steepening of coastal slopes due to flooding and coastal erosion, endangering navigation safety, damaging coastal and marine ecosystems, and reducing the operational range of small fishing boats under 10GT.¹ Additionally, increased atmospheric emissions will raise CO₂ levels in seawater, affecting its acidity and threatening the life of coral reefs through coral bleaching. Between 1983 and 2020, Indonesia experienced 2,932 cases of coral bleaching.²

CLIMATE CHANGES SITUATION

3. The planned program implementation for Liukang Tangaya and Liukang Kalmas involves clusters of small islands located within the administrative region of Pangkep District, South Sulawesi Province. Liukang Tangaya is located in the Flores Sea, while Liukang Kalmas is in the Makassar Strait.

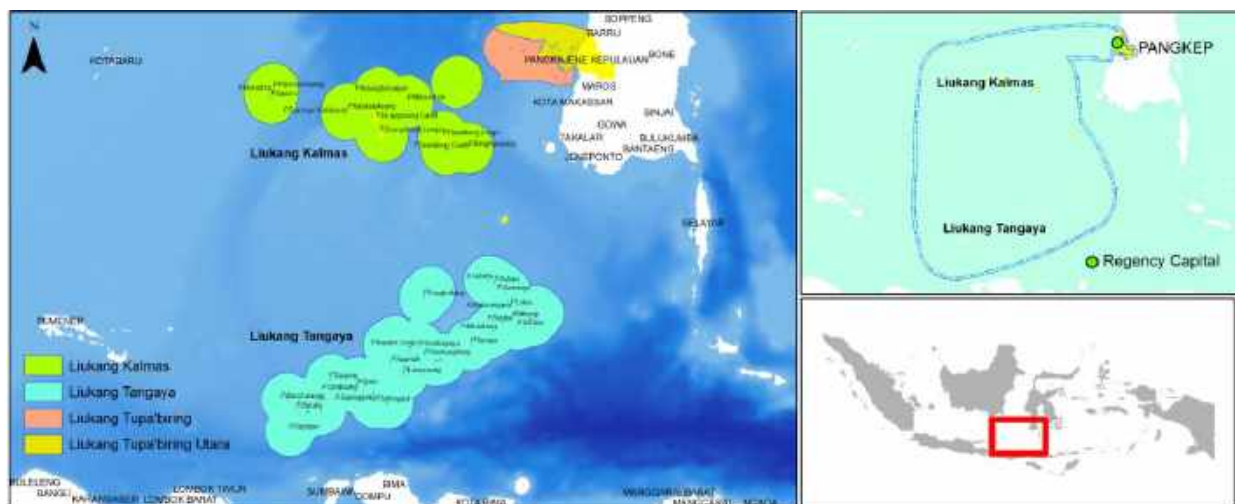


Figure 1. Regional Map of Pangkajene Islands Regency (Pangkep)

4. Although there is no adequate detailed data on climatology for Liukang Kalmas and Liukang Tangaya available from government sources, our team used global climate data from various sources and combined it with in situ observation from past projects, research, and publications available for the locus area.
5. **Temperature and sea surface temperature changes.** Based on temperature data recorded from 1981-2021, temperatures in Liukang Kalmas and Liukang Tangaya have increased steadily over time. The lowest temperature occurred in 1982 at 26.75°C and the highest temperature

¹ Ringkasan Eksekutif: Kebijakan Pembangunan Berketahanan Iklim 2020-2045. Kementerian Perencanaan Pembangunan Nasional, Bappenas. 2021

² <https://www.bco-dmo.org/dataset/773466>

occurred in 2016 at 28.04°C (Figure 2).³ It is well known that the increase in temperature is the main symptom of climate change, and people living in coastal, small, and remote island areas are the most vulnerable to climate change, and one example is the communities in *Liukang Kalmas* and *Liukang Tangaya*, where their lives are highly dependent on sea conditions. The increasing temperature trend is generally in line with the projected temperature increase in South Sulawesi land by BMKG, which states that there will be an increase of 0.9-0.95°C throughout 2032-2040.⁴

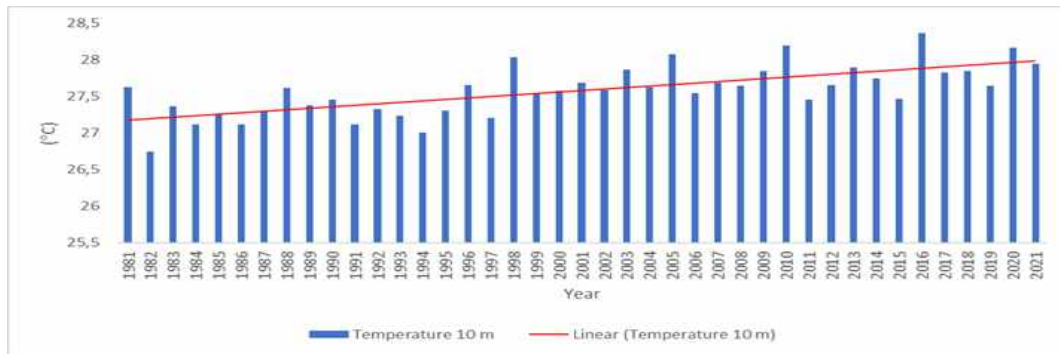


Figure 2. Temperature Trends Period 1981-2021

6. The increase in temperature is directly proportional to the rise in sea surface temperature. Analysis of annual climatology data from oceancolor.gsfc.nasa.gov for 2002 and 2020 around the waters of Tangaya and Kalmas shows an increase. In 2002, the temperature range was between 26.4 and 33.8°C, which increased to 27.9 and 34.4°C in 2020.

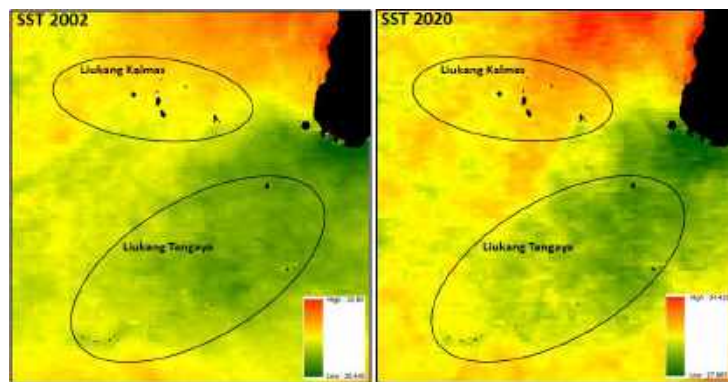


Figure 3. Comparison of sea surface temperatures in 2002 and 2020 (source:annual climatology oceancolor.gsfc.nasa.gov)

7. Seasonal sea temperature fluctuations also heighten the vulnerability of seaweed cultivation to diseases like "ice-ice," caused by bacteria thriving in water temperatures between 31°C and 32°C, at a depth of 28-93 cm and a current speed of 7.1-11 meters per second. At that time, the bacterial count can reach 18,060 grams/colony [Supatno et al., 2010]. According to research by Santoso and Tri [2008], ice-ice occurs due to extreme environmental conditions, such as changes in salinity, water temperature, and light intensity.⁵ This disease reduces the growth, health, and productivity of seaweed,

³ <https://power.larc.nasa.gov/data-access-viewer/>

⁴ Climate Change Projection | BMKG. <https://www.bmkg.go.id/iklim/?p=proyeksi-perubahan-iklim> There is no data available for the mainland area of NTB Province as a comparison for the Liukang Tangaya area

⁵ <https://www.mongabay.co.id/2023/07/04/saat-dampak-pergeseran-musim-mencemaskan-pembudidayaan-rumput-laut-pulau-seram/>

creating economic challenges for communities dependent on this resource.

8. **Rainfall changes.** Rainfall patterns in the Liukang Kalmas and Liukang Tangaya areas have remained relatively stable over the last 30 years, with notable spikes in 1981, 1984, 1999, and 2010. Average annual rainfall is significantly higher than the Indonesian average (7,364 mm versus 2,000–3,000 mm). However, the islands' poor soil water retention often results in brackish and murky wells, despite high rainfall levels.⁶ The high rainfall in both sub-districts has helped communities as their water sources.
9. The dynamics of high rainfall over extended periods pose a significant challenge for seaweed cultivation. A senior researcher in physical oceanography at the Deep Sea Research Center, BRIN Ambon, explains that the rapidly changing weather within a single day—alternating between hot and rainy—is caused by the La Nina phenomenon that has affected Indonesia from 2020 to 2022. Another impact is the shift of the dry season into the rainy season. This phenomenon also influences monsoon winds, making rainy conditions more dominant and shortening the dry season, thus disrupting seaweed cultivation.⁷

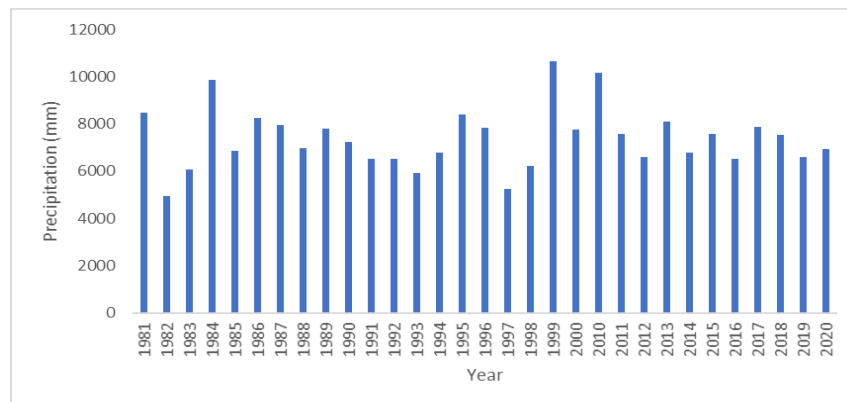


Figure 3. Graph of Rainfall in the Districts of Liukang Kalmas and Liukang Tangaya 1981-2020

10. Heavy rainfall, accompanied by extreme waves, will hinder seaweed farming operations, including planting, maintenance, cleaning, and harvesting, as such conditions pose a safety risk to farmers. Prolonged rainfall will also disrupt the drying process of harvested seaweed, leading to losses. At the provincial level in South Sulawesi, Pangkep Regency—including Liukang Tangaya and Liukang Kalmas—ranks fourth in seaweed production. However, the Strategic Plan for 2024-2026 highlights the challenges facing seaweed development due to the impacts of climate change, as previously discussed.
11. Extreme wave events as a result of climate change have also been experienced by residents in these two locations. In 2020, a typhoon hit Liukang Kalmas, damaging 106 houses and disrupting the government's food aid program. Fishermen were unable to go to sea for a week. Additionally, in 2020, high waves caused a ship carrying goods from Makassar to Marasende Island, Liukang Kalmas District, to sink in the Taka Bakkang Waters, Liukang Kalmas District. Climate disasters, such as shipwrecks, are exacerbated by the lack of weather knowledge and information, and the dwindling

⁶ CHIRPS: Rainfall Estimates from Rain Gauge and Satellite Observations | Climate Hazards Center - UC Santa Barbara (<https://climate.geog.udel.edu/climateviz/>)

⁷ <https://www.mongabay.co.id/2023/07/04/saat-dampak-pergeseran-musim-mencemaskan-pembudidaya-rumput-laut-pulau-seram/>

availability of primary necessities on the islands during extreme weather, which are only available on the mainland (Makassar), forcing residents to undertake risky voyages. Weather conditions between these two locations and Makassar vary; sometimes the sea conditions around Makassar are calm, while Liukang Tangaya and Kalmas waters experience storms. This information is crucial for the traditional seafaring of small-scale fishermen. Liukang Tangaya and Liukang Kalmas are predominantly inhabited by small-scale fishermen with boats averaging under 5 GT. This limits their ability to fish during extreme waves and storms, resulting in decreased income for these small-scale fishermen.

12. **Sea level rise.** Based on the CSIRO sea level rise analysis, there has been an increasing trend of global sea level rise of 79.5 mm in the last 100 years, from 1880 to 2015. In the coastal waters of Pangkep, based on data between 1990 and 2021, there has been an increase of 88-92 mm.⁸

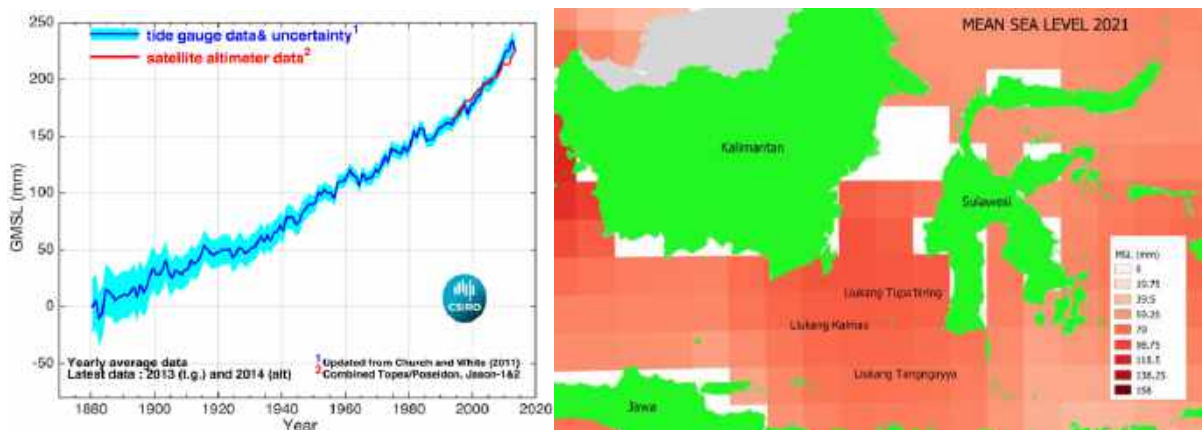


Figure 5. Graphic of Global Mean Sea Level (MSL) Trend and MSL Map of Liukang Waters Area

13. Sea level rise will reduce the land area of small islands, further shrinking the space available for the communities living there. This also shifts the coastline closer to settlements, increasing the threat of climate disasters such as tidal flooding, coastal erosion, and storm surges.
14. In 2014, tidal floods and coastal erosion affected nearly all islands in Liukang Kalmas. The floods inundated residential areas to a depth of 40–50 cm, forcing several residents to evacuate. In 2021, tidal floods submerged houses on Sapuka Island and Sailus Island in Liukang Tangayya. In 2022, high waves severely damaged the pier on Saliriang Island in Liukang Kalmas.
15. There have been 19 typhoons in the last 3 years and have even resulted in ship accidents resulting in fatalities. The effects of this event significantly impact the socio-economic well-being of the community. Fishermen are unable to go fishing, which lowers household incomes, while damage to homes and public facilities causes material losses. The reduction in food supplies leads to increased prices for basic necessities and may also pose risks to human safety.

⁸ www.cmar.csiro.au

16. **Ocean Acidification:** Ocean acidification is the decrease in ocean pH over several decades caused by the absorption of carbon dioxide (CO₂) from the atmosphere, which has increased dramatically since the Industrial Revolution, from about 280 parts per million (ppm) in the pre-industrial era to 419.05 ppm as of April 2021.⁹ This change in the chemical structure of seawater poses a threat to coral reef ecosystems. Research by Nurhidayat (2019) found that one form of coral damage in Liukang Tangaya is coral bleaching. Data from www.data.jma.go.jp show that the pH of seawater has decreased from 8.1 in 1990 to 8.04 in 2022.

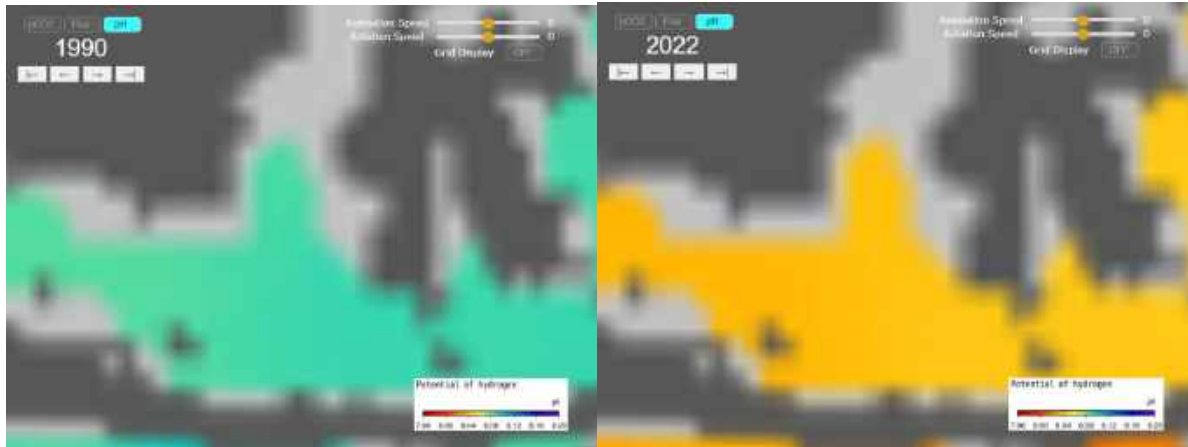


Figure 6. Comparison of Project site Sea Water pH in 1990 & 2022

17. Changes in the chemical properties of seawater that are unsuitable for coral reef habitats have wide-ranging consequences for the marine biodiversity of Tangaya and Kalmas, as well as the socio-economic well-being of island communities that depend heavily on marine resources for food and livelihoods. Ocean acidification affects commercial and recreational fisheries by reducing the abundance of attractive marine life. With its impact on the health and structure of coral reefs, ocean acidification also threatens millions of dollars in tourism revenue, coastal protection from erosion and flooding, and the foundation of coral reefs and marine biodiversity.

ENVIRONMENTAL CONTEXT

18. **Coral reefs ecosystem.** Based on the 2013 RZWP3K document of Pangkep Regency, the coral reefs in Liukang Kalmas have a total area of 704,43 ha and of 28,709 ha in Liukang Tangaya. Both are in poor condition.¹⁰ Damage to coral reefs in this area is caused by the practice of destructive fishing (DF) in the form of bombing and use of anesthetic materials. In a study conducted by DFW Indonesia in 2003, there were at least 427 bombings and 191 drugging fishing activities in 11 small islands in Liukang Tupabiring and Liukang Tupabiring Utara. In 2016, according to the same source, 13 bombers and anesthesia were found in the Kapoposang Marine Tourism Park area. With coral reefs in Kalmas and Tangaya in worse condition than the other two sub-districts, it is suspected that DF practices in these two sub-districts were equally intense as those in the other two sub-districts.

⁹ <https://reefresilience.org/id/stressors/ocean-acidification/>

¹⁰ Final Document RZWP3K Pangkep 2013 & Ministry of Environment Decree No. 4 of 2001 concerning Standard Criteria for Coral Reef Damage

19. **Mangrove ecosystem.** In 2013, the total area of mangrove vegetation in Liukang Kalmas and Liukang Tangaya was 4,465.63 ha.¹¹ In 2016, there had been a decrease of 1,684.57 ha in Liukang Tangaya and 802.25 ha in Liukang Kalmas. This decrease occurred due to natural causes such as coastal abrasion and exploitation for various purposes: building materials, energy sources (firewood), or being sold off the island. The destruction of the mangrove ecosystem itself means the release of carbon stocks into the air, the loss of carbon sinks, natural wave barriers, and the loss of one of the nutrient suppliers in the sea.
20. **Seagrass ecosystem.** Seagrass data of Pangkep Regency can be found in various documents, but there is no data available regarding the seagrass distribution in Liukang Kalmas and Liukang Tangaya. Seagrass beds themselves are ecosystems that provide provisioning services for fish and their biota, which play an important role in food security and the welfare of small-scale fishers. Seagrass ecosystems are very important in climate change issues with their ability to store up to two times that of tropical forests.¹²

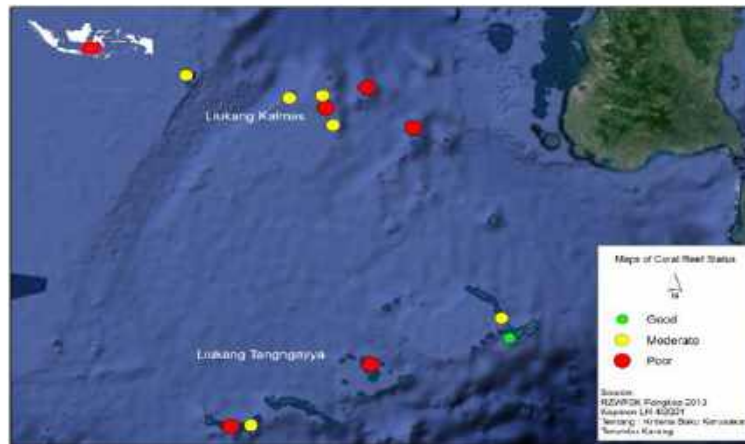


Figure 7. Coral Reef Condition in Liukang Kalmas and Liukang Tangaya

21. **Environmental issues.** As presented in the data above, Liukang Kalmas and Liukang Tangaya sub-districts are facing climate change threats with the increase in temperature and mean sea level. Both sub-districts also faced issues concerning waste management, coral and mangrove ecosystem degradation, coastal erosion, and tidal flooding. There is no waste management system in both sub-districts, and the coral and mangrove destruction is continuously occurring. Based on the Data Integrated Poor Handling Program (PPFM) in 2015, 79% of households in Liukang Tangaya and 56% in Liukang Kalmas use charcoal or wood as their cooking fuel,¹³ which is suspected to be one of the causes of the continued decline in mangrove land area in both sub-districts. The previous discussion on the Spermonde waters, including Pangkep's Liukang Tupa'biring and Makassar areas, reflects conditions similar to those at the project's intended implementation site. The ecosystem, especially the coral reefs, is similarly in a state of moderate to significant damage.

¹¹ RZWP3K Pangkep 2015

¹² <https://www.thebluecarboninitiative.org/about-blue-carbon#>

¹³ PPFM Integrated Data for Pangkajene and Islands Regency/City 2015

DEVELOPMENT CHALLENGES IN REMOTE AND SMALL ISLANDS

22. The Pangkajene Islands Regency (Pangkep), an archipelagic region, encompasses 133 islands scattered across 11,464.44 km² of water, exceeding its land area. Pangkep includes four island districts, among which are Liukang Tangaya District and Liukang Kalmas District. These two sub-districts are isolated and face challenging, high-risk living conditions due to their remote location, far from the mainland of Pangkep. Liukang Tangaya District comprises 54 small islands with a population of 18,413, while Liukang Kalmas District consists of 18 islands with 14,753 residents. Both sub-districts are reliant on other provinces for their livelihoods and depend on local ships for transportation, yet they lack access to weather information and essential infrastructure for development, including public amenities, social services, and administrative support. Residents of these sub-districts have a low capacity to adapt to disasters and climate change.

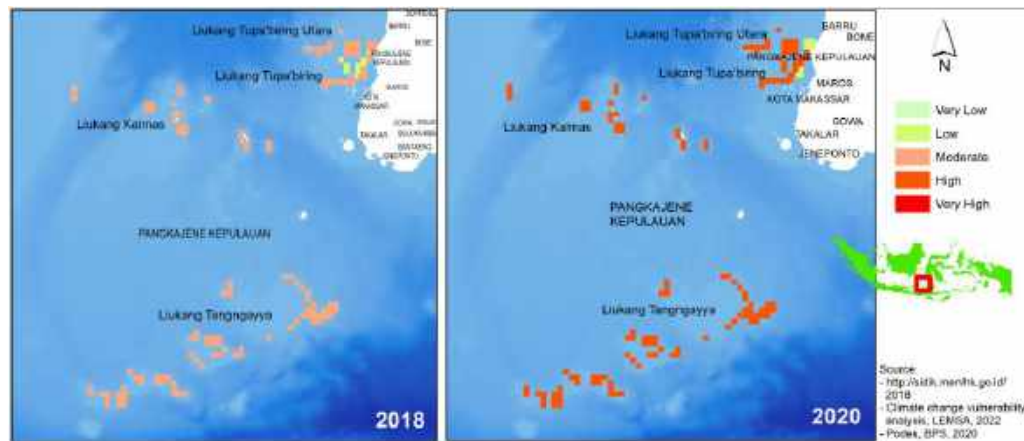


Figure 8. Climate Change Vulnerability Map of Small and Remote Islands of Pangkep Regency

23. According to the Ministry of Environment and Forestry's (MoEF) Vulnerability Index Data Information System (SIDIK) from 2018, nine villages in Tangaya and seven in Kalmas were classified as having moderate vulnerability. However, an update by the Nusantara Maritime Institute (Lemsa) and Nypah Indonesia in 2022, based on the 2020 Village Potential (Potensi Desa) adapted for small islands, revealed that vulnerability levels have risen to high. Only the islands near the mainland of Pangkep Regency, specifically those in Liukang Tupa'biring District, are categorized as having low vulnerability.
24. The current national systems for assessing risk and vulnerability in Indonesia, whether developed by the MoEF or the National Disaster Management Agency (NDMA), have proven inadequate in accurately representing the conditions of small and remote island areas. For instance, the MoEF's 2018 SIDIK indicated that nine villages in Liukang Tangaya and seven in Liukang Kalmas within Pangkep Regency had moderate vulnerability. This assessment was limited by its focus on flood risk based on the number of households near riverbanks, which is not applicable to small islands that lack rivers. To address this, Lembaga Maritim Nusantara and Nypah Indonesia adjusted the parameters to better reflect the context of small islands while still utilizing the same dataset (PODES), but with the updated 2020 version. This adjustment revealed that vulnerability levels had risen from moderate to high, although Liukang Tupa'biring remained categorized as low vulnerability due to its proximity to the mainland of Pangkep Regency.

25. It is well recognized that residing on a small and remote island presents unique challenges, including the impacts of changing weather and climate conditions as well as the consequences of development. These factors can increase local vulnerabilities and potentially undermine existing progress. To contextualize this proposed project, the following subtopics will address these issues in detail.

DEVELOPMENT IMPARTIALITY

26. Isolated location and not development priority. Being located far from the mainland of Pangkep Regency, 30-40 hours away by motorboat, residents in Liukang Tangayya Sub-district mostly carry out their economy and fulfill their daily needs by going to East Lombok Regency, West Nusa Tenggara (NTB) Province.¹⁴ Meanwhile, the residents of Liukang Kalmas Sub-district, located an average of 25 hours away by motorboat to the mainland of Pangkep Regency, depend on Balikpapan, East Kalimantan Province; East Lombok, West Nusa Tenggara; and the cities of Pangkep and Makassar in South Sulawesi. The two sub-districts are also not a priority for development as they are not highly populated areas. The population in the Pangkep Regency represents only 18% of the total population of Pangkep Regency.
27. Sufficient data is not available. Development in both sub-districts faces significant problems, especially related to the development of adaptation strategies against climate change due to the limited data and information. Data and information about the weather in both sub-districts, for example, are not available, while all aspects of life in both sub-districts rely on or involve sailing activities. In addition, the Pangkep Regency government still does not have data and plans related to disaster management and climate change. According to the Sustainable Development Goals (SDGs) of the RPJMD 2021-2026 of Pangkep Regency, it is known that holistic handling of disaster risk has not been developed and implemented at all levels. Efforts in this direction are still in the category of unavailability of data and have not been actualized.

INADEQUATE BASIC INFRASTRUCTURES

28. **Basic needs provision.** Located in remote areas and only accessible by sea, the communities of Liukang Tangaya and Liukang Kalmas face serious challenges in meeting their basic needs due to limited facilities and infrastructure. These problems include: (1) access to clean water, (2) food supply; (3) energy/fuel; and (4) sanitation. To obtain clean water needs, the communities in both districts rely on collecting rainwater and digging wells, which often produce muddy and brackish water during the dry season. In recent years, the community has resorted to bottled water to meet their needs, leading to an increase in plastic waste.
29. **Basic food needs and supply hurdles.** To secure their basic food supplies, residents of the Liukang Kalmas must embark on 20-30 hour sea voyages, navigating through hazardous waves. They purchase essential items like rice, vegetables, and cooking oil in Makassar, Balikpapan, and East Lombok, which also serve as trading hubs for their local products such as sea cucumbers, salted fish, and live fish. The situation worsens

¹⁴ Lemsas spatial data processing results, 2022

during the west season (extreme weather period), resulting in potential shortages of daily necessities for the community.

30. **Fuel supply and shortage.** Fuel shortages have intermittently arisen when purchasing from trading hubs, such as in January 2021, when fishermen from Sapuka Island in Liukang Tangaya were unable to fish for 10 days due to insufficient fuel. Moreover, fuel serves as the primary source of electricity and lighting for island communities. It is also common for these communities to acquire fuel from other provinces without proper authorization.
31. **Sanitation and health infrastructure.** Communities in the Pangkep Regency face inadequate sanitation conditions. Besides water shortages, most households lack toilets. In 2019, the percentage of households without toilets was 87% in Liukang Tangaya, 91% in Liukang Kalmas, 67% in Tupabbiring, and 57% in Tupabiring Utara. Additionally, healthcare infrastructure in both sub-districts is extremely limited (see COVID-19 section).
32. **Health facilities accessibility.** Health infrastructure in the Liukang Kalmas and Liukang Tangaya sub-districts is extremely limited. In 2020, of the 9 inhabited islands in Liukang Tangaya District, 8 were classified as having "very difficult" access to health facilities. Similarly, in Liukang Kalmas District, 7 inhabited islands were rated as having "very difficult" access to health facilities, with only 2 islands having health center facilities.¹⁵

ACCESSIBILITY

33. Development of the small and remote islands in Pangkep Regency is hindered by their isolated location and their reliance entirely on maritime transportation. High dependence on fuel availability, pioneer ships that are only available once a month, extreme weather, and limited livelihood options make them susceptible to climate change. This is exacerbated by the absence of adequate data and information on weather conditions, making sailing and fishing activities in Liukang Tangaya and Liukang Kalmas at high risk. Liukang Kalmas and Liukang Tangaya also have poor communication networks. In 2019, only one of the seven populated islands in Liukang Kalmas had a good cellular signal connection, while all the remaining islands had either weak or no cellular signal. Meanwhile, in Tangaya, 5 out of 9 populated islands have no cellular signal, and the remainder has a weak signal.¹⁶

COVID-19 and WASTE

34. **Impact of COVID-19.** No specific data on the impact of the COVID-19 outbreak on the islands of Pangkep Regency is available, but it is reasonable to assume that the remote sub-districts of Liukang Kalmas and Liukang Tangaya have also been affected, given the national economic downturn caused by the pandemic. The COVID-19 pandemic directly impacted the residents of Liukang Tangaya, where fishermen could not sell live fish due to restrictions on accessing the mainland and outside buyers being unable to enter the island, resulting in several months of disruption under the government's "community activity restrictions." The provinces vital to the livelihoods of these communities—East Kalimantan and West Nusa Tenggara—suffered significantly, with

¹⁵ BPS Pangkep, op.cit

¹⁶ Central Statistics Bureau Pangkep, 2020.

East Kalimantan experiencing a 6.10% increase in poverty, affecting 230,260 individuals, and West Nusa Tenggara seeing a 4.5% rise, impacting 32,150 individuals. Additionally, healthcare infrastructure in both sub-districts remains severely limited, with eight of nine inhabited islands in Liukang Tangaya having rough access to health facilities, and all seven inhabited islands in Liukang Kalmas facing similar challenges, with only two islands having a puskesmas (community health center).¹⁷

35. **Marine debris and waste management issues.** Marine debris, particularly plastic waste, poses a significant threat to coastal ecosystems. Plastics contribute to climate change, primarily through their role in carbon emissions. The Pangkep Islands lack an organized waste management system, and public awareness regarding waste disposal is notably insufficient. Residents typically manage waste by burying it, burning it, or discarding it into the sea. Effective marine debris management is a global commitment, including for the Indonesian government. Addressing waste on small islands is crucial for enhancing environmental resilience against climate change.

Project / Programme Objectives:

36. The climate change risks exacerbating development inequities faced by communities on small and remote islands, as detailed in the preceding contexts, pose substantial challenges. Our concept notes seek to address these issues through four strategic approaches, which encompass:
37. **Regional strengthening** focuses on enhancing the adaptive capacity of local communities, village, and district governments to respond to climate-related hazards and risks, anticipate future changes, and improve their surrounding environments and ecosystems, which serve as their primary support system. This involves establishing a climate disaster response group or community and providing training to enhance the group's and the local community's awareness of disaster management. The increase in surface temperature and heavy rainfall creates vulnerabilities for seaweed farming; strong winds damage homes, public facilities, and fishing boats, posing risks to transportation to the mainland; sea level rise causes tidal flooding and coastal erosion; and ocean acidification threatens coral reefs, leading to a decline in fishermen's livelihood productivity. Rising surface temperatures and heavy rainfall increase the vulnerability of seaweed farming. Strong winds damage settlements, public facilities, and fishing boats, posing risks to transportation to the mainland. Rising sea levels lead to tidal flooding and erosion. Ocean acidification causes coral reef die-off, which in turn reduces the productivity of fishermen's livelihoods and climate change risks. Furthermore, creating community-based climate risk assessment documents at the village level serves as a systematic approach to bolster village resilience within a development planning framework. Furthermore, improving the village's surrounding environment to support island village resilience to climate changes by conducting ecosystem assessment to get the bigger picture on how climate change and livelihood activities affect the condition of the surrounding ecosystem, and then promoting the ecosystem rehabilitation measures for coral reefs and mangroves. Since the area is also surrounded by marine conservation areas, the project will also target the improvement of the conservation area governance. Improving local community livelihood with sustainable livelihood approaches and diversity of food and income sources as well as harvest and income management at the household level on one hand will increase their

¹⁷ Central Statistics Bureau Pangkep, op.cit

capacity to respond to climate hazards and on the other hand also help in reducing environmental stress from destructive livelihood activities.

38. **Implementation of applicable technology** for the establishment of a streamlined weather monitoring station in five activity spots and to create simple digital weather information boards across six island clusters, integrating these into an early warning system for local island communities. This early warning system and weather station will be linked with the weather system of the Meteorological, Climatological, and Geophysical Agency, or BMKG. This integration will address the gap in weather stations between Sulawesi and Java, enhancing the accuracy of weather and climate data, specifically for current and wave forecasts impacting shipping routes in the region. The establishment of this early warning system aims to mitigate the risk of shipwrecks caused by intensified sea storms by delivering more precise warnings to both passing vessels and local fishermen. The use of this technology functions as an early warning system for fishermen, advising them to avoid sailing during unfavorable weather conditions and thereby reducing the incidence of maritime accidents that often affect fishermen in both proposed program locations. The utilization of weather information systems by fishermen also contributes to the development of the fishing industry, particularly when sudden changes in natural conditions can be anticipated early. Information technology provides fishermen with the knowledge to implement adaptation measures, such as adjusting the position of seaweed lines during extreme temperatures to prevent exposure to harmful conditions. This can positively impact the growth of cultivated seaweed and prevent economic losses.
39. **Alleviating the environmental impact** on the island's ecosystem caused by unsustainable natural resource use through community education, environmental monitoring by community groups in conjunction with disaster risk teams, development of community reporting systems, and environmental research. Destructive fishing practices and inadequate waste management, which contribute to marine pollution, are intensifying the strain on coastal ecosystems that are already vulnerable to climate change and vital to the livelihoods of coastal communities on small islands. Building ecosystem resilience involves the active participation of the community in rehabilitation efforts and reducing ecosystem exposure to destructive activities and the load of waste entering marine waters. This approach will significantly enhance the ecosystem's carrying capacity, contributing to climate disaster reduction and prevention.
40. **Fostering inter-regional learning and collaboration through policies and cross-sectoral cooperation.** This includes providing disaster risk assessment documents at the district level, particularly for the two targeted sub-districts, and developing Climate Change Adaptation and Disaster Risk Reduction (RAD) plans specifically tailored for island communities. Additionally, this approach promotes coordination among local governments in the program area, both at the district and provincial levels. Such collaboration can enhance adaptation efforts for island communities by ensuring the availability of essential resources like logistics and fuel, especially during storm seasons.
41. Overall project objective: Building Climate Change Resilience for Small and Remote Islands, Pangkajene Islands District. The main objectives of the program will be achieved by focusing on four main program components.
 1. Strengthening the resilience capacity of remote small island areas of Pangkajene

Islands Regency to climate change through environmental, social community, and economic approaches.

2. Application of appropriate technology for climate change monitoring and early warning systems in remote small island areas.
3. Strengthening ecosystem resilience in response to variability-induced stress to climate risk.
4. Strengthening policies, cooperation, and learning in support of increasing resilience to climate change and disaster risk reduction.

Project / Programme Components and Financing:

Project/Programme Components	Expected Concrete Outputs	Expected Outcomes	Amount (US\$)
1. Strengthening resilience capacity of remote small island areas of Pangkajene Islands Regency to climate change through environmental, social community, and economic approaches.	1.1. Enhancing the social and economic adaptive capacity of vulnerable communities in 16 villages to the impacts of climate change. 1.2. Enhancing the environmental adaptation capacity of small island regions to the impacts of climate change.	1. Increased social, economic, and environmental adaptation capacity of vulnerable communities on remote small islands to the impacts of climate change.	192.184
2. Appropriate technology on monitoring systems and early warning systems for small and remote island regions.	2.1. Simple weather measurement stations on small and remote islands were installed. 2.2. Early warning systems for climate disasters and potential fishing ground information were installed.	2. Increased local community adaptive capacity through applied technology on weather monitoring and early warning systems.	166.971
3. Strengthening ecosystem resilience in response to variability-induced stress to climate risk.	3.1. Vulnerable coastal ecosystem strengthened in response to climate variability risk. 3.2. Small asset to support adaptive ecosystems in response to climate variability risks.	3. Increased ecosystem resilience in response to variability-induced stress to climate risk.	313.052
4. Cross-sectoral policies, cooperation and learning to enhance the small and remote island resilience to the climate changes	4.1. Increasing the capacity of local governments through the Adaptation Working Group institution in regional action planning for climate change adaptation (RAD-API). 4.2. Lessons learned and	4. Increased the local governments capacity to do the strategic planning, dissemination, and coordination to support Kabupaten	144.829

	knowledge management of the small island community to the climate changes were produced and disseminated to both the public and government, i.e., books, newsletters, and websites.	Pangkep's climate change adaptation action plan.	
5. Total Project/Programme Cost			817.036
6. Programme Execution cost (9,5%)			85.766
7. Implementing Entity Fee (8,5%)			76.745
Amount of Financing Requested			979.548

Projected Calendar:

Indicate the dates of the following milestones for the proposed project/programme

Milestones	Expected Dates
Start of Project/Programme Implementation	January 2025
Mid-term Review (if planned)	November 2025
Project/Programme Closing	December 2026
Terminal Evaluation	January 2027

PART II: PROJECT / PROGRAMME JUSTIFICATION

- A. Describe the project / programme components, particularly focusing on the concrete adaptation activities of the project, and how these activities contribute to climate resilience. For the case of a programme, show how the combination of individual projects will contribute to the overall increase in resilience.*
42. This project aimed to enhance the resilience of small and remote island communities to climate change by strengthening their adaptive capacity and reducing ecosystem threats from destructive economic activities. The implementation will focus on four program components, four outcomes, and eight major outputs, as described below.
 43. **Component 1: Strengthening the resilience capacity of remote small island areas of Pangkajene Islands Regency to climate change through environmental, social community and economic approaches.**
 44. The activities in the first component aim to enhance the social, economic, and environmental adaptive capacity of vulnerable communities in remote small islands to the impacts of climate change, such as rising sea levels causing coastal erosion, unpredictable storm seasons, and extreme weather affecting fishing activities and maritime safety. The strengthening of adaptation capacity will be achieved through social, economic, and environmental approaches, characterized by an increase in the number of vulnerable communities and village governments with enhanced capacity to respond to climate change. This also includes the development of economic activities that can adapt to climate change pressures, as well as the sustainable management of coastal and marine environments. This component aligned with the AF Strategic Result Framework, specifically outcome 1 for outputs 1.1, outcome 2 for outputs 2.1 and 2.2, outcome 3 for output 3.1, and outcome 6 for output 6.
 45. **Output 1.1. Enhancing the social and economic adaptive capacity of vulnerable communities in 16 villages to the impacts of climate change.**
 46. The strengthening of the community's social adaptation capacity will be achieved through the establishment and empowerment of local institutions in 16 pilot villages, along with the development and implementation of community-based adaptation action plans. The strengthening of economic adaptation capacity will be achieved through comprehensive capacity-building support, which will be provided via technical and management training in key sectors such as seaweed farming, fisheries, post-harvest processing, and climate-resilient agricultural practices. These efforts aim to enhance the economic resilience of communities by enabling them to better identify and respond to climate-related risks.
 47. The formation and strengthening of community organizations that are responsive to climate change and disasters will encourage village institutions to take the lead in identifying various climate-related threats and risks, as well as the necessary adaptation and mitigation measures. These threats may include land erosion and sedimentation, the development of alternative livelihoods for fishermen during storms and extreme weather, and the promotion of climate-resilient agriculture, among others. The development and implementation of community-based adaptation actions, supported by

small grant incentives from the project, provide an opportunity for village communities to carry out adaptation activities tailored to the specific risks and threats faced by each village, thus contributing to the strengthening of the community's social adaptation capacity.

48. Each village will receive a small grant of up to IDR 30 million as a stimulus to carry out their adaptation actions. The grants will be disbursed through the Climate and Disaster Resilience Groups formed in the villages. These groups are responsible for developing the village-level adaptation action plans and submitting them to the project team for support. The project team will assess the feasibility of the proposals before releasing the grant funds and providing the necessary guidance and technical support during the implementation of adaptation actions funded by the stimulus grants. In the early stages, adaptation actions will receive support from the stimulus grants provided by the project. In later stages, these actions will be supported by local village governments through integration into village development planning.
49. In strengthening economic adaptation capacity, for example, to reduce the impacts of extreme weather on fisheries, the project will develop seaweed farming using a farmer field school model over one complete cultivation cycle and introduce advanced technologies and innovations in fisheries, including training on new fishing gear for 16 fisher groups in the pilot villages. Support will also be provided in the form of strengthening technical capacity for post-production fish processing to help overcome marketing challenges posed by adverse weather conditions. The threat of crop failure due to climate change will be addressed by strengthening capacity in the development of climate-smart, sustainable agriculture practices.
50. **Output 1.2. Enhancing the environmental adaptation capacity of small island regions to the impacts of climate change.**
51. The project aims to enhance the ability of coastal and small island areas to adapt to environmental changes by improving the governance of marine and coastal conservation zones. By protecting these critical areas, the project seeks to strengthen ecosystem resilience, which in turn supports local communities that depend on these ecosystems. Key activities will include developing Standard Operating Procedures (SOPs) for managing conservation areas and providing technical training to local governments to improve the management and monitoring of these zones.
52. Project activity of these output:
 - Project socialization at the district and village levels; formation and capacity building of 16 community groups for emergency and disaster response (Climate and Disaster Response Teams) at the village level in two target sub-districts, with each group consisting of at least 10 members.
 - Development and implementation of a community climate adaptation action plan based on a study of climate vulnerability and disaster risk in 16 project villages.
 - Provision of small grants as incentives for community-based adaptation actions, with 16 adaptation actions in 16 villages, each with a maximum value of IDR 30 million.
 - Implementation of training activities to enhance economic capacity responsive to

the impacts of climate change in 16 villages through climate field schools, cultivation methods, household financial management, fish processing techniques, and climate-smart natural agriculture.

- Availability of SOP documents for the management of conservation areas sensitive to climate change.
- Conduct of thematic training activities on skills and management for marine conservation areas sensitive to climate change.

53. **Component 2: Appropriate technology on monitoring system and early warning system for small and remote island regions**

54. The outcome is to increase local community adaptive capacity through the application of technology in weather monitoring and early warning systems. Communities on small islands are heavily affected by weather conditions because transportation and fishing activities rely on the sea, which is influenced by weather conditions. Often, weather patterns change without prior warning, posing significant risks. The availability of weather information can help communities anticipate weather conditions, such as deciding whether to go fishing, determining safe fishing grounds, and relocating seaweed farms, among other things. The information will measure and disseminate through the development of an early warning system, which will include several activities such as the construction of 5 weather observation stations (for monitoring wind, tides, waves, and temperature) and the installation of a simple early warning system (a digital information board on weather and hazards) at 6 central community points across the archipelago to improve accessibility for the community and village government. This technology will be implemented by incorporating local knowledge and traditions related to weather patterns and the dissemination of information at the local level. This component will address Outcome 1 of the AF strategic framework, especially on the Output 1.1 for indicator 1.2.

55. **Output 2.1 Simple weather measurement stations on small and remote islands were installed.**

56. This output will be achieved through the development of an early warning system, which will include several activities such as the construction of 5 weather observation stations (for monitoring wind, tides, waves, and temperature). To ensure the sustainability of the installed system, the design will promote the involvement of the local community, village, and district/sub-district governments in managing the weather stations and integrating them with the government's weather agency, BMKG (Meteorology, Climatology, and Geophysics Agency).

57. Social preparation and assessment: Encouraging participation from the local community and village government will be facilitated through a social preparation process, which includes conducting a series of village consultations to gather input on the needs for developing an Early Warning System (EWS). This process will integrate tools and technologies for gathering and analyzing climate data with local community knowledge of natural indicators related to climate threats and risks. The EWS will be overseen by a climate and disaster response group established for this purpose, ensuring ongoing operation and data collection. The local government will provide operational support to maintain the system's sustainability.

58. Technical Brief and Coordination With BMKG: the BMKG itself has not been able to prioritize the budget for the installation of these basic installations. This project will install several simple early warning system stations with displays that relay weather data and wave predictions by the BMKG, which are integrated with maps of KKP fishing ground locations to help efficiency and reduce risks for the people of the surrounding islands. Coordination with BMKG is expected to produce an agreement and technical input regarding the equipment and parameters collected by the technology.
59. Installation of 5 Weather Stations: This activity includes the selection of the technologies to be used, the installation of 5 measurement stations, and the setup of weather stations, which will be distributed across 5 locations. The selection of sites will take into account input from the Meteorological, Climatological, and Geophysical Agency (BMKG), local communities, and the local government.
60. **Output 2.2. Early warning systems for climate disaster and potential fishing ground information were installed.**
61. The installation of a simple early warning system (a digital information board on weather and hazards) at 6 central community points across the archipelago to improve accessibility for the community and village government. Data and information from the weather observation stations will be incorporated into the early warning system design and displayed on the digital information board. The simple digital weather information boards across six island clusters, integrating these into an early warning system for local island communities. The use of information and early warning system technology can enhance the adaptive capacity of remote small island communities by providing crucial weather information and reducing the risks associated with conducting sea activities during adverse weather conditions.
62. Installation of 6 Early Warning System (EWS) information boards: In this activity, the EWS will be installed at 6 strategic locations that are accessible to the island community. The installation process will involve BMKG, community groups, and local governments.
63. Development of a user-friendly weather information interface application: This activity will be complemented by assessments and coordination with local governments to gather input on local knowledge, such as language and symbols, that are easily understood by the community, considering that island communities have their own local communication methods that are familiar to them. This activity will result in a simple application that provides weather condition information that is easily accessible and understood by the people of small islands. Dissemination of early warning system information will utilize existing communication networks, including telephone and radio, which cover approximately 19,625 people living in both sub-districts (Tangaya and Kalmas).
64. Training to the Community on How to Operate and Maintenance the EWS: To encourage the sustainability of its use, the EWS management group and the village government will be trained on knowledge and skills to operate and maintain the EWS. This training will focus on how to install, operate, repair, and divide tasks among group members.
65. **Component 3: Strengthening ecosystem resilience in response to variability induced stress to climate risk.**

66. Component 3 is designed to enhance ecosystem resilience against stresses caused by climate variability and risks. This component has two main outcomes: first, strengthening coastal ecosystems to mitigate the risks posed by climate change; and second, providing small assets to support adaptive ecosystems in dealing with climate variability.
67. **Output 3.1. Vulnerable coastal ecosystem strengthened in response to climate variability risk.**
68. The project plans to undertake ecosystem rehabilitation activities with a focus on boosting the adaptive capacity of the environment to address the impacts of climate change. Rising temperatures in coastal areas significantly affect ecosystems that are crucial to the livelihoods of small island communities. These impacts include declines in marine biodiversity, disruptions in marine food chains due to coral reef damage, loss of sensitive species, and threats to mangrove forests, which serve as essential nurseries for marine species and protect against coastal erosion. Additionally, changes in water acidity caused by rising temperatures lead to coral bleaching, which decreases fish populations. This, in turn, results in reduced fish catches, increasingly distant fishing areas, higher operational costs, and increased risk of extreme weather events. To address these challenges, the project will focus on strengthening coastal ecosystems through coral reef and mangrove rehabilitation activities, involving active participation from village communities led by local climate and disaster response institutions. These efforts will include continuous monitoring, maintenance, and repair to ensure the restoration of ecosystem functions.
69. Mangrove rehabilitation is conducted in accordance with the Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number 23 of 2021 concerning the Implementation of Forest and Land Rehabilitation and the National Mangrove Map of 2021. Generally, the stages of rehabilitation include planning activities, preparation, seedling provision, planting, and maintenance and evaluation. During the preparation phase, site assessment and the selection of appropriate rehabilitation techniques—such as enrichment planting, spaced clumping, and silvofishery—are conducted, with the addition of wave-breaker tools if needed to support planting success. Meanwhile, coral reef rehabilitation refers to the Regulation of the Minister of Marine Affairs and Fisheries of the Republic of Indonesia Number 24/PERMEN-KP/2016 concerning the Procedures for Coastal and Small Islands Rehabilitation, using techniques such as transplantation and artificial habitat creation. Several stipulations must be followed, including sourcing seedlings from local areas, not from conservation areas, and taking no more than 10% of the parent coral colony. The implementation involves active participation from local communities, led by climate and disaster resilience groups, throughout all stages of rehabilitation, from planning to evaluation and monitoring.
70. **Output 3.2. Small asset to support adaptive ecosystems in response to climate variability risks.**
71. The project also plans to try to cope with the climate crisis activities. For instance, any activities that are intensifying the strain on coastal ecosystems that are already vulnerable to climate change and vital to the livelihoods of coastal communities on project sites, like destructive fishing (DF) and waste leakage to the ocean. As an adaptive measure for DF, the project will develop the DF's database to help the local

government make better decision making, creating policies, relevant law, and monitoring system to ensure sustainable fisheries for managing coastal and small island conservation areas in the project site. Furthermore, to ensure the DF database is reliable, public support is needed, therefore increasing public awareness of DF activities is needed through campaign media and enforcement of regulations led by community-based monitoring institutions (Pokmaswas).

72. In response to the issue of waste leakage, the project will implement small assets that support adaptive ecosystem measures to mitigate the risks associated with climate variability. This includes improving waste management on small islands to alleviate pressure on coastal ecosystems. A rapid assessment will be conducted to evaluate the current status of waste management, including infrastructure, human resources, and policies. The project will facilitate improvements in waste management infrastructure by providing public waste bins and encouraging the development of local village policies in line with Presidential Regulations No. 97 of 2017 and No. 83 of 2018. Initial activities will focus on preparing village communities, promoting better waste management practices, and transitioning to a circular economy model with support from local governments and other stakeholders. For instance, providing small asset and alternative livelihood training to the communities, how to utilize organic and anorganic waste, including plastic to become money, and so on. Additionally, the project will promote a healthy and clean lifestyle among island communities through the development of temporary plastic waste collection and processing facilities, plastic and organic waste management training, promoting village policies, educational campaigns, and facilitating the development of communal wastewater disposal systems (communal MCK). The project will also construct village community information centers as hubs for disaster response, climate action, marine ecosystem management education, waste handling, and community-based monitoring.
73. Project activity of these output:
 - Availability of a database on destructive fishing activities in the area.
 - Results of assessments on the status and management of domestic waste from small and remote islands are available.
 - Increasing public awareness of destructive and unsustainable fishing practices through campaign media, such as posters, billboards, murals, and village regulations.
 - Enhancing monitoring and law enforcement against destructive fishing through community-based monitoring groups.
 - Construction of village community information centers as hubs for disaster response, climate action, marine ecosystem management education, waste handling, and community-based monitoring.
 - Improving waste management and public awareness of clean and healthy lifestyles on small and remote islands by enhancing existing systems and providing supporting facilities with a community-based approach.
 - Building capacity in waste management to support a circular economy through training in processing plastic waste into crafts and ecobricks and organic waste into feed and fertilizer.
 - Mangrove rehabilitation at four locations with a total target area of 10 hectares.
 - Coral reef rehabilitation at six severely damaged locations with a total target area of

1.5 hectares.

74. **Component 4: Cross-sectoral policies, cooperation and learning to enhance the small and remote island resilience to the climate changes**
75. The fourth component focuses on increasing the local governments capacity to do the strategic planning, dissemination, and coordination to support Kabupaten Pangkep's climate change adaptation action plan.
76. **Output 4.1. Increasing the capacity of local governments through the Adaptation Working Group institution in regional action planning for climate change adaptation (RAD-API).**
77. The project aims to enhance the ability of local government to plan strategically and coordinate effectively, thereby assisting small islands in adapting to climate change. This will be achieved by strengthening the Adaptation Working Group institutions in regional adaptation strategic planning (RAD) and forming the Pangkep Regency Adaptation Working Group. Key activities include facilitating the preparation of the Regional Action Plan for Climate Change Adaptation (RAN-API) for Pangkep Regency, following Permen LHK Number P.33/Menlhk/Setjen/kum.1/3/2016: Guidelines for Climate Change Adaptation Actions. The aim is to formalize this document as an official policy of the Pangkep Regency government. This effort aligns with Outcome 7 of the AF Results Framework, which focuses on developing policies and regulations to enhance climate resilience. Additionally, the outcome will include increasing community access to local government social networking programs and insurance for fishermen.
78. **Output 4.2. Lessons learned and knowledge management of the small island community to the climate changes were produced and disseminated to both the public and government i.e: books, newsletters, and websites.**
79. This output focuses on disseminating lessons learned from project implementation to reach a broader audience. This will involve organizing workshops, sharing experiences, and utilizing various media to inform stakeholders. The dissemination will include national and local media releases, implementing agency and local government websites, as well as publications such as books and newsletters. This aligns with Output 8 of the AF Results Framework, which emphasizes generating and sharing innovative adaptation practices that can be replicated, scaled up, and promoted. Engaging diverse stakeholders, including local communities, government officials, practitioners, and the public, will help spread these innovations and serve as a reference for future climate change resilience initiatives.
80. Project activity of these output:
 - Establishment and increased capacity of district-level adaptation working groups through assistance in preparing district adaptation action plans.
 - Regional action plan documents for climate change adaptation in the Pangkajene Islands district are available.
 - A series of multi-stakeholder coordination meetings were held to enhance coastal communities' access to local government social networking programs and insurance for fishermen.

- Access to social assistance, including fishermen's insurance, is available to communities on small islands.
- Dissemination of program implementation learning was conducted at both district and provincial levels.
- Program learning materials are published and available in the form of books, newsletters, and online channels.

B. *Describe how the project / programme provides economic, social and environmental benefits, with particular reference to the most vulnerable communities, and vulnerable groups within communities, including gender considerations. Describe how the project / programme will avoid or mitigate negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.*

Social, Economic and Environmental Benefits

81. The project will provide social, economic, and environmental benefits in targeted locations. The project will also contribute to improving women's empowerment and youth group involvement. All activities will implement a participatory approach, inclusive, so that the benefits will meet the community needs in regards to climate change adaptation.
82. **Social Benefit.** The project will increase the resilience of island communities in the face of climate change adaptation and raise awareness for climate change adaptation action through capacity building for all stakeholders, such as local governments, village communities, women's groups, fishermen's groups, and youth groups.
83. **Economic Benefit.** The project will provide economic benefit for all fishermen, logistic supply chain actors, seaweed farming communities, youth groups, and women groups. Fishers, logistic supply chain actors, and seaweed farming communities whose income is affected by the climate change will be strengthened through the installation of an early warning system (EWS) in place. So, then they can adapt their business activities according to EWS information, reducing risk and loss. While women and youth groups will be strengthened through diversity of livelihood sources and incomes that also will have environmental benefits, such as a circular economy from household waste to reduce environmental pressure and fish processing to increase the product value.
84. **Environmental Benefit.** The project will improve marine ecosystems, namely, rehabilitation of mangrove and coral reefs in identified critical areas in the project site. Further, increase the resiliency of marine ecosystems through enhanced management via capacity building, SOP development, and the establishment of community climate adaptation groups.
85. **Gender consideration.** The project staff will undergo training to enhance their knowledge of gender equality, disability, and social inclusion (GEDSI), which they will utilize to effectively manage the dynamics of programs and activities within the community. All the proposed activities will target minimum quotas for women at 50% and marginalized groups at 30%. The project will always use disaggregated data to ensure documentation that includes women and marginalized groups. All planned meetings and activities will be determined by adjusting the time availability of women and marginalized groups, including distributed invitations in both writing and verbally to women and

marginalized groups. The project also considers literacy and gender-sensitive skills, incorporating visual materials and local languages to encourage active participation from women and marginalized groups in each activity. Conduct special sessions for women and marginalized groups to discuss and obtain input on specific issues.

Output	Direct Beneficiaries	Indirect Beneficiaries	Economic	Social	Environment
1.1. Enhancing the social and economic adaptive capacity of vulnerable communities in 16 villages to the impacts of climate change.	The Village Government, community groups, and the broader village community will have their capacity strengthened to respond to the social and economic impacts of climate change. A total of 1,660 direct beneficiaries are involved, including 530 individuals who received project information, 160 members of disaster-resilient groups, 320 community members who participated in the development of village adaptation action plans, 160 recipients of small grants, and 480 individuals who benefited from economic capacity building.	The total population of fishermen and communities in the two sub-districts where the program is located is 35,495 people. Liukang Tangngaya has a population of 20,374 (9,962 men and 10,412 women), while Liukang Kalmas has a population of 15,121 (7,527 men and 7,594 women)	Decreasing lost risk, secure income. Increase access to livelihood diversity in response to climate adaptation	Participation rates and knowledge-based processes in the face of climate change	Helping to maintain and improve marine ecosystems based on planning.
1.2. Enhancing the environmental adaptation capacity of small island regions to the impacts of climate change.	A total of 80 individuals, including government staff and community members, were involved in developing Standard Operating Procedures (SOPs) and participating in thematic training on the management of marine conservation areas	The fishing community in the marine conservation area across the two sub-districts consists of a total of 4,059 people, including 2,086 fishing households in Liukang Tangngaya and 1,973 fishing households in Liukang Kalmas.	Maintain sustainability sources of income	Participation rates and knowledge-based processes in the face of climate change	Helping to maintain and improve marine ecosystems based on planning.
2.1. Simple weather measurement stations on small and remote islands were installed.	The EWS management groups and government staff consist of a total of 160 individuals, including 150 community members from five village station locations and 10 government staff working in the fields of climate and meteorology	The total population of fishermen and communities in the two sub-districts where the program is located is 35,495 people. Liukang Tangngaya has a population of 20,374 (9,962 men and 10,412 women), while Liukang Kalmas has a population of 15,121 (7,527 men and 7,594 women)	Reduced potential Household economic losses due to climate change disasters	Participation rates and knowledge-based processes in the face of climate change.	Protection and strengthening of coastal ecosystems against the impacts of climate change through collective awareness
2.2. Early warning systems for climate disaster and potential fishing ground information were installed.	A total of 510 people were involved, including 480 fishermen who were introduced to, trained in, and used the weather information displays at six Early Warning System (EWS) station locations, and 30 individuals who managed the EWS facilities	The total population of fishermen and communities in the two sub-districts where the program is located is 35,495 people. Liukang Tangngaya has a population of 20,374 (9,962 men and 10,412 women), while Liukang Kalmas has a population of 15,121 (7,527 men and 7,594 women)	Decreasing lost risk, for fishers, supply chain secure income. Increase access to livelihood diversity in response to climate adaptation	The existence of social readiness of the community to face climate change	Protection and strengthening of coastal ecosystems against the impacts of climate change through collective awareness

3.1. Vulnerable coastal ecosystem strengthened in response to climate variability risk.	The project involves coastal communities, seaweed farmers, and groups participating in mangrove and coral reef rehabilitation activities. A total of 400 community members are engaged, including 80 women, 160 members of climate and disaster-resilient groups, and 160 members of community groups overseeing marine resources. The project also encompasses a 10-hectare mangrove forest area and a 3-hectare coral reef area.	The fishing community in the marine conservation area across the two sub-districts consists of a total of 4,059 people, including 2,086 fishing households in Liukang Tangngaya and 1,973 fishing households in Liukang Kalmas.	Help maintain sources of income in the coastal area	Building capacity and collective consciousness in the face of the impacts of climate change	Improving marine ecosystem condition that are responsive to climate change
3.2. Small asset to support adaptive ecosystems in response to climate variability risks.	A total of 480 community members, including 160 women trained in waste management, 160 members of climate and disaster-resilient groups, and 160 members of community groups overseeing marine resources, have participated in various initiatives such as Climate & Disaster community groups, Pokmaswas groups, and waste bank groups.	The total population of fishermen and communities in the two sub-districts where the program is located is 35,495 people. Liukang Tangngaya has a population of 20,374 (9,962 men and 10,412 women), while Liukang Kalmas has a population of 15,121 (7,527 men and 7,594 women)	Increase the diversity of livelihoods and sources of income as a result of environmental improvements and circular economy activities.	Building capacity and collective consciousness in the face of the impacts of climate change	Safeguarding the coastal marine ecosystem
4.1. Increasing the capacity of local governments through the Adaptation Working Group institution in regional action planning for climate change adaptation (RAD-API).	A total of 30 local government staff members, along with the working groups involved in drafting the Regional Action Plan (RAD), were trained and provided with guidance.	District Government and the total population of fishermen and communities in the two sub-districts where the program is located is 35,495 people. Liukang Tangngaya has a population of 20,374 (9,962 men and 10,412 women), while Liukang Kalmas has a population of 15,121 (7,527 men and 7,594 women)	There is program support and budgeting at the national, provincial, district and village levels	Strengthening community institutions in implementing local actions on climate change adaptation and mitigation at the site level	Decreased degradation of the coastal environment at the site and increased ecosystem management
4.2. Lessons learned and knowledge management of the small island community to the climate changes were produced and disseminated to both the public and government i.e: books, newsletters, and websites.	A total of 100 staff members from local and provincial governments, as well as members of the general public. All individuals reached by the project's communication media through books, newsletters, and websites.	All individuals reached by the project's communication media through books, newsletters, and websites	The emergence of the angst of the community in the face of climate change	The emergence of a knowledge product that is disseminated during the project run until the end of the project	The preservation of coastal and marine ecological functions

C. Describe or provide an analysis of the cost-effectiveness of the proposed project / programme.

86. **Cost Effectiveness:** As a comparison for climate disaster adaptation between extreme wave events and coastal erosion, the construction of physical infrastructure (seawalls) and Ecosystem-based Adaptation (EbA) can be analyzed. Assuming that in the two target locations there are approximately 4.8 km of coastline at high risk, impacting around 35,495 people.

Items	Construction of Seawall	Adaptation with EbA
Cost Requirement	Rp. 309.000.000.000,-	Rp. 120.000.000,-
Coastal Protection	Faster construction	Slower rehabilitation depending on growth rate
Durability	Has a lifespan as the structure will erode slowly	Has a long lifespan
Benefits for the Community	Residential areas will be safe	Residential areas will be safe, serves as a source of food, windbreak
Benefits for the Environment	Reduces the rate of erosion	Reduces the rate of erosion, serves as a sediment trap, contributes to carbon absorption and stock, provides nursery grounds for various biota

87. Funding allocation in this program will be focusing on activities to address remote small islands issues in facing climate change. Increasing community capacity and environmental resilience, economic improvement of remote small islands, application of appropriate technology, governance and improvement of coastal ecosystems, encouraging cross-sectoral and regional policies and cooperation are the program funding priorities to strengthen the resilience of remote small islands and to reduce their vulnerability to climate change.
88. Ecosystem-based approach and community-based approach are program approaches that will be implemented, the funding will benefit the sustainability of ecosystems and small remote island communities that are affected by climate change. In the program component of the resilience capacity of the remote small island area of Pangkajene Islands Regency to climate change through environmental, social, community and economic approaches through funding vulnerability studies, climate and disaster risk response groups, RAD API-DRR at village level, education for making adaptation action proposals supported by grant projects , management of conservation areas, field schools on cultivation methods, innovation of fishing gear and the application of capture fisheries information technology will provide significant benefits for vulnerable communities on small remote islands. This funding intervention will benefit:
- The existence of a detailed database through studies will assist in development planning for all parties
 - Institutional and community capacity is a guarantee to minimize the impact of climate change and disaster risk
 - Coastal ecosystem resources that are maintained and sustainable through good governance have implications for the sustainability of fish resources which are the foundation of life for small remote island fishing communities.
 - The community's economic income will be better with fish cultivation literacy, innovation in fishing gear and access to fishery information for fishermen.
 - By utilizing fishery information (potential actual fishing area) fishermen will be more effective and efficient in catching fish that go directly to the target location without having to travel to find potential fish areas. Fishermen will also be formed through more efficient fuel consumption and support the reduction of emissions from fishing activities

89. Furthermore, the appropriate technology component of the climate change monitoring and early warning system in remote small island areas with the allocation of funding for EWS development, socialization and campaigns for destructive fishing, marine debris management and cross-sectoral and regional collaboration will add benefits to the community.
- Minimizing loss of life and material loss for small remote island communities by utilizing the local EWS information system.
 - Reduced environmentally unfriendly activities which will indirectly increase fishermen's catch
 - Marine debris that is handled will reduce the threat to ecosystem and environmental sustainability of remote small islands. In addition, good and correct waste management supports the life of the community and a healthy generation which leads to the sustainability of the productivity and welfare of fishermen
 - Multi-stakeholder involvement with collaboration is very helpful for achieving common goals in building resilience and adaptation of remote small island communities in facing climate change and disaster risk.
90. Funding management is also based on the assumption of location conditions (remoteness) which requires special efforts. With the consortium's experience with the same situational program locations, the funding allocation for each stage has been calculated appropriately. Proposed programs implementation is in line with development policies at the national, regional, provincial and district levels and had taken into account the benefit principle and effectivity and efficiency principle as well as knowledge on the actual cost that applied in the region becomes the basis for preparing a budget so that it is more transparent, simple, and objective, so it can be measured its cost-effectiveness. Another strategy is program finance transparency and applying clear and robust operational procedures (SOP) for program financing while taking into account privacy and confidentiality sensitive information to minimize conflict potential within the project team.

D. Describe how the project / programme is consistent with national or sub-national sustainable development strategies, including, where appropriate, national adaptation plan (NAP), national or sub-national development plans, poverty reduction strategies, national communications, or national adaptation programs of action, or other relevant instruments, where they exist.

91. Project Alignment with National, subnational sustainable development strategies:
92. **National Determined Contributions (NDCs);** The Indonesian government has committed to reducing greenhouse gas emissions, addressing the impacts of climate change, and funding initiatives that contribute to economic, social, and livelihood resilience, as well as ecosystem and landscape resilience. This project will support and contribute to fulfilling this commitment by increasing the capacity of communities in the small islands of Liukang Kalmas and Liukang Tangaya sub-districts of Pangkep Regency. The Nationally Determined Contribution (NDC) also outlines the implementation strategy, which includes the Paris Agreement and Law No. 16 of 2016, which ratified the Paris Agreement under the United Nations Framework Convention on Climate Change. This clearly emphasizes the need for sectoral and regional adaptation, especially in small island and coastal areas.

93. **Indonesia's National Climate Change Adaptation Plan (RAN-API);** The project will support the RAN-API policies. It proposes the development of a sub-national climate change adaptation plan (RAD), specifically for the small and remote islands of Pangkep Regency, as a derivative and implementation of the National Adaptation Plan (NAP).
94. **Book List of Priority Locations and Climate Resilience Action by Bappenas in 2021 in the marine and coastal sector:** Pangkep Regency is said to be in the top priority category. The Coastal Subsector activities are related to coastal area protection from potential inundation by tidal waves and coastal flooding. Its impact will be amplified by sea-level rise in the highly vulnerable coastal areas. While the Marine Sub Sector activities are related to marine safety improvement, especially small fishing boats (<10GT) are facing high waves as the potential threat, which reduces the safety zone.
95. **Vulnerability Index Data Information System (SIDIK, 2018);** According to the Ministry of Environment and Forestry's (MoEF), in 2018, nine villages in Tangaya and seven in Kalmas were classified as having moderate vulnerability. However, an update by the Nusantara Maritime Institute (Lemsa) and Nypah Indonesia in 2022, based on the 2020 Village Potential (Potensi Desa) adapted for small islands, revealed that vulnerability levels have risen to high. Only the islands near the mainland of Pangkep Regency, specifically those in Liukang Tupa'biring District, are categorized as having low vulnerability.
96. **Strategic Plan 2020-2024 Directorate General of Climate Change Control;** The project will contribute to climate response, and disaster risk groups formed as driving actors in rural communities will become part of the national movement for community-based climate change control that is integrated with the local government's climate village program (Proklm).
97. **South Sulawesi Province Mid-term Development Plan (2018-2023);** The project aligns with and supports the South Sulawesi Province's medium-term development plan (RPJMD), particularly the 5th mission, which aims to increase the productivity and competitiveness of sustainable natural resource products. One of its key goals is to maintain environmental quality and strengthen the ability to adapt to and mitigate the impacts of climate change. The project will contribute by implementing ecosystem rehabilitation actions, which include both the restoration and management of ecosystems, along with monitoring by community groups. Additionally, it will enhance the capacity of local governments in marine conservation area management by developing Standard Operating Procedures (SOPs) and providing thematic training on skills and management.
98. **Zoning Plan for Coastal Areas and Small Islands of South Sulawesi Province for 2019-2039;** Through Governor of South Sulawesi Regulation Number 2 of 2019, concerning the Zoning Plan for Coastal Areas and Small Islands of South Sulawesi Province for 2019-2039, the government aims to increase community participation in resource management, disaster mitigation, and climate change adaptation. This project will support community involvement in ecosystem rehabilitation activities and help build local capacity for climate change adaptation.
99. **Mid-term Development Plan of Pangkep District 2021-2026;** At the district level, this program supports and aligns with Pangkep Regency Medium-Term Development

Planning (RPJMD) 2021-2026, particularly Mission No. 5, which aims to improve natural resource management based on environmentally sustainable spatial planning. This mission includes a regional development strategy to enhance disaster risk reduction efforts through both physical and social disaster prevention and management. This project will support these planning documents by facilitating the capacity building of local government and the preparation of the Regional Action Plan (RAD) for climate change adaptation. Additionally, the project will contribute through the rehabilitation of mangrove ecosystems as a disaster risk reduction effort in coastal areas.

100. **Regional Marine Conservation Area of Pangkep District:** Liukang Tangaya Sub District is part of the regional marine conservation area established by the Governor of South Sulawesi. The proposed program will also support the provincial government's effort in strengthening its capacity in preparing and establishing the marine conservation (KKLD) area in Liukang Tangaya. This area has already been reserved through a governor's regulation and is currently under review by the Ministry of Marine Affairs and Fisheries (MMAF).

E. Describe how the project / programme meets relevant national technical standards, where applicable, such as standards for environmental assessment, building codes, etc., and complies with the Environmental and Social Policy of the Adaptation Fund.

101. **Biodiversity Conservation, Sustainable Management of Living Natural Resources, and Forest Rehabilitation:**
 - **Law No. 5/1990 on Conservation of Living Natural Resources and their Ecosystems;** This regulation governs the protection of natural resources and their ecosystems. The project will conduct activities within conservation areas and will comply with the provisions of this law.
 - **Law No. 1, 2014 on Amendments to Law No. 27, 2007 on Coastal Areas and Small Islands;** This law serves as a reference for local governments in managing small islands. The project will carry out activities on small islands and facilitate the preparation of the Regional Action Plan (RAD) for climate change adaptation. The project will adhere to the regulations outlined in this law.
102. **Assessments of Mangrove, Coral Reefs and Sea Grass Criteria, and Rehabilitation of Guidance**
 - **Regulation of the Minister of Environment and Forestry Number 23/2021 Concerning Forest and Land Rehabilitation;** This regulation contains technical standards for the stages of rehabilitation activities (Article 9), and civil and technical soil conservation techniques in mangrove forests (Article 19). The project will carry out mangrove rehabilitation activities at the project location and will use the standards directed by this regulation.
 - **Ministry of Environment and Forestry Decree No. 4 of 2001 on National Standard Criteria for Coral Reefs Damage Assessment, MoEF Decree No. 201 of 2004 on National Standard Criteria for Mangrove Damage Assessment, and MoEF Decree No. 200 of 2004 on National Standard Criteria and Guidelines for Seagrass Status Determination;** These regulations provide technical references for determining the condition of damaged ecosystems. The project will conduct

several activities to measure the status of damaged mangroves, coral reefs and seaweeds, especially those related to climate change. These activities will use these technical standards to measure and determine the status of these ecosystems. The project will use them as references for ecosystem studies and assessments.

- **Presidential Decree 83 of 2018 Concerning Marine Debris Handling:** This regulation is outlined in the form of the National Action Plan for Marine Debris Handling for 2018-2025. The Action Plan serves as a planning document that provides guidance for the community and business actors to accelerate marine debris handling over an eight-year period, from 2018 to 2025. The project will implement waste management activities with the community and will use this regulation as a reference.
- **Ministry of Environment and Forestry Regulation No P.7 of 2018 on guidelines for assessing the risk and impact of climate change;** This regulation contains technical standards on the scope of analysis, selection of methods, indicators, indicator data, and data sources in the preparation of studies on Vulnerability, Risk and Impact of Climate Change; determining the criteria for verification of the results of studies on Vulnerability, Risk and Impact of Climate Change. These technical standards will be used in the preparation of the Regional Action Plan (RAD) document for Climate Change Adaptation to comply with the procedures for preparing policy documents that have been determined by the government.
- **National Disaster Management Agency (NDMA) regulation No. 02 of 2012 on general guidelines for assessing disaster risk;** Disaster risk and capacity building of local governments related to the preparation of regional action plan (RAN) documents for climate change adaptation. the regulations will use on study and assessment on climate vulnerability and disaster risk activities on the project.
- **Ministry of Environment and Forestry Regulation No. P.84/MenLHK-Setjen/Kum.1/11/2016 about PROKLIM (Program Kampung Iklim). Directorate General of Climate Change Regulation No. P.1/PPI/SET/KUM.1/2/2017 about Guidelines to implement PROKLIM;** The regulations are a reference for the local governments to implement the climate village program (PROKLIM). The project will support the GOI in promoting the PROKLIM and will refer to these regulations.
- **Ministry of Environment and Forestry Regulation No. P.33/MenLHK/Setjen/Kum.1/3/2016 on the Guidelines for Climate Change Adaptation Actions;** This regulation serves as a guideline for the government and regional governments in preparing climate change adaptation action documents and integrating them into the development plan of a specific region and/or sector including coastal and small islands (Part Two, Articles 2 and 3). In addition, this regulation also contains standard procedures for preparing climate change adaptation action documents (Part Three). This project will prepare climate change adaptation action documents using the stages and methods available in this regulation.

103. Information Disclosure and Stakeholder Engagement

- **Law No. 14/2018. Public Information Transparency;** Which guarantees the rights of citizens on public policy decisions and fosters public participation in such decision-making. In this project, there are activities to collect secondary information on

regions and development planning documents at provincial, district and village levels. This project will use this rule as one of the references for the data collection procedure.

- **Law No. 7/1984 Enactment of the Convention on the Elimination of All Forms of Discrimination Against Women;** The project will work and conduct activities with communities including women. This regulation will be used as a guide to prevent and avoid discrimination against women during project implementation.
- **Law No. 8 of 2016 Inclusion of people with disabilities;** The project will implement procedures that do not reduce or eliminate the right of persons with disabilities to participate in all project activities.

104. **Presidential Instruction No. 9/2000. Gender Mainstreaming in National Development emphasizes women's participation in development processes;** This project will apply gender equality principles, ensuring that men and women have equal rights to participate, contribute, and benefit from the outcomes. Additionally, gender analysis will be incorporated into project planning to identify and understand the division of labor and roles between men and women, their access to and control over development resources, their participation in the development process, and the benefits they receive. The analysis will also examine unequal power dynamics between men and women, while considering other factors such as social class, race, and ethnicity. Gender mainstreaming will be integrated throughout all stages of the project, including planning, implementation, monitoring, and evaluation.

F. Describe if there is duplication of project / programme with other funding sources, if any.

105. In the target location, there are no similar projects funded by other sources, and this proposed program can improve upon previously implemented initiatives. The current program interventions in this area, as outlined in the RPJMD 2021-2026, have not yet been fully integrated with climate change adaptation efforts. For example, in Liukang Kalmas, the priority program focuses on guidance and supervision of village administration, rather than addressing climate change adaptation..
106. Adaptation actions similar to this program typically target locations on the mainland of Pangkep. For example, the Climate Village Program (Proklam) implemented by KLHK in 2020-2022 focused on Balocci, Minasatene, and Mandalle on the mainland. Other initiatives include the 'Securing Spermonde's Seascape through Community-Based Coral Reef Fisheries Management' project by Fauna & Flora International (2024 to present) in Liukang Tupabbiring sub-district, and the 'Sustainable Landscape for Climate-Resilient Livelihoods in Indonesia' project by CAD-ICRAF (2023) on the mainland of Pangkep Regency.
107. At the national level, the proposed program aligns with initiatives such as the Indonesian Climate Change Trust Fund (ICCTF), which aims to integrate climate change issues into national, provincial, and district development plans. It also supports the Coral Triangle Initiative (COREMAP-CTI), particularly in enhancing ecosystem resilience, and complements the Climate Change Adaptation and Resilience (APIK) program, which focuses on managing disaster and climate risks.

G. *If applicable, describe the learning and knowledge management component to capture and disseminate lessons learned.*

108. Knowledge management in this project will consist of the processes of knowledge collection, information management, and dissemination to the public through workshops, publication materials, and digital platforms. The knowledge collection process will involve interviews and focused discussions to identify changes and impacts related to climate change adaptation, involving communication and media specialists, and aligned with the project activity outputs. In the initial phase, the project will conduct outreach activities at the village, district, and provincial levels, involving 1,660 people, including community members, village governments, sub-district and district governments, provincial governments, and the media. The knowledge products such as project fact sheets and an informational website that can be accessed by all stakeholders.
109. Activities in the first component of the project include community-based vulnerability and disaster risk assessments related to the impacts of climate change and the development of village-level community adaptation action plans. These activities will result in knowledge products in the form of 16 village adaptation action plan documents, developed with the involvement of 320 people from village community groups and local government. These documents will be integrated into village development policies (either in separate village regulations or the village development work plan). The village communities and governments involved will gain knowledge about climate change risks and the necessary adaptation efforts throughout the process, as well as share lessons learned with other village communities and governments through facilitated adaptation action plan workshops at the village and sub-district levels.
110. The village adaptation action plan documents will be managed by communication specialists to identify the vulnerability models and disaster risks faced by coastal communities, as well as the adaptation efforts undertaken by these communities. This information will then be discussed at the district and provincial levels through a knowledge-sharing workshop involving local governments, academics, the media, village community representatives, women's groups, and vulnerable groups. The outcomes of the workshop will provide input for the development of the district-level climate change adaptation action plan (RAD-API). The RAD-API document will be used as a planning policy for local government related to climate change adaptation and will contribute to the integration of the provincial RAD-API at the provincial level.
111. Field school activities for aquaculture, involving fishing community groups and village aquaculture farmers, as well as aquaculture experts from local universities, will be conducted to share knowledge about best aquaculture practices and how to address various challenges posed by climate change. A guidebook on best aquaculture practices will be developed and distributed to 480 members of the aquaculture and fishing community groups. The results of relevant studies involving experts from local universities will be published, at a minimum, in a research paper, scientific journal, or policy report. Meanwhile, the involved community groups of aquaculture farmers and fishermen will share their learnings with other community groups from different villages during meetings at the sub-district level.

112. Facilitating the development of Standard Operating Procedures (SOP) for managing conservation areas will enhance the knowledge of relevant stakeholders, including academics, local governments, village governments, and local communities, in managing conservation areas for environmental preservation and long-term benefits. The knowledge product generated will be an SOP document, which will be integrated into local conservation area management policies. This knowledge product will be shared in workshops at the district and provincial levels, involving other local governments with conservation areas, to exchange knowledge and explore opportunities for replication in other regions with marine conservation areas.
113. In the second component, the use of an easy-to-understand and adaptable Early Warning System (EWS) and climate-responsive fishing technology innovations will provide insights into relevant adaptation practices for fishermen in coastal areas. The EWS will utilize a mobile application that will be developed by the project. This will assist village communities in utilizing information and technology to ensure maritime safety and improve fishing yields. An application will be developed, and 480 fishermen from the village community will be introduced to and trained in using the application, after which they will share their knowledge with other village communities who will also use the application.
114. The third component of the project will highlight coastal ecosystem rehabilitation actions, sustainable fishing practices, and improved waste management, emphasizing the role of community involvement in efforts to improve the condition of ecosystems affected by climate change and support sustainable local livelihoods. The implementation of these activities and the resulting changes will be documented in written form and through video, which will be disseminated via the implementing agency's social media, website platforms, and press releases to local and national media. A thematic website dedicated to climate change will be developed, providing information on every activity, progress, and achievement of the project, with at least three news updates each month. Press releases about the activities will reach a minimum of five local media outlets and one national media outlet. The developed website will be integrated with existing local government websites to reach a wider audience.
115. Project achievement workshops will be held twice, once in the middle and once at the end of the project, at the district and provincial levels. These workshops will discuss the project's achievements and lessons learned during implementation, as well as gather feedback from stakeholders. The workshops will involve 100 representatives, including community and village government members, local government, provincial government, and the media. The knowledge products from these activities will include two publication documents reporting the achievements, one learning book on project implementation, and a thematic website dedicated to the project.

H. Describe the consultative process, including the list of stakeholders consulted, undertaken during project preparation, with particular reference to vulnerable groups, including gender considerations, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

116. The selection of sites and beneficiaries was based on secondary data analysis collected from various credible sources, including the Central Statistics Bureau (BPS), the Ministry of Environment and Forestry (MoEF) for SIDIK data, and provincial and district

development plans. The consultation process involved government officials at various levels, including the Directorate of Coastal and Small Island Utilization of the Ministry of Marine Affairs and Fisheries (MMAF), provincial and district environmental agencies, and the Marine and Fisheries Agency. Additionally, direct consultations were held with local networks and key figures in the proposed project locations to verify the information gathered from the data analysis and identify potential beneficiaries. This process ensured the involvement of women and other vulnerable groups, as well as the integration of proposed climate change adaptation measures.

117. Regional stakeholder coordination is also conducted to promote collaboration in program implementation. This involves working with various entities, including the South Sulawesi Provincial Marine Affairs and Fisheries Service, the South Sulawesi Provincial Environmental and Forestry Service, the Pangkep Regency Government, the Hasanuddin University Climate Change Study Center, local NGOs focused on island community empowerment, and key individuals, such as village heads from various islands within the project area.
118. The outcomes of multi-party coordination regarding the project plan demonstrate that the program's focus on climate change aligns well with the priorities identified by relevant stakeholders. Coordination with the South Sulawesi Provincial Marine Affairs and Fisheries Service confirmed that the program supports their strategic objectives outlined in their 2024-2026 Renstra document. Engagement with the South Sulawesi Provincial Environmental and Forestry Service aligns with the 2024 DLHK RKPD goals, which include reducing poverty, preserving environmental quality, and enhancing climate change adaptation and mitigation. Meetings with Pangkep Regent Muhammad Yusran Lologau highlighted the importance of active collaboration with the Pangkep Regency Government to effectively implement fishermen empowerment programs on remote islands. Discussions with the Hasanuddin University Center for Climate Change Research, represented by Dr. Ir. Muh. Rijal Idrus, M.Sc., emphasized the need for continued coordination to support climate change research and community services. The stakeholder coordination process culminated in a letter of recommendation from the South Sulawesi Provincial DKP, which is included as an attachment to this document.
119. The stakeholders and key point discussion are listed in table below:

No	Stakeholder	Consultation Key Point
1	Directorate of Coastal and Small Island Utilization, Ministry Marine Affairs and Fisheries (MMAF)	Small and remote island location, major challenges and issues, national programs related to climate changes in general and the one that focused on the small island.
2	Marine Affairs and Fisheries Office South Sulawesi Province	Development challenges in small island of South Sulawesi, Provincial development plan and programs, Climate changes issues, and secondary data related to the locations
3	Environment Office South Sulawesi Province	Existing regional development plan and program related to the climate changes adaptation for small island, regulation, data on NDC achievement, synergy on local government needs.
4	Regent of Pangkajene Island	District development plan and program especially

		related to the small and remote islands, accessibility information and demography data, synergy of development and government needs.
5	Head of Village in Liukang Kalmas Sub-district	verifying data and information resulted from previous analysis, updating data and information on demography and accessibility
6	Community in Small Island Villages of Liukang Tangaya Sub-District	Data and information verification, updating, gathering issues on climate changes and its impact, demography, and accessibility.

I. Provide justification for funding requested, focusing on the full cost of adaptation reasoning.

120. The main challenge in carrying out planned and structured adaptation actions for small and remote islands such as in the Liukang Tangaya and Liukang Kalmas areas is access to financing, both at the district and national scale. However, climate change adaptation and mitigation efforts for small islands have been integrated into the national strategy and policy for the management of small islands and coasts. However, obstacles such as the availability of comprehensive and detailed data, as well as access to locations that are quite difficult, the representation of the population is less and exacerbated by the limited availability of basic infrastructure in these small islands, making program planning for this area less priority.
121. The project is planned to intervene not only in increasing community resilience socially, economically and institutionally but also in targeting the resilience of ecosystems such as coral reefs, mangroves, and seagrass beds and trying to reduce ecosystem burdens from unfriendly behaviour and domestic island waste, which is not handled properly. The proposed funding for this program will focus on these adaptation actions, which are divided into four main components below.
122. **Component 1: Resilience capacity of the remote small island area of Pangkajene Islands Regency against climate change through environmental, social, community and economic approaches.**
123. Support for enhancing community adaptation in 16 villages in Liukang Tangaya and Liukang Kalmas from regional and central government budgets remains very limited. This project will provide support to increase community capacity to strengthen economic, social, and environmental resilience through vulnerability assessments, developing adaptation action plans, and implementing these plans with the aid of small grants. Additionally, the project will support local communities by developing Standard Operating Procedures (SOPs) for managing conservation areas and providing technical training to local governments to improve the management and monitoring of these zones. Without the support of the AF Fund project, economic, social, and environmental vulnerabilities due to climate change impacts will increase in these 16 villages.
124. **Component 2: Appropriate technology for climate change monitoring and early warning systems in remote small island areas.**

125. From the Makassar Strait area to the Banda strait confluence, there are still no measurement stations, either weather and climate stations or a simple, early warning system. The local government and the BMKG itself have not been able to prioritize the budget for the installation of these basic installations. Funding from AF will be allocated to install several simple early warning system stations with displays that relay weather data and wave predictions by the BMKG, which are integrated with maps of KKP fishing ground locations to help efficiency and reduce risks for the people of the surrounding islands. In addition, the financing will also target the installation of simple and automatic weather stations for several basic parameters that can enrich and improve the accuracy of BMKG wave calculations/estimates

126. **Component 3: Ecosystem burden from non-environmentally friendly natural resource utilization activities on remote small islands.**

127. The coral reef and mangrove ecosystems are experiencing degradation due to rising temperatures and anthropogenic factors. Restoration efforts, along with community awareness programs, have not yet been implemented by local authorities. The limited budget allocation for environmental improvement in small islands in Pangkep Regency has prevented the local government from undertaking ecosystem restoration programs in Liukang Tangaya and Liukang Kalmas. This project aims to enhance ecosystem resilience to respond to climate change risks through the rehabilitation of coral reef and mangrove ecosystems, and to strengthen community participation through public awareness and law enforcement support. Without the support of the AF Fund project, the condition of coral reef and mangrove ecosystems will continue to deteriorate.

128. **Component 4: Cross-sectoral policies, cooperation and learning to enhance the small and remote island resilience to the climate changes**

129. Adaptation measures to reduce climate risk and vulnerability in coastal areas also require cross-sectoral policies and cooperation, especially on how to meet basic needs such as energy, fuel, and education. Until now, local government action and funding have not accommodated the implementation of cross-sectoral cooperation and policies related to adaptation efforts to the targeted small and remote islands.

130. With funding support from the Adaptation Fund (AF), the facilitation of cross-sectoral collaboration will be more flexible because it will be able to bridge the limitations and sectoral priorities in allocating of resources from each development sector. AF funding will also contribute to efforts to disseminate learning products to ensure the community's improvement, environmental and economic resilience to the impacts of climate change and to reach and involve more stakeholders.

J. *Describe how the sustainability of the project/programme outcomes has been taken into account when designing the project / programme.*

131. The sustainability strategy for this program primarily involves incorporating village-based adaptation initiatives into the village planning system, utilizing the village's financial and human resources. This goal is reached through the early engagement of all relevant stakeholders, consultations, and social approaches that involve preparing and working with the village government, district authorities, and community leaders. The

sustainability of the environmental and social approach is also carried out through the involvement of village and regional governments, especially through village regulations such as the formation of disaster & climate resilience groups initiated by the village, waste regulations, and environmental management regulations. The sustainability of weather stations and EWS is also emphasized on social preparation involving villages (government and their communities) especially related to access to village funds for climate change, and the Regency government through facilitation of the preparation of RAD documents and the existence of funding support from BMKG related to weather station management.

132. Village-based adaptation actions will be integrated into village development planning through village development meetings every year. Village-based adaptation actions that have been identified based on the results of vulnerability and climate disaster risk studies will be arranged based on priorities in obtaining village fund allocations.
133. Climate response and disaster risk groups formed as driving actors in rural communities will become part of the national movement for community-based climate change control that is integrated with the local government's climate village program (Proklim). The group formed will also play a role in supporting community groups for monitoring coastal and marine resources as part of the local government program in the fisheries sector. The formed group acts as an agent to take action and provide education on the need to increase ecosystem resilience in the face of climate change through sustainable management of coastal marine resources.
134. Product of the vulnerability assessment and disaster risk reduction will be a reference in government development planning at the village, district and provincial levels through RAD API-PRB specific to remote small islands. Capacity building for local governments in terms of technical and managerial aspects of marine conservation areas will encourage optimization of conservation area management with the support of human resources and better budget allocation from the provincial and national governments. Marine conservation areas will strengthen the resilience of coastal ecosystems in the face of the impacts of climate change.
135. Ecosystem rehabilitation/restoration activities supported by actions to reduce the ecosystem burden from destructive community activities will ensure the improvement of ecosystems in small island coastal areas to support environmental resilience against the impacts of climate change and increase the economic potential of future use of environmental resources.
136. Weather monitoring stations and early warning systems will be integrated into management by the government's BMKG so that they can fill gaps or data shortages in remote small island areas related to weather and climate. The sustainability of all installed infrastructure will depend heavily on the social preparation side of this project. Where we will facilitate the arrangement and agreement will be targeted to be achieved with the village government, and the district and the meteorological agency (BMKG). To ensure sustainability, especially on the funding side of the Regency, it will be encouraged through the mechanism of preparing a regional action plan related to climate change. sustainability will be built through increasing the capacity of the government (village and district) in aspects of group organizational management, operational and maintenance techniques (operational and maintenance modules), advocacy of program policies and

funding through several targets such as preparing RAD documents, lobbying the district budget (RKPD), coordination with related Regional Apparatus Organizations (Bappeda, BPBD, Village Community Development Service, and other related OPDs. Government involvement will use a formal approach through official assignments, MoU and so on so that they can be financed by the government budget.

K. *Provide an overview of the environmental and social impacts and risks identified as being relevant to the project / programme.*

137. Compliance with the law, marginalized and vulnerable groups, protection of natural habitats, and conservation of biological diversity are considered to fall under **Category C**, which, based on the explanation in Annex 3 of the Environmental and Social Policy of the Adaptation Fund document, is classified as low risk because social impacts and risks can be managed and do not have widespread effects. This project will carry out mangrove rehabilitation in one of the sub-districts, namely Liukang Tangaya, which is part of a conservation area as stated in the Decree of the Minister of Maritime Affairs and Fisheries of the Republic of Indonesia Number 72 of 2022 concerning Conservation Areas in the Waters of Liukang Tangaya, South Sulawesi Province. To minimize risks, the project implementers will coordinate with the South Sulawesi Provincial Government during project implementation and will carry out rehabilitation activities following the rehabilitation standards outlined in the Regulation of the Minister of Environment and Forestry Number 23/2021 concerning Forest and Land Rehabilitation. Additionally, this program will support the provincial government in developing standard operating procedures (SOPs) for community-based marine protected areas (MPAs) management. It will also facilitate the establishment of "POKMASWAS," a community-based monitoring system for coral reef ecosystems, which must comply with Law No. 31 of 2004 on Fisheries and Ministerial Regulation (MMAF) No. 40 of 2014 on community participation and empowerment in the management of coastal areas and small islands.
138. Access and Equity is considered to be in **Category C**. The program will distribute stimulus funds, which may create a risk of dissatisfaction among communities directly or indirectly affected. To mitigate this risk, the selection of beneficiaries will be based on an assessment of vulnerability levels, with special attention given to the needs of vulnerable groups. The types of activities funded will be determined through open and focused discussions. These activities will be carried out as part of the project implementation. In mangrove and coral reef rehabilitation activities, the affected communities will provide participatory opportunities for vulnerable groups impacted by the ecosystems, such as small-scale fishers, mangrove users, and women. For the introduction of the Early Warning System (EWS), the project will reach vulnerable groups by utilizing local media that are familiar and accessible to the local communities, such as mosques or gathering points commonly used by the community, such as savings groups, fishing groups, collectors, community leaders, family members, and others.
139. Gender Equality and Women's Empowerment is considered to be in **Category C**. This is because the risks involved are minor, have no widespread impact, and can be avoided. The project will encourage capacity building for local communities, including women in the project area. In some parts of the local community, women are still perceived primarily as confined to domestic roles. Resources such as clean water, cultivation land, and the sea are utilized by both men and women. However, women face

limited access to these resources, as assets like boats and fishing gear are predominantly owned and controlled by men. Tasks such as fetching water or post-harvest processing of fisheries/aquaculture products—primarily carried out by women—are often not recognized as productive activities because they do not generate direct income. In contrast, resource utilization activities like fishing are regarded as productive and are seen as contributing to family welfare. The limited access women have to resources is partly due to their lack of knowledge and skills in using the available assets. Additionally, this limitation is linked to the lack of recognition of women's roles in productive activities. While women actively participate in community activities, such as serving as Posyandu health cadres, members of women's organizations (PKK), or in minor roles in village governance, decision-making is still dominated by men. Women are often perceived as lacking the capacity to participate in policy-making or to serve as decision-makers. Women's opportunities to participate are still hindered by cultural norms, limited knowledge and skills, and the dominance of men in public decision-making. Therefore, a gender assessment and analysis are needed to identify capacity gaps, cultural barriers, and opportunities to promote women's participation in public decision-making at the village level. No further assessment is required.

140. Conservation of Biological Diversity is considered to be in **Category C**. The project will carry out mangrove and coral reef rehabilitation. To mitigate unexpected risks, these activities will adhere to the Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number 23 of 2021 concerning the Implementation of Forest and Land Rehabilitation, as well as the National Mangrove Map of 2021. In general, the stages of rehabilitation include planning, preparation, seedling provision, planting, maintenance, and evaluation. During the preparation phase, site assessments and the selection of appropriate rehabilitation techniques—such as enrichment planting, spaced clumping, and silvofishery—are conducted, with the possible addition of wave-breaker tools to support planting success. For coral reef rehabilitation, the project will refer to the Regulation of the Minister of Marine Affairs and Fisheries of the Republic of Indonesia Number 24/PERMEN-KP/2016 concerning the Procedures for Coastal and Small Islands Rehabilitation. Techniques such as transplantation and artificial habitat creation will be used. Several requirements must be adhered to, including sourcing seedlings locally (not from conservation areas) and limiting the harvest to no more than 10% of the parent coral colony.
141. Pollution Prevention and Resource Efficiency is considered to be in **Category C**. Waste management and rehabilitation activities will use environmentally friendly materials that will not pollute the environment. For example, polybags for mangrove seedlings will be replaced with woven coconut leaves. Therefore, no further assessment is required.
142. One of the components of the project's output and financing is the provision of incentives in the form of micro-grants. These grants will depend largely on the planning steps for the activities and the community's ability to respond to the climate hazards they face or perceive in each location. This activity falls under the category of a mixed USP (Unified Service Package), where most of the activity frameworks and locations have already been identified, with only a small portion remaining undefined. The small grants will be used to stimulate community-based adaptation actions, which will be tailored to the results of vulnerability and disaster risk assessments conducted in each village. These

actions will also ensure compliance with the Adaptation Fund's policies, including the Environmental and Social Principles (ESP) and Gender Policy (GP).

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
<i>Compliance with the Law</i>	√	
<i>Access and Equity</i>	√	
<i>Marginalized and Vulnerable Groups</i>		
<i>Human Rights</i>		
<i>Gender Equality and Women's Empowerment</i>	√	
<i>Core Labour Rights</i>		
<i>Indigenous Peoples</i>		
<i>Involuntary Resettlement</i>		
<i>Protection of Natural Habitats</i>		
<i>Conservation of Biological Diversity</i>	√	
<i>Climate Change</i>		
<i>Pollution Prevention and Resource Efficiency</i>	√	
<i>Public Health</i>		
<i>Physical and Cultural Heritage</i>		
<i>Lands and Soil Conservation</i>		

PART III: IMPLEMENTATION ARRANGEMENTS

Project Objective(s)	Project Objective Indicator	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
Objective 1: Strengthening the resilience capacity of remote small island areas of Pangkajene Islands Regency to climate change through environmental, social community, and economic approaches.	No. of marginalized and vulnerable people who lived in remote and small island areas have been improving their capacity to adapt to the climate changes.	<p>AF Outcome 1: Reduced exposure to climate-related hazards and threats</p> <p>AF Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses</p> <p>AF outcome 3. Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level.</p> <p>AF Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas</p>	<p>1. Relevant threat and hazard information generated and disseminated to stakeholders on a timely basis</p> <p>2.1. Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased.</p> <p>3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses.</p> <p>3.2. Percentage of targeted population applying appropriate adaptation responses</p> <p>6.1 Percentage of households and communities having more secure access to livelihood assets</p> <p>6.2. Percentage of targeted population with sustained climate-resilient alternative livelihoods</p>	192.184
Objective 2: Application of appropriate technology for climate change monitoring and early warning systems in remote small island areas.	<p>No. of technology that has been applied/installed for early warning system</p> <p>No. of vulnerable people that covered by the early warning system</p>	Outcome 1: Reduced exposure to climate-related hazards and threats	1. Relevant threat and hazard information generated and disseminated to stakeholders on a timely basis	166.971
Objective 3: Strengthening coastal ecosystem resilience in response to variability-induced stress to climate risk	<p>Total area (Ha) of coastal ecosystem with improved management</p> <p>Number of communities that aware and have</p>	AF Outcomes 5 Increased ecosystem resilience in response to climate change and variability induced stress	5. Ecosystem services and natural resource assets maintained or improved under climate change and variability induced stress.	313.052

	adaptation ownership perspective to climate risk reduction			
Objective 4: Strengthening policies, cooperation, and learning in support of increasing resilience to climate change and disaster risk reduction.	Number of institutions strengthened through risk reduce climate change cooperation and coverage of the learning product disseminated	<p>Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level</p> <p>AF Outcome 7 Improved policies and regulations that promote and enforce resilience measures</p> <p>Outcome 8: Support the development and diffusion of innovative adaptation practices, tools and technologies</p>	<p>3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses</p> <p>7. Climate change priorities are integrated into national development strategy.</p> <p>8. Innovative adaptation practices are rolled out, scaled up, encouraged and/or accelerated at regional, national and/or subnational level.</p>	144.829
Project Outcomes	Project Outcomes Indicator	Fund Output	Fund Output Indicator	Grant Amount (USD)
1. Increased social, economic and environmental adaptation capacity of vulnerable communities on remote small islands to the impacts of climate change.	<p>No. of community /population that has increased their capacity to respond to climate changes</p> <p>No. of village/institution at village level that has improved their capacity in planning to adapt and mitigate climate changes impact</p>	<p>Output 1.1. Risk and Vulnerability assessment conducted and updated.</p> <p>Output 2.1. Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased.</p> <p>Output 3.1. Targeted population groups participating in adaptation and risk reduction awareness activities</p> <p>Output 6. Targeted individual and community livelihood strategies strengthened in relation to climate change impacts,</p>	<p>1.1. No. of projects/programmes that conduct and update risk and vulnerability assessments (by sector and scale)</p> <p>2.1.1 No. of staff trained to respond to, and mitigate impacts of, climate-related events.</p> <p>2.1.2. No. of targeted institution with increased capacity to minimize exposure to climate variability risks (by type, sector and scale)</p> <p>3.1.1. No. of news outlets in the local press and media that covered the topic</p> <p>6.1.1.No. and type of adaptation assets (tangible and intangible) created or strengthened in support of individual or community</p>	192.184

		including variability	livelihood strategies 6.1.2. Type of income sources for households generated under climate change scenarios.	
2. Increased local community adaptive capacity through applied technology on weather monitoring and early warning systems	% of vulnerable populations that benefit from EWS technology No. of villages covered by EWS technology	Output 1.1. Risk and Vulnerability assessment conducted and updated. Output 1.2. Targeted population groups covered by adequate risk reduction systems	1.2 No. of early warning systems (by scale) and no. of beneficiaries covered 1.2.1. Percentage of target population covered by adequate risk-reduction systems	166.971
3. Increased ecosystem resilience in response to variability-induced stress to climate risk	Number of coastal ecosystems maintained or improved to withstand conditions resulting from climate variability and change (by type and scale)	Output 5: Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	5.1. No. of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale)	313.052
4. Increased the local governments capacity to do the strategic planning, dissemination, and coordination to support Kabupaten Pangkep's climate change adaptation actions plan.	Number of policies that support the resilience strategies of vulnerable communities on small islands to climate change. Number of knowledge and lesson learned generated	Output 7. Improved integration of climate-resilience strategies into country development plans Output 3.1 Targeted population groups participating in adaptation and risk reduction awareness activities Output 3.2 Strengthened capacity of national and sub-national stakeholders and entities to capture and disseminate knowledge and learning Output 8. Viable innovations are rolled out, scaled up, encouraged and/or accelerated	7.1. No. of policies introduced or adjusted to address climate change risk 7.2. No. of targeted development strategies with incorporated climate change priorities enforced 3.1.1. No. of news outlets in the local press and media that covered the topic. 3.2.2. No. of tools and guidelines developed (thematic, sectoral, institutional) and shared with relevant stakeholders 8.1. No. of innovative adaptation practice, tools and technologies accelerated, scale up and/or replicated 8.2. No of key finding of effective, efficient adaptation practices, products and technologies generated	144.829

PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY

A. Record of endorsement on behalf of the government²

1. H. Syahban Sammana, SH Vice-Regent of Pangkajene Islands Regency	<i>Letter Date: 13 July 2022</i>
2. Dr. M. Ilyas, ST, M.Sc., Head of Marine Affairs and Fisheries Office South Sulawesi Province	<i>Letter Date: 12 July 2022</i>
3. Ir. Andi Hasbi, M.T. Head of Environment Office South Sulawesi Province	<i>Letter Date: 14 July 2022</i>
4. Prof. Dr. Nurjannah Nurdin, ST Head of Research and Development Center for Marine, Coastal and Small Islands, Hasanuddin University	<i>Letter Date: 14 July 2022</i>
5. Dr. Ir. M. Rijal Idrus, M.Sc Head of Research and Development Center for Climate Change, Hasanuddin University	<i>Letter Date: 14 July 2022</i>
6. Muhammad Yusuf, S.Hut Director of Coastal and Small Island Utilization, Ministry Marine Affairs and Fisheries	<i>Endorsement Letter: On Progress</i>

B. Implementing Entity certification

<p>I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (President Decree No. 16/2015; P.13/MENLHK/Setjen/OTL.0/1/2016; P.33/MENLHK/Setjen/Kum.1/3/2016; Indonesia Intended Nationally Determined Contribution/INDC; COP 21; Paris Agreement signed by Government of Indonesia; Book and Map of Information System of Vulnerability Index Data (SIDIK); Permen-KP No. 2 year 2013; Climate Change Adaptation National Action Plan) and subject to the approval by the Adaptation Fund Board, <u>commit to implementing the project/programme in compliance with the Environmental and Social Policy and the Gender Policy of the Adaptation Fund</u> and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme</p>

⁶ Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.



Mohamad Abdi

National Coordinator DFW-Indonesia

Representatif Konsorsium Tangguh Adaptasi Perubahan Iklim

Date: *(July, 15, 2022)*

Tel. and email: +6282124668684
info@dfw.or.id

Project Contact Person: Mohamad Abdi

Tel. And Email: +6282124668684
moh.abdisuhufan@dfw.or.id

Endorsement Letter from Marine Affairs and Fisheries South Sulawesi Province



PEMERINTAH PROPINSI SULAWESI SELATAN

DINAS KELAUTAN DAN PERIKANAN

Jl. Bajjiminasa No. 12 Telp. 873680 – 854726 Fax. (0411) 858779 Kotak Pos 1062

MAKASSAR 90126

SURAT REKOMENDASI

NOMOR: 523/1000/VII/2022

Saya yang bertanda tangan di bawah ini :

Nama : Dr. M. ILYAS, ST., M.Sc
 NIP : 19700606 199603 1 006
 Pangkat : Pembina Tk I / IV.b
 Jabatan : Kepala Dinas Kelautan dan Perikanan Provinsi Sulawesi Selatan
 Unit Kerja : Provinsi Sulawesi Selatan
 Instansi : Dinas Kelautan dan Perikanan Provinsi Sulawesi Selatan

Memberikan rekomendasi kepada 'Konsorsium Tangguh Adaptasi Perubahan Iklim (Lembaga Maritim Nusantara - DFW Indonesia - Nypah Indonesia)' yang merupakan konsorsium dari *Non Government Organization* (NGO) yang aktif dalam pemberdayaan masyarakat pesisir dan pulau-pulau kecil di Sulawesi dan Indonesia pada umumnya, dimana saat ini sedang mengusulkan di daerah Kabupaten Pangkajene & Kepulauan sebagai lokasi kegiatan pada usulan program adaptasi perubahan iklim yang diselenggarakan oleh KEMITRAAN dengan tema 'Membangun Ketahanan Pulau Kecil dan Terpencil Kabupaten Pangkajene Kepulauan Terhadap Perubahan Iklim'

Demikian Surat Rekomendasi ini untuk dipergunakan sebagaimana mestinya.

Makassar, 2 Juli 2022

Kepala Dinas



Dr. M. ILYAS, ST., M.Sc.
 Pangkat : Pembina Tk I / IV.b
 NIP. 19700606 199603 1 006

Endorsement Letter from Environment Office South Sulawesi Province



PEMERINTAHAN PROVINSI SULAWESI SELATAN
DINAS PENGELOLAAN LINGKUNGAN HIDUP
 Jl. Urip Sumohardjo No. 269 ☎ (0411) 450478-453208 Fax. (0411) 450478
 Makassar 90231

SURAT REKOMENDASI
 Nomor: 660 / 3104 / SET/DPLH

Saya yang bertanda tangan di bawah ini:

Nama : Ir. Andi Hasbi, M.T
 NIP. : 19650427 199203 1 009
 Pangkat/Gol : Pembina Utama Madya / IV.d
 Jabatan : Kepala Dinas Pengelolaan Lingkungan Hidup
 Unit Kerja : Provinsi Sulawesi Selatan
 Instansi : Dinas Pengelolaan Lingkungan Hidup

Memberikan rekomendasi kepada "Konsorsium Tangguh Adaptasi Perubahan Iklim Pesisir" yang merupakan konsorsium dari *Non Government Organization* (NGO) yang aktif dalam pemberdayaan masyarakat pesisir dan pulau-pulau kecil di Sulawesi dan Indonesia pada umumnya, dimana saat ini sedang mengusulkan di daerah Kabupaten Pangkajene & Kepulauan sebagai lokasi kegiatan pada usulan program adaptasi perubahan iklim yang diselenggarakan oleh KEMITRAAN – Adaptation Fund dengan tema "Membangun Ketahanan Pulau Kecil dan Terpencil Kabupaten Pangkajene Kepulauan Terhadap Perubahan Iklim"

Demikian surat Rekomendasi ini untuk dipergunakan sebagaimana mestinya

Makassar, 14 Juli 2021

Kepala Dinas

Ir. Andi Hasbi, M.T
 Pangkat: Pembina Utama Madya
 NIP. 19650427 199203 1 009

Endorsement Letter from Vice-Regent of Pangkajene Islands Regency



BUPATI PANGKAJENE DAN KEPULAUAN

Pangkep, 13 Juli 2022

Number : 900 / 123 / KEISAMPOL

Appendix :
Subject : Endorsement for Building Climate Change Resilience for Small and Remote Islands Project In Pangkajene dan Kepulauan District of South Sulawesi Province

To : The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email : Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

In my capacity as designated authority for local government in Pangkajene dan Kepulauan Regency, I confirm that the project proposal **Building Climate Change Resilience for Small and Remote Islands Project In Pangkajene dan Kepulauan District of South Sulawesi Province** is in accordance with the local government's priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the Indonesia particularly in Pangkajene dan Kepulauan Regency of South Sulawesi Province.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by Partnership for Governance Reform (kemitraan) of Indonesia and executed by Small and Remote Islands Climate Change Adaptation Consortium (DFW Indonesia, Lemsa, Yayasan Nypah). Thank you for your attention.

WAKIL BUPATI PANGKAJENE DAN KEPULAUAN



H. SYAHBAN SAMMANA, SH

Endorsement Letter from Head of Research and Development Center for Marine,
Coastal and Small Islands, Hasanuddin University



KEMENTERIAN PENDIDIKAN, KEBUDAYAAN,
RISET DAN TEKNOLOGI
UNIVERSITAS HASANUDDIN
LEMBAGA PENELITIAN DAN PENGABDIAN KEPADA MASYARAKAT
PUSLITBANG LAUT, PESISIR DAN PULAU-PULAU KECIL
Jl. Perintis Kemerdekaan KM.10, Makassar 90245
Telp.(0411) 587032, 582500, 588888 Fax.(0411) 587032, 584024
Laman : <http://lp2m.unhas.ac.id> email : lp2m@unhas.ac.id



SURAT REKOMENDASI

NOMOR : 26/ UN4.22.11/RT.01.00/2022

Saya yang bertanda tangan di bawah ini :

Nama : Prof. Dr. Nurjannah Nurdin, ST
Jabatan : Kepala Puslitbang Laut Pesisir dan Pulau-Pulau Kecil, Unhas
Instansi : Universitas Hasanuddin

Memberikan rekomendasi kepada "Konsorsium Tangguh Adaptasi Perubahan Iklim Pesisir" yang merupakan konsorsium dari *Non Government Organization* (NGO) yang aktif dalam pemberdayaan masyarakat pesisir dan pulau-pulau kecil di Indonesia pada umumnya, dimana saat ini sedang mengusulkan di daerah Kabupaten Pangkajene & Kepulauan, Provinsi Sulawesi Selatan sebagai lokasi kegiatan pada usulan program adaptasi perubahan iklim yang diselenggarakan oleh KEMITRAAN – *Adaptation Fund* dengan tema "Membangun Ketahanan Pulau Kecil dan Terpencil Kabupaten Pangkajene Kepulauan Terhadap Perubahan Iklim"

Demikian Surat Rekomendasi ini untuk dipergunakan sebagaimana mestinya.

Makassar, 14 Juli, 2022

Kepala,

Prof. Dr. Nurjannah Nurdin, ST
NIP 19680918 199703 2 001

Endorsement Letter from Head of Research and Development Center for Climate Change, Hasanuddin University



KEMENTERIAN PENDIDIKAN, KEBUDAYAAN, RISET DAN TEKNOLOGI
UNIVERSITAS HASANUDDIN
LEMBAGA PENELITIAN DAN PENGABDIAN KEPADA MASYARAKAT
PUSLITBANG PERUBAHAN IKLIM
Kampus Unhas, Tamalanrea, Makassar 90245



Laman: <http://lp2m.unhas.ac.id> email: climate.change@unhas.ac.id

SURAT REKOMENDASI
NOMOR: 006/Rek/E/VII/2022

Yang bertanda tangan di bawah ini:

Nama : Dr. Ir. M. Rijal Idrus, M.Sc
Jabatan : Kepala Puslitbang Perubahan Iklim, Unhas
Instansi : Universitas Hasanuddin

Memberikan rekomendasi kepada **"Konsorsium Tangguh Adaptasi Perubahan Iklim Pesisir"** yang merupakan konsorsium dari Non Government Organization (NGO) yang aktif dalam pemberdayaan masyarakat pesisir dan pulau-pulau kecil di Indonesia pada umumnya, dimana saat ini sedang mengusulkan di daerah Kabupaten Pangkajene & Kepulauan, Provinsi Sulawesi Selatan sebagai lokasi kegiatan pada usulan program adaptasi perubahan iklim yang diselenggarakan oleh KEMITRAAN – Adaptation Fund dengan tema *"Membangun Ketahanan Pulau Kecil dan Terpencil Kabupaten Pangkajene Kepulauan Terhadap Perubahan Iklim"*

Demikian Surat Rekomendasi ini diberikan untuk dipergunakan sebagaimana mestinya.


Makassar, 14 Juli, 2022

Kepala,

Ir. Rijal M. Idrus, MSc, PhD.

NIP: 19651219199021001

Endorsement Letter KLHK for Resilient-Climate Change Adaptation Consortium

	MINISTRY OF ENVIRONMENT AND FORESTRY DIRECTORATE GENERAL OF CLIMATE CHANGE
	Manggala Wanabakti Building Block VII 12 th Floor, Jalan Gatot Subroto – Senayan, Jakarta 10270
	Phone +62 21 5730144 Fax : +62 21 5720194
	Website : http://ditjenppp.menlhk.go.id
	email : tusetditppi@gmail.com

Our Ref. : *S. 441 / PPI / API / KUY.0 / 10 / 2023* Jakarta, *24* Oktober 2023

Subject : Endorsement to the concept note Building Climate Changes Resiliency for Small and Remote Islands in Pangkajene Island (Pangkep) District

Attention to:
 The Adaptation Fund Board Secretariat
 c/o Global Environment Facility
 Mail stop: N 7-700, 1818 H Street NW
 Washington DC 20433 USA
 email: afbsec@adaptation-fund.org


Dear The Adaptation Fund Board,

I am writing to you in conjunction with the Concept Note "**Building Climate Changes Resiliency for Small and Remote Islands in Pangkajene Island (Pangkep) District**" in which I fully endorse.

With the consideration and in my capacity as The National Designated Authority of Adaptation Fund in Indonesia, I recommend the above concept note to be granted support from the Adaptation Fund Board.

Thank you for your attention and further cooperation.

Sincerely yours,


 Laksmi Dewanthi
 Director General for Climate Change
 As National Designated Authority
 for Adaptation Fund Indonesia

Copy to:
Kemitraan (Partnership Governance Reform in Indonesia) as NIE AF in Indonesia

ANNEX

MOM: Meeting With Marine Affairs and Fisheries South Sulawesi Province

Minutes of Meeting

Tanggal: 10 Juli 2022

Waktu: 19.00 Wita

Tempat: Kediaman Dinas Kepala Dinas Kelautan Perikanan

Peserta Rapat:

1. Dr. M Ilyas, ST., M.Sc. [Kepala Dinas Kelautan dan Perikanan Prov. Sulawesi Selatan]
2. Ramian Jamal, S.Kel. M.Si. [Advisor Nypah Indonesia]
3. Ivan Firdaus. ST. [Advisor Lemsa]
4. M Rizki Latjindung [Program Manager Lemsa]
5. Muh Takbir, Dg Sijaya, S.Kel. M.Si [Program Manager Nypah Indonesia]

Agenda:

- Diskusi terkait surat dukungan untuk pengajuan konsep note program adaptasi perubahan iklim.
- Pembahasan strategi kolaborasi dengan Dinas Kelautan dan Perikanan Provinsi dalam pelaksanaan program.

Notulen:

Advisor Nypah Indonesia membuka pertemuan dengan mengucapkan terima kasih kepada Kepala Dinas Kelautan dan Perikanan atas waktunya. Selanjutnya, menjelaskan tujuan pertemuan untuk membahas surat dukungan yang akan digunakan dalam pengajuan konsep note program adaptasi perubahan iklim. Kemudian memberikan pemaparan tentang gambaran project.

1. Gambaran Program Adaptasi Perubahan Iklim

- Menjelaskan secara singkat mengenai fenomena perubahan iklim dan rencana program adaptasi perubahan iklim yang akan disusun berfokus pada penguatan ketahanan pulau-pulau kecil di Kabupaten Pangkep.
- Program ini dirancang untuk mengatasi dampak perubahan iklim melalui pendekatan lingkungan, sosial, dan ekonomi, serta penerapan teknologi tepat guna.
- Adapun beberapa isu tentang sosial masyarakat juga disampaikan bahwa selama ini masyarakat di kedua lokasi (Kec Luukang kalmas dan Kec Luukang Tanggaya) mengalami kesulitan dalam pemasaran produk hasil tangkapan serta akses terhadap bahan bakar minyak sebagai bahan transportasi laut untuk menangkap ikan
- Advisor lemsa, menambahkan tentang aktivitas dan program pendampingan masyarakat yang dilakukan ketiga lembaga (lemsa, dfw, nypah) dalam waktu beberapa tahun terakhir di beberapa provinsi termasuk di sulawesi selatan.

2. Tanggapan Kepala Dinas Kelautan dan Perikanan

- o Kepala Dinas mengakui pentingnya program adaptasi perubahan iklim dan relevansinya dengan visi provinsi dalam menjaga keberlanjutan ekosistem laut dan pesisir.
- o Menyatakan dukungannya untuk program ini dan kesediaannya untuk memfasilitasi penyusunan surat dukungan.
- o Menekankan pentingnya sinergi antara pemerintah provinsi, kabupaten dan pihak lain termasuk organisasi non pemerintah dalam mengimplementasikan program ini.

3. Permintaan Dukungan

- o Ivan Firdaus, menyampaikan bentuk dukungan meminta dukungan dari Dinas Kelautan dan Perikanan Provinsi berupa surat dukungan resmi.
- o Dukungan ini akan menjadi bagian penting dalam pengajuan proposal ke Adaptation Fund dan menegaskan komitmen pemerintah daerah dan provinsi terhadap program ini.

4. Diskusi

- o Diskusi lebih lanjut mengenai rencana pelaksanaan program dan peran Dinas Kelautan dan Perikanan dalam mendukung kegiatan di lapangan.
- o Diskusi tentang bagaimana program ini dapat mendukung upaya konservasi laut dan perikanan yang sedang dilakukan oleh provinsi.
- o Identifikasi tantangan potensial dan cara-cara untuk mengatasinya melalui kolaborasi yang lebih erat antara berbagai pemangku kepentingan.

5. Tindak Lanjut

- o Dinas Kelautan dan Perikanan akan menyusun dan memberikan surat dukungan resmi dalam waktu dua hari kedepan.
- o Pertemuan lanjutan akan diadakan untuk membahas detail implementasi program dan kolaborasi lebih lanjut. Pertemuan ini akan dilakukan pasca adanya hasil dan informasi yang baik dari donor (adaptation fund)

6. Penutupan

- o Tim mengucapkan terima kasih kepada Kepala Dinas Kelautan dan Perikanan atas dukungan dan komitmennya.
- o Kepala Dinas menyatakan harapannya untuk keberhasilan program dan menegaskan kembali pentingnya kolaborasi dalam menghadapi tantangan perubahan iklim.

Langkah Selanjutnya:

- Penyusunan surat dukungan oleh Dinas Kelautan dan Perikanan.
- Mengawal pembuatan surat dukungan
- Pertemuan lanjutan tim untuk menyelesaikan concept note.

Dicatat oleh: Muh Takbir dg Sijaya

Disetujui oleh: Ramlan Jamal.

MOM: Meeting with Vice-Regent of Pangkajene Islands Regency

Minutes Of Meeting

Tanggal: 13 Juli 2022

Waktu: 16.00 Wita

Tempat: Rumah Jabatan Bupati Pangkajene Kepulauan, Kabupaten Pangkep

Peserta Rapat:

1. Dr. H. Muhammad Yusran Lalogau, S.Pi., M.Si [Bupati Pangkep]
2. Baso Syafluddin, ST.M.M [Advisor Lemsa]
3. M Rizki Latjindung [Program Manager Lemsa]
4. Ahmad Mauliddin, ST., M.Sc [GIS Specialist Project]

Agenda:

- Rencana tindaklanjut permohonan surat dukungan hasil dari pertemuan dengan Kepala Bidang Perencanaan Dinas Kelautan dan Perikanan, terkait tindaklanjut surat dukungan dari Kepala daerah kabupaten pangkajene kepulauan.
- Diskusi mengenai rencana, target dan keluaran program adaptasi perubahan iklim di Pulau – Pulau terpencil Kabupaten Pangkep
- Permintaan dukungan untuk program Pembangunan Ketahanan Perubahan Iklim untuk pulau-pulau kecil dan terpencil di Kabupaten Pangkep.

Notulen:

1. **Pembukaan**
 - Advisor Lemsa, mengawali dengan mengucapkan terima kasih kepada Bupati atas waktunya dan menjelaskan pentingnya pertemuan ini.
2. **Gambaran Proyek**
 - Tim Lemsa memberikan gambaran Program terkait Pembangunan Ketahanan Perubahan Iklim, menekankan pentingnya program ini untuk pulau-pulau kecil dan terpencil di Kabupaten Pangkep.
 - Program ini bertujuan untuk melakukan penguatan sumberdaya akibat dari perubahan iklim melalui empat komponen strategi adaptasi yakni 1) Membangun ketahanan Wilayah pulau pulau kecil dengan pendekatan lingkungan, sosial dan ekonomi; 2) Penerapan teknologi tepat guna untuk sistem pemantauan dan peringatan dini akibat dari perubahan iklim di pulau terpencil; 3) Pengurangan tekanan ekosistem pendukung untuk menghadapi perubahan iklim dari kegiatan yang tidak ramah lingkungan; 4) Memperkuat kebijakan, kerjasama dan pembelajaran dalam mendukung peningkatan ketahanan terhadap perubahan iklim dan resiko bencana.
3. **Diskusi**
 - Diskusi lebih lanjut tentang rencana pelaksanaan proyek, jadwal, dan hasil utama.

- o Diskusi tentang bagaimana pemerintah daerah dapat membantu memfasilitasi program dan nantinya memberikan dukungan kerjasama terkait kebijakan aksi adaptasi, termasuk keterlibatan masyarakat dan mobilisasi sumber daya lokal.

4. Tanggapan Bupati

- o Bupati mengakui proposal tersebut dan menegaskan kesesuaian program dengan prioritas pemerintah daerah terhadap adaptasi perubahan iklim.
- o Menyatakan dukungannya untuk program adaptasi perubahan iklim dan kesediaannya untuk memberikan dukungan yang diperlukan
- o Menyebutkan keterlibatan Kemitraan Indonesia dan Konsorsium Tangguh Adaptasi Perubahan Iklim yang terdiri dari 3 Lembaga yakni : Lembaga Maritim Nusantara, Nypah Indonesia, dan Destructive Fishing Watch sebagai implementor utama dalam pelaksanaan program

5. Tindak Lanjut

- o Konsorsium Tangguh Adaptasi Perubahan Iklim akan mengirimkan proposal proyek yang lebih rinci dan dokumen yang diperlukan ke kantor Bupati Pasca adanya respon baik dari Kemitraan dan Adaptation Fund.
- o Pertemuan koordinasi akan dijadwalkan dengan mitra konsorsium untuk perencanaan lebih lanjut.
- o Pemerintah Daerah Kabupaten Pangkep akan menyusun dan mengeluarkan surat dukungan resmi untuk mendukung partisipasi konsorsium Tangguh Adaptasi Perubahan iklim dalam pengajuan pendanaan ke Adaptation Fund.

6. Penutupan

- o M Rizki Latjindung, mengucapkan terima kasih kepada Bupati atas dukungan dan kerjasamanya.
- o Bupati menyatakan harapannya untuk keberhasilan pelaksanaan program dan menegaskan komitmennya untuk mendukung inisiatif adaptasi perubahan iklim di Kabupaten Pangkep.

Langkah Selanjutnya:

- Pertemuan koordinasi lanjutan tim penyusun concept note
- Pengiriman Concept Note kepada Kemitraan Indonesia.

Dicatat oleh: M Rizki Latjindung

Disetujui oleh: Baso Syafiuddin

MOM: Meeting with Head of Research and Development Center for Climate Change, Hasanuddin University

Minutes of Meeting

Tanggal : 14 Juli 2022

Waktu : 13.00 Wita

Tempat : Kantor Pusat Penelitian dan Pengembangan Perubahan Iklim, UNHAS

Peserta Rapat ;

1. Habil Noor, [Nypah Indonesia]
2. M Rizki L, [Lernsa]
3. Dr. Ir. M. Rijal Idrus, M.Sc, [Kepala Pusat Penelitian dan Pengembangan Perubahan Iklim, Universitas Hasanuddin]

Agenda:

- Diskusi mengenai surat dukungan untuk pengajuan proposal dan concept note program adaptasi perubahan iklim.
- Pembahasan tentang peran Pusat Penelitian dan Pengembangan Perubahan Iklim dalam mendukung pelaksanaan program di pulau-pulau kecil Kabupaten Pangkep.

Notulen:

Habil Noor membuka pertemuan dengan ucapan terima kasih kepada Dr. Ir. M. Rijal Idrus atas kesediaannya untuk bertemu. Kemudian, menyampaikan tujuan utama pertemuan yaitu untuk membahas dukungan Pusat Penelitian dan Pengembangan Perubahan Iklim dalam pengajuan proposal program adaptasi perubahan iklim.

1. Gambaran Umum Program

- Habil Noor, memberikan gambaran singkat tentang program adaptasi perubahan iklim yang akan dilaksanakan di pulau-pulau kecil Kabupaten Pangkep. Selanjutnya memaparkan, program ini bertujuan untuk meningkatkan ketahanan lingkungan, sosial, dan ekonomi masyarakat terhadap dampak perubahan iklim melalui penerapan berbagai strategi adaptasi.

2. Permintaan Dukungan

- M Rizki juga mengatakan pentingnya dukungan dari lembaga akamedik khususnya lembaga Pusat Penelitian dan Pengembangan Perubahan Iklim, dalam bentuk surat dukungan resmi.
- Selanjutnya, menyampaikan bahwa dukungan ini akan memperkuat pengajuan proposal ke Adaptation Fund dan menunjukkan komitmen akademik dalam mendukung inisiatif adaptasi perubahan iklim.

3. Tanggapan Dr. Ir. M. Rijal Idrus

- Dr. Ir. M. Rijal Idrus menyatakan bahwa Pusat Penelitian dan Pengembangan Perubahan Iklim, Universitas Hasanuddin, sangat mendukung inisiatif ini.
- Menyampaikan bahwa surat dukungan resmi akan disusun dan selanjutnya diberikan untuk mendukung pengajuan proposal.

- Menekankan pentingnya kolaborasi antara lembaga penelitian, pemerintah, dan NGO dalam pelaksanaan program ini.

4. Diskusi

- Diskusi mengenai potensi kontribusi Pusat Penelitian dan Pengembangan Perubahan Iklim dalam pelaksanaan program, termasuk dukungan ilmiah dan teknis.
- Pembahasan tentang bagaimana penelitian yang dilakukan oleh Pusat Penelitian dan Pengembangan Perubahan Iklim dapat mendukung implementasi program secara lebih efektif.
- Identifikasi tantangan potensial dan cara-cara untuk mengatasinya melalui kolaborasi yang lebih erat antara berbagai pemangku kepentingan.

5. Tindak Lanjut

- Pusat Penelitian dan Pengembangan Perubahan Iklim kedepannya dapat memberikan dukungan teknis dan ilmiah yang diperlukan selama pelaksanaan program.
- Pertemuan lanjutan akan diadakan untuk membahas detail implementasi program dan peran lembaga pendidikan dalam mendukung kegiatan di lapangan.

6. Penutupan

- Habil Noor, mengucapkan terima kasih kepada Dr. Ir. M. Rijal Idrus atas dukungan dan komitmennya dalam mendukung program adaptasi perubahan iklim.
- Dr. Ir. M. Rijal Idrus menyatakan harapannya agar program ini dapat berjalan dengan lancar dan memberikan manfaat yang signifikan bagi masyarakat di pulau-pulau kecil Kabupaten Pangkep.

Langkah Selanjutnya:

- Penyusunan dan pengiriman surat dukungan oleh Pusat Penelitian dan Pengembangan Perubahan Iklim.
- Koordinasi lanjutan untuk merinci peran dan kontribusi lembaga penelitian dalam pelaksanaan program kedepannya, pasca adanya respon baik terhadap concept note

Dicatat oleh: Habil Noor

Initial Gender Assessment Report for Liukang Tangngaya and Liukang Kalmas Subdistricts, Pangkajene and Kepulauan Regency

1. Background

This initial gender assessment has been intentionally prepared not only as a requirement and a component of the concept note "Building Climate Change Resilience in Small Islands" for the Tangguh consortium addressed to the Adaptation Fund (AF) program, but also as a tool and approach for us to ensure that the policies, programs, and interventions proposed in this concept note and further developed in the full proposal take gender perspectives into account.

Considering gender perspectives is important to be integrated from the early phase of the program design, so that the planned activities and interventions can be gender-responsive, providing equal opportunities for both men and women to contribute in planning and developing their livelihoods in small islands that are resilient to climate change.

In addition, for Indonesia in general, and Sulawesi in particular, gender inequality in development remains significant. Although data released by BPS in 2023 for South Sulawesi shows a decreasing trend in gender disparity, which is considered positive (the gender inequality index in South Sulawesi was 0.41 in 2021 and dropped to 0.39 in 2022, according to BPS, 2023), the gap in labor force participation between women and men is widening. This trend is evident throughout South Sulawesi, including in small islands and fishing communities.

2. Methodology & Approach

- Consultations and interviews were conducted with various relevant parties through face-to-face meetings and phone calls to update information related to gender and the results of interviews that have been carried out during activities at the proposed program locations.
- Literature review: This gender assessment was conducted by collecting, compiling, and analyzing various reports and studies from around the area that is planned to be proposed as the project site. The collected reports and studies are not necessarily directly or specifically related to gender.

The approach in this gender analysis is based on four aspects: access, participation, control, and benefits, in accordance with the local social, cultural, economic, and political context.

3. Finding

In Pangkajene and Kepulauan Regency, specifically in the Liukang Tangaya and Kalmas archipelago regions, the population ratio between men and women is 49:51 (17,489 men and 18,006 women). In addition to limited access, there is also gender inequality. Women are still largely seen in domestic roles. Resources such as clean water, agricultural land, and the sea are utilized by both men and women. However, women face limited access to these resources, as assets such as boats and fishing equipment are predominantly owned and controlled by men.

Tasks such as fetching water or post-harvest processing of fisheries/aquaculture products—which are largely performed by women—are often not recognized as productive activities because they do not generate direct income. In contrast, resource utilization activities like fishing are considered productive and are seen as contributing to family welfare. Women's limited access to resources is partly due to their lack of knowledge and skills in utilizing available assets. Culturally, this is driven by the belief that fishing at sea is a task only men can perform, while women are seen as unable to operate boats or use fishing gear. In seaweed farming, activities like tying and

drying the harvest are considered part of domestic work, which is why they are typically carried out by women. Additionally, this limitation is linked to the lack of recognition of women's roles in productive activities. On the other hand, women's ability to perform domestic roles is well recognized, giving them strong control over household finances, even though financial decisions are made jointly by the husband and wife.

Although women actively participate in community activities, such as being health cadres in Posyandu, members of women's organizations (PKK), or holding small roles in village governance, decision-making is still dominated by men. Women are often perceived as lacking the capacity to participate in policy-making or act as decision-makers. Women's opportunities to participate are still hindered by limited time due to heavy domestic responsibilities, cultural norms, and limited knowledge and skills, as well as male dominance in public decision-making. Structural factors, such as the absence of community organizations aimed at enhancing the capacity of both women and men in the village planning policy process, also limit the strategic position of women. Men who dominate decision-making at the village level often lack sensitivity and the skills to facilitate gender mainstreaming in village planning, including in social and environmental issues.

Table Results of Gender Gap Analysis at Target Sites

Issues	Findings	Gender inequalities	The root of gender inequities		
			Women's Capacity	Structurally based	Culturally Based
Access to natural resource management.					
Asset ownership (land ownership)	All land on the island does not have ownership certificates. Land ownership is only in the form of a statement letter from the local village head. Land and household assets are generally controlled by men.	Formally, assets are controlled by men.		There are no regulations related to assets that are gender-responsive	Men are considered the leaders and heads of the family.
Asset Ownership (Livelihood)	Assets such as boats and fishing equipment are controlled and used by men.	Formally, assets are owned by men.	Women are not formally positioned as heads of households.	There are no regulations related to assets that are gender-responsive	Operating boats and fishing equipment is considered heavy work that women are perceived as unable to do.
Natural resource management.	Activities related to natural resource utilization, such as fishing and selling the catch, are carried out by men, while post-harvest processing, such as making dried fish, is done by women. In seaweed farming, women are responsible for activities like tying the seaweed, cleaning the harvest, and drying it, while men take care of seaweed maintenance. Marketing activities are carried out by men.	Men are positioned as the primary workers, while the activities performed by women are perceived as roles that support their husbands (men).	Women do not have the skills to operate boats and fishing equipment.	There are no policies or regulations regarding the division of roles between men and women in natural resource management	Productive roles are perceived as the primary roles performed by men, such as going to sea and fishing, while domestic roles are considered unproductive because they do not generate income.
Government assistance (e.g. cash assistance, subsidy for fertilizers, aid for equipment, etc.).	Social assistance is provided in the name of the head of the household, which in reality is predominantly male, while assistance for fishing communities is given to fishing groups whose members are mostly men	Recipients of assistance are predominantly men.		There are no regulations that specifically ensure the recipients of aid are women.	
Participation in Natural Resources Management					

Participation in Village Groups.	<ul style="list-style-type: none"> • Women fill community groups that focus on women's and children's issues, such as PKK (Family Empowerment Movement) and Posyandu (Integrated Healthcare Posts). Occasionally, there are post-harvest processing groups for marine products, which are composed of women. Meanwhile, fishing groups are entirely male-dominated. • Women bear the responsibility for domestic affairs, which leaves them with insufficient time to participate in community groups. • Women have limited self-confidence to be active in formal organizations. • There is a lack of community organizations that bring women together to address public issues. 	<ul style="list-style-type: none"> • Participating in groups requires time allocation, but women, who are given domestic responsibilities (such as caring for children, preparing meals, and cleaning the house), can only participate once they have completed their domestic duties. This results in women having limited time to engage in group activities. • Men have not yet proposed initiatives that represent women's interests. 	The limited abilities and self-confidence of women.	<ul style="list-style-type: none"> • The village government, which is dominated by men, lacks the ability to facilitate gender-equitable decision-making forums • The limited number of groups/organizations created by the government to facilitate the capacity building of women. 	Women are perceived as being fully responsible for domestic activities.
Participation in village government activities. (e.g. annual village planning meeting).	Technically, invitations are addressed to the head of the household, which is predominantly male, unless the male head (husband) is unavailable, in which case the woman (wife) may attend as a representative. Meanwhile, female representation is given to the management of PKK and Posyandu cadres. There is no affirmative approach, such as a Musrenbang (Development Planning Meeting) specifically for women. Although women are present, their limited ability and opportunities to speak mean they do not advocate for gender-equitable proposals. In reality, women are often tasked with administrative duties and managing the meeting's refreshments.	The presence of women is merely to fulfill the administrative requirement that the village decision-making forum meets the female representation quota.	<ul style="list-style-type: none"> • Women lack the self-confidence and ability to speak in formal forums. • Men and women lack the ability to identify issues and needs from a gender perspective. 	<ul style="list-style-type: none"> • There is no capacity building for the village government to ensure that the village planning process meets gender equality. • The village meeting organizers consider that the representatives of the community are each head of household. 	Women are considered to lack the knowledge and skills to discuss village planning.
Control in Natural Resources Management					

Women who are placed in the core structure of the group	Women are present in the structure and play a role as persons responsible in organizations working on women's and children's issues, such as PKK and Posyandu. Meanwhile, in organizations like fishing groups, the members are exclusively male. In the village government structure, women can be found as village staff, but not in decision-making positions such as village heads.	Strategic positions are held by women in organizations that are still related to domestic contexts, such as those focused on mothers and children. The roles they play in these organizations are also determined by the village government, which is predominantly male-dominated.		The limited existence of community organizations/groups aimed at capacity building formed by the village government.	Women are perceived as more suited to be in organizations related to their domestic roles in the household.
Decision-making involvement in natural resource management	Decisions such as the location for fishing, the types of fishing gear used, and when to go to sea are made by men. In seaweed farming, decisions such as when to start planting, the type of seeds to be planted, and the planting location are made jointly.	Decisions regarding the utilization of natural resources in fishing are dominated by men, while in seaweed farming, decisions are made jointly.	The limited capacity of the village government to facilitate gender mainstreaming in natural resource management.	There are no gender-responsive regulations for natural resource management.	From an early age, men are trained and accustomed to being skilled in using boats and fishing, so they are perceived as more knowledgeable and capable of making decisions about natural resource use, while women are taught to be skilled in domestic activities, making them more likely to focus on those domestic affairs.
Household decision-making involvement	Women are entrusted with the responsibility of managing the family's finances. Decisions regarding the use and management of the family's money are discussed together between the husband and wife.	Women are involved in controlling the management of household finances.			Women are considered to rarely travel off the island and are able to save money well, while men frequently travel and are unable to bring all the family's money, and are also considered wasteful.